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Office of Hydropower Licensing

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FERC/FEIS–0075

FINAL ENVIRONMENTAL IMPACT STATEMENT

Upper Penobscot River Basin

Maine

Volume 1

Ripogenus Hydroelectric Project
(FERC No. 2572) -005

Penobscot Mills Hydroelectric Project
(FERC No. 2458) - 009

FEDERAL ENERGY REGULATORY COMMISSION
OFFICE OF HYDROPOWER LICENSING

FINAL ENVIRONMENTAL IMPACT STATEMENT

LICENSING TWO EXISTING HYDROELECTRIC PROJECTS IN THE UPPER PENOBSCOT RIVER BASIN

FERC Project Nos.

2572 Ripogenus
2458 Penobscot Mills

Applicant:

Great Northern Paper, Inc.

Additional copies of the FEIS are available from:

Federal Energy Regulatory Commission
Public Reference and Files Maintenance Branch
888 First Street, N.E., Room 2A
Washington, DC 20426

September 1996

FEDERAL ENERGY REGULATORY COMMISSION
Washington, DC 20426

TO THE AGENCY OR INDIVIDUAL ADDRESSED

Attached is the Final Environmental Impact Statement (FEIS) for relicensing the Ripogenus (FERC No. 2572) and Penobscot Mills (FERC No. 2458) hydroelectric projects, Maine. The FEIS is contained in two volumes. Volume 1 includes the text of the FEIS through Appendix D. Volume 2 is Appendix E, comments on the DEIS and Commission staff's responses to those comment. This FEIS was prepared pursuant to requirements of the National Environmental Policy Act (NEPA) and the Commission's regulations implementing NEPA (18 CFR Part 380).

The FEIS documents the views of government agencies, nongovernmental organizations, affected Indian tribes, the public, the license applicant, and the Commission's staff. It contains staff's recommendations about licensing the Ripogenus and Penobscot Mills projects in the upper Penobscot River Basin.

Any Commission order issued pursuant to this document will be subject to the Commission's rehearing process under 18 CFR Section 185.713. Requests for rehearing must be filed within 30 days of the date of issuance of the subject order.

Before the Commission makes a decision on relicensing these projects, it will take into account all concerns relevant to the public interest. This FEIS will be part of the record from which the Commission will make its decision.

Attachment

COVER SHEET

a. Title: New Licenses for Two Existing Projects in the Upper Penobscot River Basin, FERC Project Nos. 2572 and 2458

b. Final Environmental Impact Statement

c. Lead Agency: Federal Energy Regulatory Commission

d. Abstract: Great Northern Paper, Inc. (GNP) filed applications for new licenses (relicense) for two existing projects on the West Branch of the Penobscot River in Maine. GNP proposes changes in the operation and some minor construction to provide environmental and recreational enhancements requested by resource management agencies and other nongovernmental groups.

Primary resource issues are potential effects on (1) water quality and quantity, (2) fisheries resources, (3) shoreline preservation, and (4) socioeconomics. The Commission's staff also evaluated two alternatives to GNP's proposal.

The staff's preliminary recommendation is to relicense the projects as proposed with the additional enhancements prescribed in Alternative 2.

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f. This FEIS, prepared by the Commission's staff in connection with applications filed by GNP for FERC Projects Nos. 2572 and 2458 is being made available to the public on or about September 1996, as required by NEPA and the Commission's Regulations Implementing NEPA (18 CFR Part 380).

FOREWORD

The Federal Energy Regulatory Commission (FERC or Commission), pursuant to the Federal Power Act (FPA)[1] and the U.S. Department of Energy Organization Act[2] is authorized to issue licenses for terms up to 50 years for the construction and operation of nonfederal hydroelectric developments subject to its jurisdiction, on the necessary conditions:

> (T)hat the project adopted...shall be such as in the judgement of the Commission will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of water power development, for the adequate protection, mitigation, and enhancement of fish and wildlife (including related spawning grounds and habitat), and for other beneficial public uses, including irrigation, flood control, water supply, and recreational and other purposes referred to in section 4(e)...[3]

The Commission may require such other conditions not inconsistent with the provisions of the FPA as may be found necessary to provide for the various public interests to be served by the project.[4] Compliance with such conditions during the license period is required. Section 385.206 (1987) of the Commission's Rules of Practice and Procedure allows any person objecting to a licensee's compliance or noncompliance with such conditions to file a complaint noting the basis for such objection for the Commission's consideration.[5]

Section 401(a)(1) of the Clean Water Act (CWA) requires an applicant for a federal license or permit for any activity that may result in a discharge into navigable waters of the United States to provide to the licensing or permitting agency a certification from the state in which the discharge originates that such discharge will comply with certain sections of the CWA. A state Water Quality Certificate (WQC), therefore, is a prerequisite for obtaining a Commission license. The Commission's past practice has been to include all state water quality conditions in any order issuing a project license; however, as stated in *Tunbridge Mill Corporation* (68 FERC ¶ 61,078, 1994), under Section 401(d), states may lawfully impose only conditions related to water quality. In examining the conditions proposed in the Penobscot Mills and Ripogenus WQCs in section 5 of this FEIS, we follow the principles discussed in *Tunbridge Mill*.

Commission staff is aware of PUD No. 1 of Jefferson County v. Washington Dept. of Ecology, (U.S. Sup. Ct. No. 92-1911, May 31, 1994). As appropriate, the license order in this proceeding will address the relevance of the issues discussed in Jefferson County.

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1 16 U.S.C. Sec. 791(a)-825(r), as amended by Electric Consumers Protection Act of 1986, Public Law 99-495 (1986).

2 Public Law 95-91, 91 Stat. 556 (1977).

3 16 U.S.C. Sec. 803(a).

4 16 U.S.C. Sec. 803(g).

5 18 CFR Sec. 385.206 (1987).

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ACRONYMS AND ABBREVIATIONS

401 WQC	Section 401 Water Quality Certification
AC	acres
ACHP	Advisory Council for Historic Preservation
ADA	Americans with Disabilities Act of 1990
AF	acre feet
AMC	Appalachian Mountain Club
ASRSC	Atlantic Sea-Run Salmon Commission
AWA	American Whitewater Affiliation
bcf	billion cubic feet
BHE	Bangor Hydro-Electric Company
BOD5	five-day biological oxygen demand
BPR	Marine Bureau of Parks and Recreation
Btu/kWh	British thermal units per kilowatt hour
°C	Celsius degree
cfs	cubic feet per second
CI	Conservation Intervenors (American Rivers, American Whitewater Affiliation, Appalachian Mountain Club, Conservation Law Foundation, Maine Audubon Society)
COE	Department of the Army, Corps of Engineers
Commission or FERC	Federal Energy Regulatory Commission
CRMP	Cultural Resource Management Plan
D	Development District(s)
D-CL	Commercial Development District
D-GN	General Development District
D-RS	Residential Development District
DEIS	draft environmental impact statement
DEP	Maine Department of Environmental Protection
DIFW	Maine Department of Inland Fisheries and Wildlife
DMR	Maine Department of Marine Resources
DO	dissolved oxygen
DOC	Maine Department of Conservation
EIS	environmental impact statement
EMAP	Environmental Monitoring and Assessment Program
EOS	Energy Optimization System
EPA	Environmental Protection Agency
°F	Fahrenheit degree
FEIS	final environmental impact statement
FEMA	Federal Emergency Management Agency
FPA	Federal Power Act
FS	Department of Agriculture, Forest Service
FWS	Department of the Interior, Fish and Wildlife Service
GPA	Great Ponds water quality class A
GNP	Great Northern Paper, Inc.
hp	horsepower

Hz	hertz
IFIM	Instream Flow Incremental Methodology
ITM	International Toxics Monitoring program
ITS	Maine Interconnecting Trail System
kV	kilovolt
kW	kilowatt
lb	pound(s)
LURC	Maine Land Use Regulation Commission
M	General Management District(s)
MEPRO	Maine Professional River Outfitters
MFPA	Maine Forest Practices Act
mgd	million(s) of gallons per day
MHPC	Maine Historic Preservation Commission
MM Btu	million British thermal units
MSPO	Maine State Planning Office
MUN-IND	industrial zone subject to local zoning regulations
MUN-SL	shoreline zone subject to local zoning regulations
MW	megawatts
MWh	megawatt hour(s)
NERC	North American Electric Reliability Council
NPCC	Northeast Power Coordinating Council
NPS	National Park Service
NRPA	Natural Resources Protection Act
P	Protection District(s)
P-AL	Accessible Lakes Protection District
P-GP	Great Pond Protection District
P-RP	Resource Plan Protection District
P-SL	Shoreline Plan Protection District
PA	Programmatic Agreement
PIN	Penobscot Indian Nation
PLD	Penobscot Log Driving Company
PMF	probable maximum flood
ppm	parts per million
SCORP	Maine Statewide Comprehensive Outdoor Recreation Plan
SD	scoping document
SDF	spillway design flood
SHPO	State Historic Preservation Officer
SMP	Shoreline Management Plan
SOSLA	Save Our Scenic Lakes Association
SPF	standard project flood
TSS	total suspended solids
TU	Trout Unlimited
µg/g	micrograms per gram
USGS	United States Geological Survey
WUP	water use plan

EXECUTIVE SUMMARY

This Final Environmental Impact Statement (FEIS) evaluates the potential site-specific and cumulative environmental consequences, economic costs, and related benefits associated with the proposed changes in operation and minor construction at the Ripogenus and Penobscot Mills projects on the West Branch of the Penobscot River in Piscataquis and Penobscot counties, Maine. The Federal Energy Regulatory Commission (FERC or Commission) is considering the applications for relicensing submitted by Great Northern Paper, Inc. (GNP), in December 1991 for the Ripogenus (FERC No. 2572) and Penobscot Mills (FERC No. 2458) projects. GNP proposes actions to provide environmental and recreational enhancements requested by resource management agencies and other interested, nongovernmental parties during initial consultations for relicensing.

The developments evaluated in this relicensing process have existed for many years, in at least one case more than 100. GNP proposes no major construction or project modifications but seeks to operate the projects nearly as it has over the past 50 years. Several intervenors seek enhancements beyond those proposed by GNP to improve existing fisheries, recreational opportunities, and other environmental conditions. This document evaluates all environmental and economic issues associated with licensing the projects but focuses on two primary issues: whether GNP should be required to release flows substantially higher than it proposes into Upper Gorge, Millinocket Stream, and the Back Channel to enhance fisheries resources and recreational opportunities, and what measures should be taken to preserve the natural character of shorelines of project impoundments.

We evaluated three alternatives using the No-action Alternative as a baseline for comparison. The Applicant's Proposal includes several categories of enhancements such as minimum flows, recreational facilities, further studies, and strict schedules for impoundment draw-downs. Alternative 1 includes enhancements of fisheries and other measures similar to those requested by conservation intervenors and some agencies. Alternative 2 includes enhancement measures intermediate between those proposed by GNP and those in Alternative 1.

APPLICANT'S PROPOSAL

GNP proposes no new developments and would continue to use the projects to provide power for its paper mills in Millinocket and East Millinocket. GNP would continue to operate the Ripogenus, Millinocket Lake, and North Twin developments for water storage and the Millinocket, Dolby, and East Millinocket developments as run-of-river.

Minimum flows in the West Branch below McKay station would be increased to enhance fisheries and whitewater recreation. Minimum flow in Upper Gorge would be 100 cfs between July 1 and September 30, and leakage (about 12 cfs) during the rest of the year. Flows in the Back Channel would remain at leakage, except for spillage events similar to those that have occurred historically. Impoundment fluctuations on North Twin would be scheduled to minimize impacts on lake trout spawning, which would improve the likelihood of achieving DIFW's goal to establish a self-sustaining lake trout population in that impoundment. Millinocket Lake would have a draw-down limit of 10 feet (minimum

elevation of 470) and minimum flow in Millinocket Stream would be 60 cfs from between May 1 and October 15. GNP proposes no changes in lake-level management on Ripogenus impoundment.

GNP proposes to stock 500 brook trout per year in Millinocket Stream to enhance a spring recreational fishery. The Holbrook Stream nursery area is proposed to increase the amount of nursery habitat along the West Branch to increase the self-sustaining stock of landlocked salmon. A wildlife management plan would be implemented in the Back Channel area. GNP also proposes several enhancements, including improving boat ramps, and constructing changing facilities for whitewater boaters and rafters and additional parking facilities throughout the project area.

In addition, GNP would participate in monitoring to investigate mercury concentrations, DO levels, lake trout reproduction, and recreational use.

During the DEIS comment period, GNP proposed to adopt a Memorandum of Understanding (MOU) with the state of Maine to contribute a 250-foot conservation easement along approximately 73 shoreline miles within the Ripogenus Project area, and a 500-foot conservation easement for approximately 5 shoreline miles outside the Ripogenus Project area. The proposed easements would be donated to the state of Maine for the term of the license and would not be incorporated into the project boundaries. GNP proposes no conservation easements for the Penobscot Mills Project area.

ALTERNATIVE 1

Minimum flows in Upper Gorge would be 100 cfs between July 1 and September 30, and 50 cfs during the remainder of the year. Millinocket Stream would receive year-round minimum flows of 60 cfs. Minimum flows in the West Branch would be nearly the same as in the Applicant's Proposal. The most significant difference between this alternative and the Applicant's Proposal is that year-round flows of 350 cfs would be released to the Back Channel.

This alternative also includes a 500-foot boundary expansion (i.e., 500-foot building setback with 250-foot vegetative buffer) around the impoundments at both projects and wetlands enhancements at four locations within the area of the two projects. Other operational and enhancement measures would be the same as those proposed by GNP.

ALTERNATIVE 2

Flows in Upper Gorge and the West Branch would be nearly the same as those under the Applicant's Proposal. Millinocket Stream would receive a minimum flow of 60 cfs year round. We examined the potential value and economic feasibility of 30 cfs in the Upper Gorge and several levels of flow in the Back Channel ranging up to a year-round flow of 165 cfs to define this alternative. Comparing potential fisheries benefits with costs indicated that flow levels beyond leakage are not justified given the minimal benefit to key fish species and the adverse economic effect on GNP; therefore, Alternative 2 includes only leakage and spillage flows in the Back Channel and only leakage from fall through spring in the Upper Gorge.

Alternative 2 includes two options: (1) a 250-foot conservation easement outside the Ripogenus Project boundary for approximately 73 shoreline miles of GNP-owned property as defined under the terms of GNP's proposed MOU; or (2) a 200-foot expansion of the project boundary on GNP-owned lands for the Ripogenus Project area. For Penobscot Mills, the project boundary would be expanded 200 feet on GNP-owned land along the impoundments under both options. Within the proposed boundary expansion areas, existing structures would be grandfathered. This alternative also proposes wetlands enhancement at two sites in the Penobscot Mills Project area and one in the Ripogenus Project area. All other operational and enhancement measures are the same as those in the Applicant's Proposal.

ANALYSIS OF ENVIRONMENTAL CONSEQUENCES

We evaluated the environmental consequences of the Applicant's Proposal and three alternatives. During the scoping process and in our environmental analysis, we identified five resource areas that encompass the major issues in this licensing process: streamflow, fisheries, wetlands, land use and socioeconomics.

GNP developed a water-use model for the West Branch river basin and, based on model output, concluded that it could not provide flow releases of the magnitude sought for fisheries enhancement by conservation intervenors and others (as represented in Alternative 1), given other water management constraints (e.g., impoundment draw-down limits, legally required minimum flow at Millinocket). Conservation intervenors contend that GNP's model is not valid and that model results are unreliable. We evaluated the model and determined that it is appropriate for analyzing this issue. GNP provided extensive model output that supported the staff's conclusion that nearly all flow enhancements could be implemented in wet and average years and are also feasible under dry and worst-case conditions with some effects on other water use constraints. We concluded, therefore, that water availability is not a limiting factor in adopting any of the alternatives.

We concluded that enhancement measures proposed by GNP would substantially enhance the landlocked salmon stock in the West Branch below McKay station and contribute to establishing a lake trout stock in North Twin impoundment. Alternative 1 would provide significant enhancement of aquatic habitats in the Back Channel, Millinocket Stream, and Upper Gorge, but this enhancement would not substantially increase regional abundance of key fish species, in particular landlocked salmon, beyond the enhancement provided under the Applicant's Proposal. Under Alternative 1, the 350-cfs flow in Back Channel could produce a standing stock of several hundred legal-sized landlocked salmon; 60-cfs flows in Millinocket Stream would yield fewer salmon than in the Back Channel, and year-round Upper Gorge flows would yield virtually none. In Alternative 2, winter flows in Millinocket Stream beyond those proposed by GNP would substantially enhance salmon habitat in that stream, but the increase in regional availability of salmon would be small.

GNP proposes no enhancement of wetlands. Alternative 1 includes four wetland projects that would enhance about twice the acreage of wetlands believed to be negatively affected by current project operations. Alternative 2 includes three wetlands enhancement

projects with an acreage about equal to that affected by project operations for substantially less cost than the enhancements included in Alternative 1.

Land use issues relate to potential future uses of forested lands surrounding the projects. GNP proposes no change of present project boundaries, which are generally at the high water marks of project impoundments. Alternative 1 includes a 500-foot building setback with a 250-foot vegetative buffer around impoundments at both projects. We concluded that this expansion of project boundaries would preserve regional aesthetics and protect water quality and riparian and terrestrial habitats, but at a very significant cost (approximately $24.6 million). Alternative 2 includes a 200-foot boundary expansion for GNP-owned lands for the Penobscot Mills Project area and 250-foot easements on GNP-owned lands for approximately 73 shoreline miles of the Ripogenus Project area or a 200-foot boundary expansion on GNP-owned lands for the Ripogenus Project area. We concluded that the reduced expansion would be adequate to meet aesthetic, water quality, and wildlife protection objectives at no direct cost to GNP.

We evaluated GNP's claims that losing generation by providing high flows, such as those included in Alternative 1, would affect its business operations severely and could lead to substantial layoffs and adverse effects on the local and regional economy. We conclude that environmental enhancement alternatives that specify more than leakage flows in the Back Channel would adversely affect the economics of coated paper production at the Millinocket and East Millinocket mills and would result in relatively meager environmental benefits in the project region. Although requiring wetlands enhancements and building setbacks also would add significantly to GNP's relicensing costs, the levelized annual costs for these measures in Alternative 2 are substantially less than those associated with the Back Channel flows included in Alternative 1.

ECONOMIC AND FINANCIAL EVALUATION

Staff compared the costs of construction, lost generation, and cost of replacement power associated with the Applicant's Proposal and Alternatives 1 and 2. The pulp and paper products industry is highly competitive and energy intensive. GNP's competitive position depends on the availability of a reliable source of inexpensive electric power. Imposing additional production costs for replacement power would adversely affect the economic viability of the Millinocket and East Millinocket paper mills. GNP indicated that any changes of project operations that would add incremental costs beyond those associated with its proposed water use plan would threaten the long-term viability of the mills, thereby threatening the economic base of the towns.

GNP can produce hydroelectric power at no significant incremental cost to the company. In comparison, the pre-tax cost of obtaining an equivalent amount of replacement power from another power producer would be $73.92 per MWh. Any reduction of power production for environmental enhancement, therefore, would result in additional costs for GNP. Except for the No-Action Alternative, all alternatives would reduce generation from the Ripogenus and Penobscot Mills projects by diverting flows to improve aquatic habitats and enhance wetland areas, recreation, and lake aesthetics. Alternatives that would release more than leakage flows through the Back Channel would have the greatest effect on power generation, reducing power production by 5.0 to 7.0

percent of anticipated 1994 power production from the two projects and by 5.4 to 8.2 percent of Penobscot Mills power generation. Alternatives that would release only leakage through the Back Channel would reduce power production by 3.1 percent from the two projects.

The annual cost of the alternatives ranges from $0.877 million to $4.49 million (1996 dollars). Annual costs of GNP's proposal ($0.877 million) would be less than costs associated with all other alternatives. GNP's cost for replacement power under Alternative 1, which specifies a minimum flow of 350 cfs in the Back Channel, would be approximately $3.21 million per year. The total annual cost of this alternative would be $4.49 million. Alternative 2, which specifies only leakage flows in the Back Channel would cost GNP $0.959 million annually, which is slightly higher than the cost associated with GNP's proposal. Staff would not expect the incremental cost increase associated with Alternative 2 to alter GNP's competitive position and thus have any significant socioeconomic consequences.

RECOMMENDED ACTION

Based our independent analysis pursuant to Sections 4(e), 10(a)(1), and 10(a)(2) of the FPA, we conclude that issuing licenses for the Ripogenus and Penobscot Mills projects, with the enhancement measures defined in Alternative 2 and other special license conditions, would permit the best comprehensive development of the West Branch of the Penobscot River for the following reasons:

(1) Alternative 2, which includes enhancement of flows in Millinocket Stream beyond those proposed by GNP but otherwise specifies flow releases and impoundment-level restrictions nearly identical to those included in the Applicant's Proposal, would substantially enhance existing fish stocks (particularly landlocked salmon) in the project region. Flows beyond those included in Alternative 2 in Upper Gorge, Millinocket Stream, and the Back Channel probably would not further enhance regional fish stocks.

(2) The minimal enhancement of regional fish stocks associated with higher flow releases specified in Alternative 1 and considered as options for defining Alternative 2 would not cause significant increases in fisheries resources or recreational angling in the region and, thus, would contribute little to the regional economy.

(3) High-quality recreational fishing waters are abundant in the project region; our estimates indicate that creating a limited amount of additional, year-round, riverine habitat in Upper Gorge and the Back Channel (Alternative 1), is not required to meet increasing recreational fishing demand, even if the additional habitat enhanced regional fish stocks.

(4) Flows for recreational boating negotiated between GNP and some whitewater boating groups and included in Alternative 2 offer some enhancement of existing recreational opportunities and would not adversely affect existing landlocked salmon populations in the West Branch.

(5) The wetlands enhancements (affecting about 280 acres) included in Alternative 2 are sufficient to enhance the estimated acreage of wetlands that are adversely affected

by impoundment draw-downs and would eliminate a long-standing adverse effect of the projects on the regional ecosystem.

(6) The proposed 250-foot conservation easements or the 200-foot boundary expansion on GNP-owned lands for the Ripogenus Project area, and the proposed 200-foot boundary expansion for GNP-owned land within the Penobscot Mills Project area (Alternative 2) would control potential future development and ensure protection of aesthetic and recreational resources within the project area. The proposed easements and boundary expansions would also protect against habitat modifications that could adversely affect terrestrial wildlife and vegetation in valuable riparian habitat around the impoundments.

(7) Continued limitation of nongeneration flow releases, particularly in the Back Channel, would ensure GNP's access to relatively inexpensive hydroelectric power necessary to maintain its paper production capability cost-effectively, thereby not placing greater economic stress on GNP and providing some protection for local municipalities and citizens against significant adverse effects on regional employment and socioeconomics.

(8) The fisheries and recreational enhancements that would result from the higher flows associated with Alternative 1 would be limited in magnitude, are not needed to meet recreational demand, and would have little effect on the local economy. In contrast, the wetlands enhancements, conservation easements, and project boundary expansion included in Alternative 2 would improve and protect habitat elements critical to the aesthetics and ecology of the project areas for the term of the project license. These habitats would otherwise be vulnerable to continued or future degradation. The enhancements included in Alternative 2 also are much less costly than boundary expansions and flow releases specified in Alternative 1.

(9) The 500-foot expansion of the project boundary around project impoundments under Alternative 1 would provide resource benefits only marginally greater than the proposed 250-foot conservation easements or 200-foot boundary expansion on GNP-owned lands for the Ripogenus Project area and 200-foot project boundary expansion for the Penobscot Mills Project area under Alternative 2, at a much higher cost (estimated at $24.6 million).

1.0 PURPOSE AND NEED FOR ACTION

1.1 PURPOSE OF ACTION

The Federal Energy Regulatory Commission (Commission or FERC), under authority of the Federal Power Act (FPA), may issue licenses for up to 50 years for construction, operation, and maintenance of nonfederal hydroelectric developments. The proposed action by the Commission is to determine if licenses should be renewed for two hydroelectric projects on the West Branch of the Penobscot River, in Piscataquis and Penobscot counties, Maine (table 1-1; figure 1-1). This final environmental impact statement (FEIS) was prepared as required by the National Environmental Policy Act (NEPA)[1] and FERC regulations to provide the Commission with descriptions and evaluations of the potentially significant environmental and developmental effects of the projects.

Table 1-1. West Branch Penobscot River Basin hydroelectric projects evaluated in this FEIS (Source: GNP, Staff)

Project	Project Number	Installed Capacity (MW)
Ripogenus	2572	37.5
Penobscot Mills	2458	70.6 (total)
Millinocket Lake Storage Development		0.0*
North Twin Development		7.0
Millinocket Development		35.8
Dolby Development		20.9
East Millinocket Development		6.9
Total		108.1

* Storage facility

1.2 NEED FOR POWER

Great Northern Paper, Inc. (GNP) of Millinocket, Maine, applied for new licenses for two projects on the West Branch of the Penobscot River: (1) Ripogenus (FERC No. 2572), and (2) Penobscot Mills (FERC No. 2458). FERC issued the original licenses for the Ripogenus and Penobscot Mills projects on December 20, 1968, and April 1, 1962, respectively. GNP, a wholly owned subsidiary of Bowater Corporation, owns both projects. GNP's hydroelectric generating resources supply electric capacity and energy to

[1] P.L. 91-90, 42 U.S.C. 4341 (January 1, 1970), as amended by P.L. 94-52 (July 3, 1975) and P.L. 94-83 (August 9, 1975)

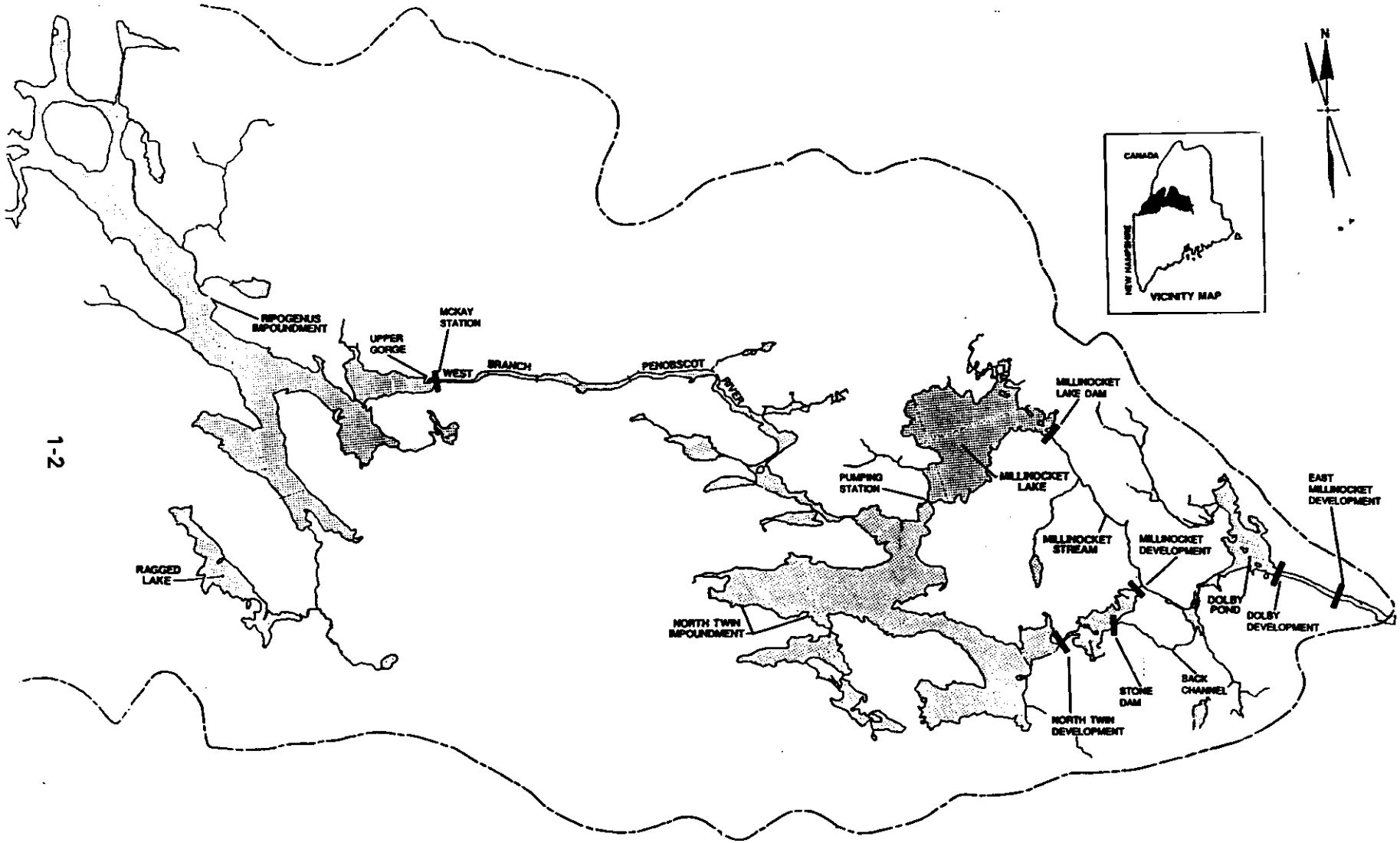

Figure 1-1. West Branch of the Penobscot River Basin showing the Ripogenus and Penobscot Mills projects (modified after Figure C-1, GNP 1991a; many lakes and tributaries have been omitted for clarity)

meet a portion of the company's requirements at its paper-making operations in the towns of Millinocket and East Millinocket, Maine.

The pulp and paper industry is highly competitive and energy intensive. Recent modernization of paper machines at East Millinocket indicates that the industry's efforts to improve paper quality and productivity have increased usage of electric energy in pulp and paper production. In addition, paper-making capacity exceeds the demand for product in many of GNP's markets. GNP's presence in certain markets and its competitive position in general, therefore, depend upon the availability of a reliable source of inexpensive electric power.

GNP has been involved in paper-making operations at Millinocket since 1900 and at East Millinocket since 1907 and has modernized the hydroelectric developments to meet the increased energy requirements of its pulp and paper operations. Because of the degree of integration between the Penobscot River developments and GNP's pulp- and paper-making operations, the Millinocket and East Millinocket mills (see figure 1-1) depend heavily upon hydroelectric energy produced by the Penobscot Mills and Ripogenus projects.

GNP supplies all of its electric power through a combination of hydroelectric/ hydromechanical, cogeneration, and condensing turbine capacity. In addition, the company has a tie-line with Bangor Hydro-Electric Company (BHE) to deliver up to 15 megawatts (MW) of interruptible, purchased power. The Ripogenus and Penobscot Mills projects were expected to supply approximately 37 percent of the company's sustainable generation capacity and nearly 50 percent of its energy needs for 1994. Cogeneration was expected to supply 27 percent of GNP's sustainable capacity and 36 percent of the energy in 1994, and condensing turbines were expected to supply peaking capacity and about 6 percent of energy. In addition, the Penobscot Mills and Ripogenus hydroelectric projects were expected to supply 77 percent of the 40-hertz (Hz) energy that would be consumed by the Millinocket and East Millinocket mills in 1994. Forty-hertz energy is a critical input to the pulp-making operations at these mills.

GNP has limited options for replacing lost hydroelectric capacity. Cogeneration currently satisfies a significant portion (36 percent) of GNP's energy demand. Cogeneration, however, depends upon the amount of steam generated for use in the manufacturing process, and the existing cogeneration system takes full advantage of available steam. Furthermore, recent modernization of the mill to reduce energy usage by conserving steam has reduced the amount of steam available, resulting in less cogeneration capacity. Cogeneration, therefore, has little potential for offsetting any reduction in GNP's other power sources. Section 2.4.2 discusses the feasibility of using alternative power sources, primarily from a cost perspective.

The lengthy period of GNP's electric-supply service for the Millinocket and East Millinocket mills has established an adequate foundation for both the short-term and long-term needs for electric power equivalent to the combined outputs of the projects.

1.3 SCOPE OF THE EIS

1.3.1 Introduction

On April 20, 1993, FERC issued notice that it would prepare an environmental impact statement (EIS) for the Ripogenus and Penobscot Mills projects. Scoping Document 1 (SD1) was issued in August 1993 to provide information about the project to the public and resource agencies and to solicit comments on the scope of the EIS.

1.3.2 Scoping

We conducted two scoping meetings on August 25, 1993. All interested individuals, organizations, and agencies were invited to attend both meetings to help identify environmental issues that should be analyzed in the EIS. Daytime and evening meetings were held at Stearns High School, Millinocket, Maine. The staff compiled notes on the daytime meeting, and a court reporter recorded the evening meeting. The Commission placed all statements (oral and written) in the public record for the project.

Following the scoping meetings and comment period, FERC reviewed and revised SD1; Scoping Document 2 (SD2) was distributed to all interested parties in November 1993. The content of the DEIS was based on comments obtained through the scoping process . Principal modifications of the scope include adding a resource-oriented alternative that includes larger flow enhancements than the applicant proposed, and including socioeconomics as a major issue. Issues addressed in this FEIS include (1) geology and soils, (2) streamflow, (3) water quality, (4) fishery resources, (5) wetlands, (6) terrestrial resources, (7) threatened and endangered species, (8) recreation resources, (9) land uses, (10) aesthetic resources, (11) cultural resources, and (12) socioeconomic resources. No new issues were identified by respondents to the DEIS.

1.3.3 Cumulative Impacts

To make sound licensing decisions the Commission analyzes both site-specific and cumulative impacts of hydropower development. Cumulative impacts are the additive or interactive impacts on resources caused by multiple developments within a river basin. Individually small or other seemingly minor impacts of past, present, and reasonably foreseeable future actions taken by several agencies or persons, when added together in space and time, may result in combined or cumulative impacts that have serious environmental consequences.

This FEIS addresses the potential for interaction between the effects of the projects and those of other developments in the river basin for appropriate resources. The FEIS identifies and describes the status of resources within the geographic area selected for the analysis and assesses the potential for the projects to contribute to cumulative impacts. The effects of past and present activities are reflected in the existing environment and provide a context for determining the potential for cumulative impacts.

During scoping, agencies and individuals questioned whether or not limiting the scope of the cumulative environmental analysis of the Penobscot Mills and Ripogenus projects to the

project boundaries would allow adequate consideration of potential regional cumulative impacts, including the entire West Branch of the Penobscot River Basin. Participants in the scoping process also suggested that the cumulative assessment should encompass several West Branch developments upstream of the Ripogenus Project.

The staff offered the following clarification and revisions during final scoping and we have revised them slightly in response to comments on the DEIS.

(1) Each resource evaluated in the Upper Penobscot River EIS will be evaluated cumulatively over the appropriate geographic range for that resource. For example, the Commission will assess the impacts on landlocked Atlantic salmon over the potential range of what is considered to be the West Branch stock of that species.

(2) This FEIS does not encompass other projects within the Penobscot River Basin that are presently in the relicensing process, specifically the lower Penobscot River projects (Basin Mills, FERC Project No. 10981; Milford, FERC Project No. 2534; and Stillwater, FERC Project No. 2712). A separate multiple-project FEIS will be prepared for those projects, which are approximately 70 river miles downstream of Penobscot Mills. The Commission did not combine these projects into a single, basinwide EIS for these reasons:

- The resources of concern differ substantially. The major environmental concern at the Basin Mills/lower Penobscot projects is restoring anadromous fish, particularly Atlantic salmon. At the upper Penobscot River projects (Ripogenus/Penobscot Mills), the major concerns are potential economic impacts on the licensee and local municipalities, water use and allocation, mercury contamination, enhancement of landlocked Atlantic salmon populations, recreation access, and whitewater boating.

- Key resources in the upper and lower Penobscot are generally exclusive of each other. There are no anadromous Atlantic salmon in the vicinity of Ripogenus and Penobscot Mills, and Penobscot River restoration plans do not include any restoration activities in the West Branch. Most wetlands within the basin are confined to the vicinity of Ripogenus and Penobscot Mills and are not contiguous with the isolated wetland areas in the vicinity of the lower Penobscot projects. Commercial and individual whitewater boating occurs almost exclusively in the upper portions of the river basin.

(3) Section 4 of the FEIS considers the need to expand the project boundaries or provide conservation easements to account for watershed activities that may influence project operations and environmental effects associated with those operations.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 APPLICANT'S PROPOSAL

GNP proposes changes in operation and some minor construction at the Ripogenus and Penobscot Mills projects. These changes would provide environmental and recreational enhancements requested by resource management agencies and other interested nongovernmental groups during initial consultation for relicensing. This section describes the projects and GNP's proposed enhancements.

2.1.1 Description of Projects

2.1.1.1 Ripogenus Project

The principal features of the Ripogenus Project (figure 2-1) are an impoundment (Ripogenus Lake), a dam, a powerhouse, a bypass reach of about 3,900 feet in the Upper Gorge area, and appurtenant facilities. In its existing condition, the project has a total nameplate generator capacity of 37.5 MW at 40 Hz and an average annual generation of about 234,000 megawatt-hours (MWh). The dependable capacity is 22.4 MW based on a project flow of 1,800 cubic feet per second (cfs), with an 85 percent exceedance value and a net head of 173 feet.

The project includes:

- a 795-foot-long concrete gravity dam, consisting of a 480-foot-long ogee spillway section with a crest elevation of 929.6 feet National Geodetic Vertical Datum (NGVD) at a maximum height of 83 feet; topped with 22 stop-log gates, each about 17 feet wide by 11 feet high; and 2 crest gates, each about 17 feet wide by 11 feet high;

- a 37-foot-wide tunnel intake section with a 16-foot-diameter, concrete-lined tunnel about 3,850 feet long; a 44-foot-diameter by 104-foot-high surge tank that rises about 54 feet above grade; and three concrete-lined, steel penstocks, each 10 feet in diameter and ranging about 100 to 136 feet in length, all protected by trashracks of 3 by ⅜-inch steel bars with 2⅝-inch openings;

- a 179-foot-long gate section with 4 deep waste gates, each about 9 feet high by 8 feet wide; and 2 timber gates, each about 14 feet high by 6 feet wide;

- a 100-foot-long earth embankment with a crest elevation of 942.6 feet;

- a concrete, steel, and brick powerhouse that is about 76 feet high by 45 feet wide by 130 feet long, is equipped with three vertical-shaft generating units with a total rated capacity of 37,530 kilowatts (kW), and has a hydraulic capacity of 3,500 cfs and a designed head ranging from 165 to 175 feet;

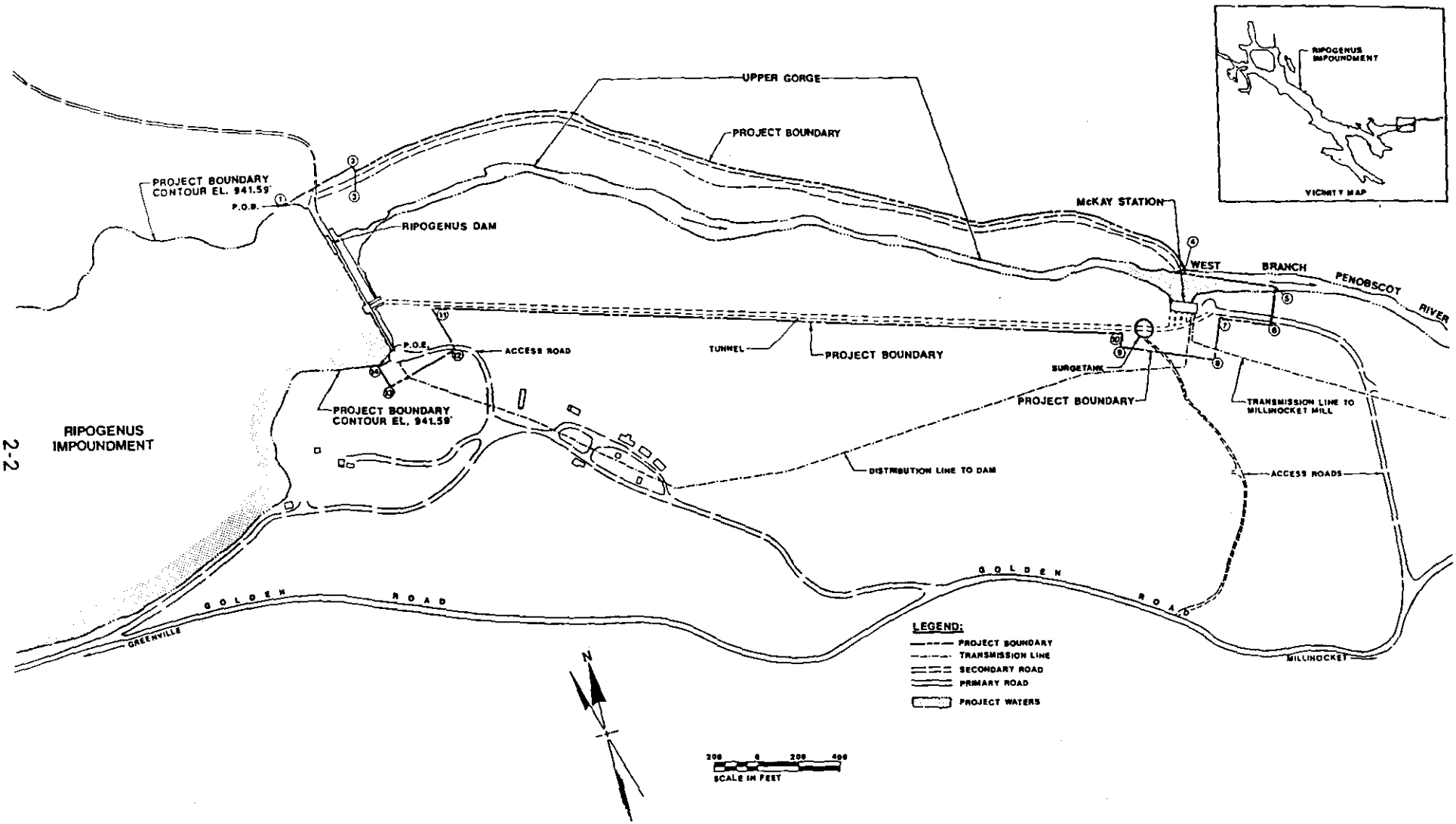

Figure 2-1. Ripogenus Project map (modified after figure G-3; GNP, 1991a)

- a 20.8-mile-long impoundment (consisting of Ripogenus Lake, Caribou Lake, Chesuncook Lake, Moose Pond, Brandy Pond, and Black Pond) with a surface area of about 29,270 acres (AC), a gross storage capacity of 710,000 acre-feet (AF), a usable storage capacity of 688,705 AF, a normal pool headwater elevation of 941.6 feet, and tailwater elevation of 758.5 feet;

- a 30.2-mile-long, 115-kilovolt (kV) transmission line; and

- appurtenant facilities.

2.1.1.2 Penobscot Mills Project

The Penobscot Mills Project (figure 2-2) consists of four discrete generating facilities and one storage/pump station development. Beginning with the most upstream, the developments are the Millinocket Lake Storage Development (which is located northeast of the North Twin Development and contains a pumping station), North Twin, Millinocket, Dolby, and East Millinocket.

Penobscot Mills has a total installed capacity of 70.6 MW and an average annual generation of about 386,400 MWh. The dependable capacity is 36.4 MW based on a project flow of 2,800 cfs with an 85 percent exceedance value. In 1994, GNP shut down the pulpwood grinding lines (letter from B. Stetson, GNP, September 2, 1994). GNP stated that the five hydromechanical units at the Millinocket development, which are equipped with synchronous motors, will continue to generate electric power to support increased production at the East Millinocket mill.

The principal features of the existing Penobscot Mills Project are five dams, five impoundments, four powerhouses, and appurtenant facilities.

Millinocket Lake Storage Development. This development, which is separate and distinct from the Millinocket Development, is used strictly for storage. Water is either released through the dam and down the Millinocket Stream or pumped through a pumping station into the North Twin impoundment to increase generation at the North Twin and Millinocket developments. This development has no hydroelectric-generating facilities. It consists of:

- a 635-foot-long concrete and earth-filled dam, with a 462-foot-long earthen embankment that has a crest elevation ranging from 485.6 feet to 487.0 feet; two spillway sections, totaling about 115 feet with a crest elevation of 480.0 feet; separated by a 58-foot-long intake section with four lift gates that are 8 feet wide by 9 feet high and a log sluice gate that is 8 feet wide by 10 feet high;

- a concrete, steel, and brick pumping station that is about 25 feet wide by 53 feet long, equipped with 2, vertical, wet-pit pumps, each with a capacity of 122 cfs protected by trashracks of 3/16-inch steel bars with 1-inch openings; driven by 2 induction motors, each with a capacity of 250 hp; discharging into 2 underground 4.5-foot-diameter pipes; about 544 feet long; that lead to the outlet structure at North Twin impoundment, which has 2 steel gates about 6 feet high by 6 feet wide;

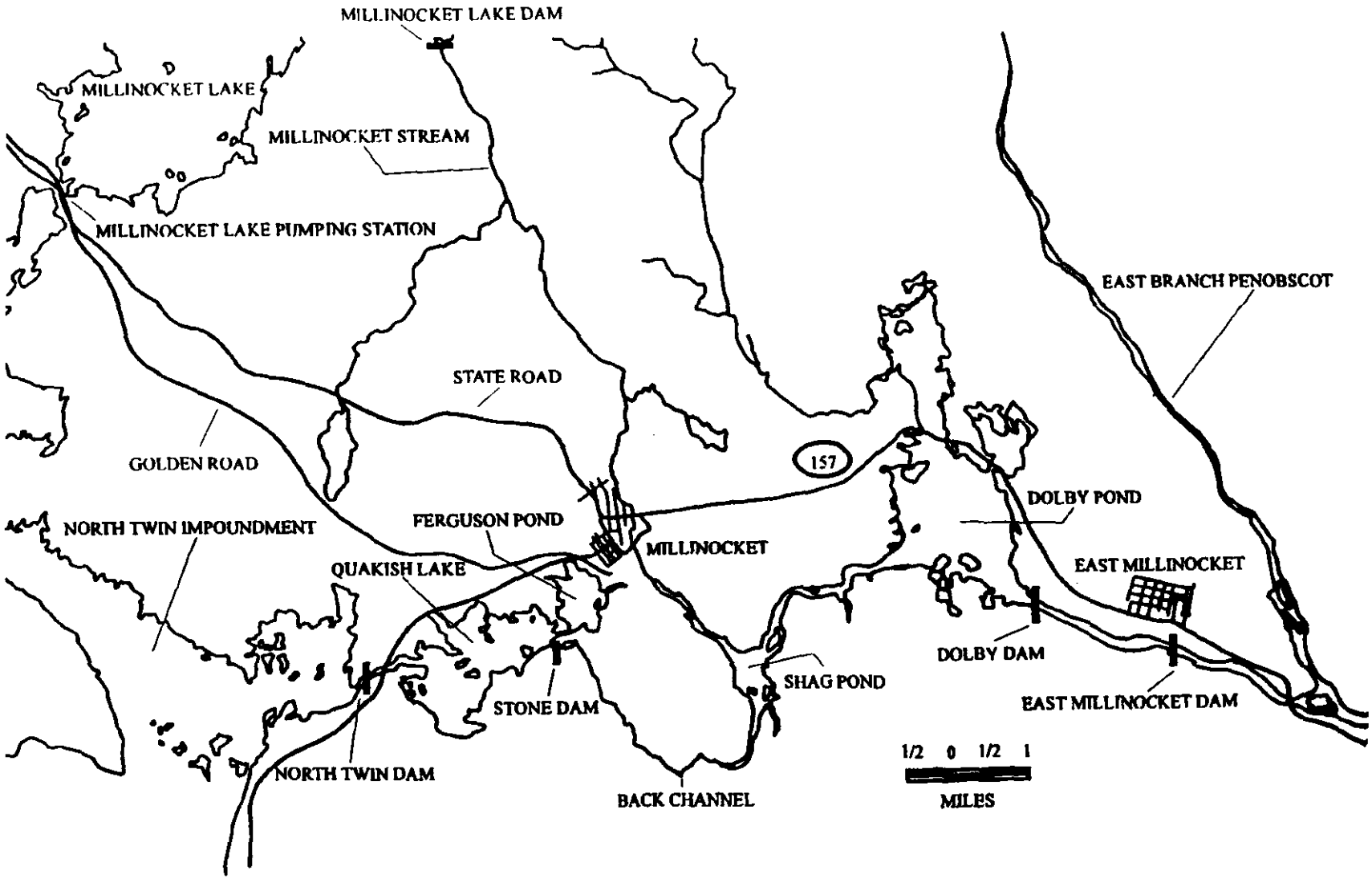

Figure 2-2. Penobscot Mills Project map (modified after figure G-5; GNP, 1991b)

- an impoundment known as Millinocket Lake with a surface area of about 8,640 AC, a usable storage capacity of 45,370 AF, and a normal maximum pool headwater elevation of 480.0 feet; and

- an appurtenant facility.

North Twin Development. North Twin consists of:

- a 1,051-foot-long concrete earth-filled gravity dam, with a maximum height of 35 feet consisting of two earth wings with concrete core walls totaling about 500 feet long, of which 309 feet is topped with a paved roadway, and 100 feet is topped with a parapet wall with crest elevations that vary from 498.60 feet to 494.62 feet;

- a 34-foot-long concrete weir fishway with two deep-gated log sluice sections;

- a 114-foot-long by 37-foot-wide intake section with trashracks of ⅜-inch steel bars with 2⅝-inch openings;

- a 117-foot-long concrete spillway with two Taintor gates, each 27 feet high by 50 feet wide, with an invert elevation of 464.62 feet; and 6 auxiliary earth dikes totaling about 2,530 feet long;

- a concrete, steel, and brick powerhouse that is integral to the dam and about 50 feet wide by 114 feet long, equipped with 2 vertical Francis turbine/generator units and 1 vertical Kaplan turbine/generator unit with a total rated capacity of 6,972 kW; a total hydraulic capacity of 4,500 cfs, a net head of 28 feet, and an average annual generation of 47,300 MWh; and a tailrace of six bays, each measuring 14 feet wide, and bordered by a 28-foot-long concrete retaining wall;

- an impoundment (consisting of Elbow Lake, North Twin Lake, South Twin Lake, Pemadumcook Lake, and Ambajejus Lake) that is about 11.8 miles long with a surface area of about 17,790 AC, gross storage capacity of 346,000 AF, a usable storage capacity of 344,355 AF, a normal pool headwater elevation of 491.92 feet, and tailwater elevation of 460.7 feet;

- a 4.2-mile-long, 34.5 kV transmission line; and

- appurtenant facilities.

Millinocket Development. Millinocket, which is separate and distinct from Millinocket Lake Storage Development, consists of:

- a 1,262-foot-long concrete gravity and stone dam, at the outlet of Quakish Lake, with a maximum height of 27 feet, which consists of a concrete gravity overflow section about 300 feet long with a crest elevation of 458.95 feet; 2 concrete gravity sections totaling about 786 feet long with a crest elevation of 456.20 feet, topped with 30-inch-high flashboards, and separated by a 52-foot-long wastegate structure with 4 steel gates; 8 auxiliary earth dikes totaling about 5,769 feet long; and a 124-

foot-long headgate section, with 10 steel gates, each about 8 feet high by 11 feet wide; and a sluiceway about 10 feet high by 12 feet wide;

- an intake section extending from the headgates located at the outlet of Quakish Lake through Ferguson Pond to the intake structure at Ferguson Pond outlet, consisting of a canal section that is about 150 feet wide by 1,400 feet long, separated from the Back Channel by a concrete gravity section with a crest elevation of 458.2 feet, topped with 6-inch flashboards; a concrete and wood frame intake structure with 6 gates that each measure 12.5 feet wide by 12.5 feet high, which control the flow into 6, 10-foot-diameter penstocks that are 1,007 to 1,024 feet long, lead to six units in the Grinder Room, and are protected by trashracks of ⅜-inch steel bars with 2⅞-inch openings; and one gate, measuring 13.5 feet wide by 13.5 feet high that controls the flow into an 11-foot-diameter, 1,024-foot-long penstock that leads to two units in the generator room and is protected by a trashrack of ⅜-inch steel bars with 2½-inch openings;

- a concrete, steel, and brick powerhouse, about 52 feet wide by 112 feet long, equipped with eight horizontal Francis turbine/generator units with a total installed capacity of 35,782 kW, a hydraulic capacity of 5,000 cfs, a net head of 108 feet, and an average annual generation of 203,300 MWh;

- a tailrace of 7 bays, each measuring 14 feet wide;

- an impoundment (consisting of Quakish Lake and Ferguson Pond) with a surface area of about 1,344 AC, a gross storage capacity of 8,100 AF, negligible usable storage capacity, a normal pool headwater elevation of 458.7 feet, and tailwater elevation of 347.4 feet;

- a 300-foot-long, 34.5 kV, transmission line; and

- appurtenant facilities.

Dolby Development. Dolby consists of:

- a 1,395-foot-long concrete gravity and earth-filled dam with a maximum height of 66 feet that consists of a 521-foot-long concrete gravity spillway section with a crest elevation of 332.2 feet, topped with 4-foot flashboards, separated by a 76-foot waste gate structure with 6 gates, each about 6 feet by 9 feet, and by a 34-foot log sluice section; an earthen dike with core walls about 550 feet long topped with a 12-foot-wide travel path; and a 209-foot-long headgate section, with 9 gates, protected by 3 sets of trashracks of ⅜-inch steel bars with 1⅝-inch openings and 4 sets of trashracks of ⅜-inch steel bars with 2⅝-inch openings;

- a concrete, steel, and brick powerhouse, about 115 feet wide by 167 feet long, and an addition that is 82 feet wide by 36 feet long, equipped with 3 horizontal Francis turbine/generator units, 3 inclined turbine/generator units, and 1 vertical Kaplan turbine/generator unit, with a total rated capacity of 20,886 kW, a hydraulic

capacity of 6,000 cfs, a net head of 49 feet, and an average annual generation of 98,100 MWh;

- a tailrace with 8 discharge bays;

- A 2.3-mile impoundment (known as Dolby Pond) with a surface area of about 2,048 AC, a gross storage capacity of 41,956 AF, negligible usable storage capacity, and a normal pool headwater elevation of 338.2 feet and tailwater elevation of 287.2 feet;

- a 2-mile-long, 34.5-kV, 60-Hz transmission line and a 6.8-mile-long, 33.0- to 34.5-kV, 40-Hz transmission line; and

- appurtenant facilities.

East Millinocket Development. East Millinocket consists of:

- a 571-foot-long concrete and earth-filled gravity dam, with a maximum height of 28 feet that consists of a 116-foot-long earth embankment with a tip elevation of 295.2 feet; a 300-foot-long concrete gravity spillway section with a crest elevation of 283.2 feet that is topped with 4-foot flashboards separated by a 59-foot-long waste gate structure with 2 gates, each about 23 feet wide; a 7-foot-long timber crib section; and a 146-foot-long intake section with 12 gates, about 9 feet high by 11 feet wide, protected by trashracks of ⅜-inch steel bars with 1¼-inch openings;

- a concrete, steel, and brick powerhouse, about 56 feet wide by 147 feet long, equipped with 6 horizontal Francis turbine/generator units with a total rated capacity of 6,936 kW at 60 Hz, a hydraulic capacity of 4,200 cfs, a net head of 24 feet, and an average annual generation of 37,700 MWh;

- a tailrace that is about 1,050 feet long by 110 feet wide, with 6 discharge bays;

- an impoundment (consisting of a 1.9-mile stretch of the West Branch of the Penobscot River) with a surface area of about 128 AC, a gross storage capacity of 1,950 AF, negligible usable storage capacity, normal pool headwater elevation of 287.2 feet, and tailwater elevation of 261.5 feet; and

- appurtenant facilities.

Table 2-1 summarizes project facilities for the developments of the Ripogenus and Penobscot Mills projects.

2.1.2 Operation of Projects

The Ripogenus Project operates as a storage development on an annual basis, whereas the Penobscot Mills developments operate in different modes. Millinocket Lake operates as a storage development where water is pumped into the North Twin impoundment. GNP operates North Twin as a storage development on an annual basis. Millinocket, Dolby,

and East Millinocket operate as run-of-river (outflow equals inflow) developments, with a small flow-reregulating capability.

Table 2-1. Summary of facilities and operations (Source: GNP, Staff)

	Ripogenus	Millinocket Lake	North Twin	Millinocket	Dolby	East Millinocket
Impoundment Surface Area (acres)	29,270	8,640	17,790	1,344	2,048	128
Normal Headwater Elevation (ft)	941.6	480.0	491.9	458.7	336.2	287.2
Normal Tailwater Elevation (ft)	758.5	--	460.7	347.4	287.2	261.5
Draw-down Capability (ft)	44.0	6.2	22.0	--	--	--
Gross Storage (acre-ft)	710,000	45,370	346,000	8,100	41,956	1,950
Usable Storage (acre-ft)	688,705	45,370	344,355	--	--	--
Hydraulic Capacity (cfs)	3,500	--	4,500	5,000	6,000	4,200
Installed Capacity (kW)	37,530	--	6,972	35,782	20,886	6,936
Annual Energy (MWh)	234,000	--	47,300	203,300	98,100	37,700

The ability to manage flow from the storage impoundments at the Ripogenus and Penobscot Mills projects allows GNP to maximize the combined annual energy generation from these projects by generally keeping the flow of water within each development's hydraulic capacity. Figure 2-3 shows the relationships between the projects and their developments. Storage is operated on an annual cycle to dampen the extremes of seasonal variation in runoff by storing the majority of spring runoff to provide sustained flows during the remainder of the year, when precipitation is significantly less. Water is released at a controlled rate during the entire year according to a system-rule curve (based on providing an average daily flow of 2,400 cfs at Millinocket with a 1 percent probability of running out of storage) that produces a relatively even flow in the West Branch throughout the year. This minimizes spillage at the dams, which can occur when flows exceed a facility's hydraulic capacity. Flow is reserved for later use to provide maximum sustained baseload energy generation and protect populated areas downstream from flooding during the high spring runoff. The total volume of usable storage in the West Branch system is 1,347,600 AF.

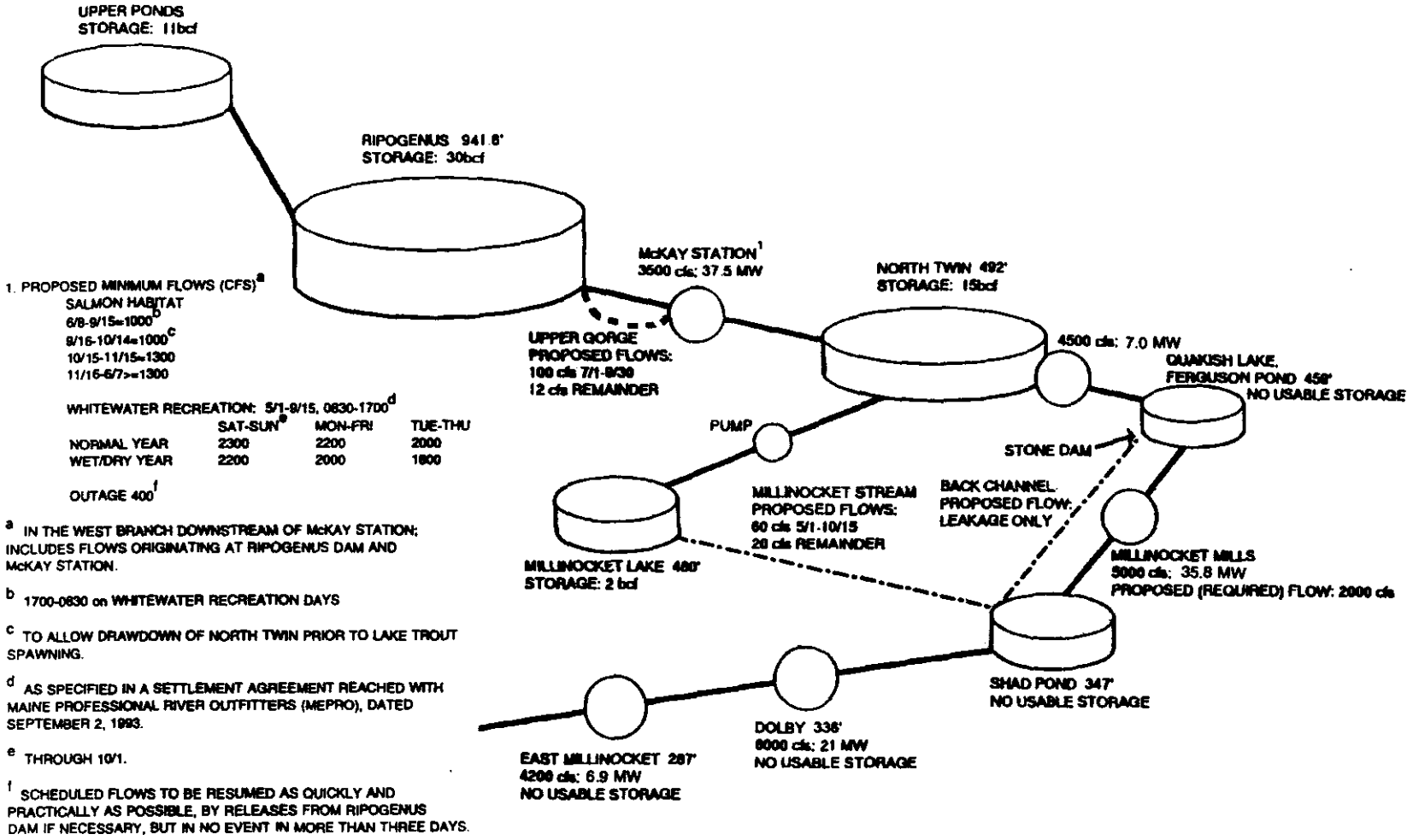

Figure 2-3. Ripogenus Project and Penobscot Mills Project normal pool elevations (in feet NGVD), storage capacities (in billion cubic feet or bcf), maximum generation, flows and capacities, and proposed minimum flows (in cfs; Source: GNP, 1991a, 1991b)

The Ripogenus and Penobscot Mills projects are part of an integrated system that GNP developed to provide baseload electrical and mechanical power for the Millinocket and East Millinocket mills. GNP monitors the energy demand of the manufacturing facilities through a computerized dispatch system known as the Energy Optimization System (EOS) and operates the storage and generation facilities of the system to meet that demand efficiently. The total generating capacity of the Penobscot Mills/Ripogenus projects is 108,106 kW; 37,836 kW of this power is generated at 60 Hz, and 70,270 kW is generated at 40 Hz. The 60-Hz component of GNP's load is supplied from hydroelectric generation, cogeneration, condensing, and purchased power. North Twin, East Millinocket, and portions of Millinocket and Dolby generate at 60 Hz. The 40-Hz network supplies power to the large wood grinder motors at East Millinocket mill and is supplied by the Ripogenus Project and portions of the Millinocket and Dolby facilities. Forty-hertz power cannot be purchased from, or sold to, any other public utilities because they all use a 60-Hz network. Overall, GNP supplies about 90 percent of the energy needed for its mills and purchases the remainder from BHE. Occasionally, GNP sells a small amount of 60-Hz power to BHE.

The EOS dispatch center in Millinocket maintains remote monitoring and control of each development. This real-time, computerized monitoring and control system allows the dispatcher to receive information on impoundment levels, discharge, and unit settings for all the projects and power demands at the manufacturing facilities; select the best units and settings for maximum system efficiency; and adjust unit flows and settings accordingly. The dispatcher can meet instantaneous demands, optimize performance, and maximize annual energy production of the power system.

2.1.2.1 Ripogenus Project

The Ripogenus impoundment provides 51 percent of the total volume of usable storage in the West Branch system. During high spring flows, GNP manages outflow and limits spillage by exploiting the usable storage capacity of the impoundment. When the impoundment is at its normal maximum operating level, GNP opens the deep waste gates and crest gates. With all gates open, the dam can pass the probable maximum flood (PMF) of 65,800 cfs.

By storing spring flows, GNP can release a more consistent flow to the West Branch throughout the remainder of the year. Although the Ripogenus impoundment has a potential draw-down of 44 feet, draw-down has not exceeded 30.6 feet since 1970 and has averaged 16.5 feet. Over the same period, flow at McKay station ranged from 200 cfs to 15,185 cfs, averaging 2,699 cfs.

The project's bypass reach, the 4,730-foot-long Upper Gorge between the Ripogenus dam and McKay station, currently receives only leakage flows estimated at 12 cfs and spillage, which occurs approximately 11 percent of the time.

2.1.2.2 Penobscot Mills Project

The Penobscot Mills Project consists of five developments. The North Twin impoundment is at the upstream end of the project and receives flow from the Ripogenus Project. Releases from North Twin pass through the four generation facilities of the

nobscot Mills Project: North Twin, Millinocket, Dolby, and East Millinocket. Water from nocket Lake is either pumped to North Twin or discharged through the dam to Millinocket am, which enters the West Branch immediately downstream of the Millinocket elopment. The total volume of usable storage in the Penobscot Mills Project is 389,725 which is 29 percent of the West Branch total.

North Twin Development. The North Twin Development operates in a storage mode annual basis. During high flows, GNP manages outflow and limits spillage by exploiting ailable usable storage capacity of the impoundment. When the impoundment reaches mal maximum operating level, GNP opens the Taintor gates. The development has a num discharge capacity of 72,000 cfs and can pass the PMF of 64,300 cfs.

The North Twin impoundment has a potential draw-down of 22 feet; however, annual down has ranged only from 6.1 feet to 17.6 feet since 1970. GNP releases water from m storage to maximize generation at North Twin by maintaining a higher headpond on.

FERC staff estimates that the minimum river flow at North Twin is 1,980 cfs (during mill wn); the mean is 3,543 cfs, and the maximum is 32,008 cfs. Spillage occurs nately 20 percent of the time.

Millinocket Lake Storage Development. This development is used principally to plement flow for power generation through the North Twin and Millinocket developments. his mode of operation, water is pumped from Millinocket Lake into Ambajejus Lake (part of ie North Twin impoundment) at a rate of up to 244 cfs. Alternatively, water can be spilled over the dam at Millinocket Lake into Millinocket Stream, which enters the West Branch downstream of the Millinocket Development. Water that is spilled from the lake, therefore, is available for generation only at the Dolby and East Millinocket developments, whereas water pumped into Ambajejus Lake is available at all four generation facilities. Likewise, a minimum flow of 20 cfs and any other spillage released at the dam to Millinocket Stream is unavailable for power generation at the North Twin and Millinocket developments. Millinocket Lake has a potential draw-down of 6.2 feet, and the dam at the lake can withstand the PMF of 4,400 cfs.

Millinocket Development. The Millinocket impoundment has negligible storage capacity; therefore, the development is operated in run-of-river mode, with minor fluctuations in water level based on inflow from the North Twin Development. These fluctuations are typically caused by varying demand at the manufacturing facilities for either 40-Hz or 60-Hz electrical power. The average daily variation between North Twin and Millinocket outflows is 130 cfs.

FERC staff estimates river flows at Millinocket for the period of record are a minimum of 1,980 cfs (during a mill shut-down), a mean of 3,568 cfs, and a maximum of 32,230 cfs. Spillage occurs approximately 12 percent of the time when flows exceed the facility's hydraulic capacity.

The flashboards on the spillway of Stone dam will fail when overtopped by 1.5 feet (at 460.2 feet elevation), thereby spilling flows to Back Channel. The dam can pass 109,000 cfs

with the water level at the deck of the gatehouse (at 464.2 feet elevation), and the dam and dikes can withstand the PMF of 64,800 cfs.

Dolby Development. The Dolby impoundment has negligible storage capacity; therefore, the Dolby Development is operated in run-of-river mode, with minor fluctuations in water level based on inflow from the Millinocket Development. As described above for Millinocket, these fluctuations are typically the result of load variations at the manufacturing facilities. Operation is also a function of flow from the Millinocket Lake Storage Developmer by way of Millinocket Stream.

During the period of record of GNP's flow analysis, the mean river flow at the Dolby Development was 3,979 cfs; the minimum river flow was 1,837 cfs (during a mill shut- dow and the maximum river flow was 35,947 cfs. Spillage occurs approximately 5 percent of th time when river flow exceeds the facility's hydraulic capacity.

GNP opens the waste gates, which have a combined flow capacity of 3,600 cfs, dı high flows to maintain the flashboards in place. The flashboards on the spillway will fail w overtopped by 1.5 feet. The development structures can withstand the PMF of 64,000 cfs the waste gates open and the flashboards removed.

East Millinocket Development. The East Millinocket impoundment has negligib storage capacity; therefore, the development is operated in run-of-river mode, with minor fluctuations in water level based on inflow from the Dolby Development. These fluctuations are typically caused by load variations at the manufacturing facilities.

FERC staff estimates that the minimum river flow at East Millinocket for the period of record was 1,840 cfs (during a mill shut-down); the mean was 3,985 cfs, and the maximum was 35,998 cfs. Spillage occurs approximately 28 percent of the time when river flow exceeds the facility's hydraulic capacity.

GNP opens the waste gates, which have a combined flow capacity of 2,000 cfs, to maintain the flashboards in place. The flashboards on the spillway will fail when overtopped by 1.5 feet (at an elevation of 288.7 feet). The development structures can withstand the PMF of 64,000 cfs (at an elevation of 293.1 feet).

2.1.3 Proposed Environmental Measures

Although FERC licenses the two projects evaluated in this FEIS separately, many of the resources within the two project areas are interdependent, particularly resources associated with streamflow and water quality; therefore, associating GNP's proposed enhancements specifically with one project or the other is not always accurate or appropriate. We describe GNP's proposed enhancements according to the integrated nature of the resources they would affect, indicating the specific project area to be enhanced where appropriate.

2.1.3.1 Geology and Soils

GNP intends to develop an erosion and sedimentation control plan that will specify control measures and procedures to limit erosion and sedimentation during construction of enhancements of recreation access in the Ripogenus Project area. GNP proposes no construction and, therefore, no mitigation for geology and soils/groundwater in the Penobscot Mills Project area.

2.1.3.2 Streamflow

Figure 2-3 illustrates project storage capacities, maximum generation plans, and GNP's proposed minimum flows. GNP proposes to supply flows of 100 cfs in Upper Gorge between July 1 and September 30 and leakage flows of approximately 12 cfs during the rest of the year. Supplemental summer "attraction flows" of 100 cfs would be provided to attract adult salmon into Upper Gorge in an effort to increase angling opportunities. Timing these releases would be coordinated with state and federal fisheries agencies. Below McKay station, GNP proposes the following flows (as modified to reflect the agreement between GNP and Maine Professional River Outfitters on recreational boating flows):

- outage flows of 400 cfs;
- rafting flows of 1,800 to 2,300 cfs between May 1 and September 15, depending on day of week and water availability (see figure 2-3 for details);
- rafting flows of 2,300 cfs (normal years) or 2,200 cfs (wet or dry years) on Saturdays and Sundays between September 16 and October 1;
- spawning flows of at least 1,300 cfs between October 15 and November 15;
- incubation flows equal to or greater than spawning flows from November 16 through June 7; and
- rafting or incubation flows, whichever is greater, continuously from May 1 through June 7.

Flows released to Millinocket Stream would be increased to 60 cfs between May 1 and October 15 but would remain at 20 cfs during the remainder of the year. Back Channel flows would remain at leakage of 2 to 5 cfs, except during periods of high inflow, when water may be spilled at Stone dam. Flows below Millinocket, Dolby, and East Millinocket developments would continue to be at least 2,000 cfs.

2.1.3.3 Water Quality

GNP contends that project operations do not affect mercury levels within project impoundments and that mercury levels are statistically no different than levels in other impoundments and natural lakes within the area. GNP, therefore, does not propose to conduct further studies other than those with which it is participating voluntarily already: the Environmental Protection Agency's (EPA) Environmental Monitoring and Assessment Program

(EMAP) and the International Toxics Monitoring (ITM) program begun in 1992 by several New England states and Canadian provinces.

GNP contends that Back Channel does not have to meet water quality standards because it is not classified by the state. GNP also maintains that studying low dissolved oxygen (DO) in Dolby Pond is unnecessary and that Dolby Pond meets state water quality standards under current project operation.

2.1.3.4 Fisheries

GNP does not propose to provide anadromous fish passage because the state has no plans to restore anadromous Atlantic salmon to the West Branch. GNP agreed to modify and maintain the North Twin fishway. GNP proposes to provide water to a channel that parallels the West Branch near Holbrook Stream to enhance the salmon nursery habitat in the West Branch. Additionally, GNP proposes to regulate seasonal draw-downs of the North Twin impoundment so that it reaches its lowest level before lake trout spawning begins (October 15). GNP also proposes to implement a Millinocket Stream Fisheries Management Plan in which GNP would stock more and larger brook trout to Millinocket Stream. GNP also proposes to increase flow in this reach to 60 cfs between May 1 and October 15.

2.1.3.5 Wetlands

GNP proposes to enhance wetlands at the North Twin impoundment at the Deep Cove East, Deep Cove West, and Wadleigh Brook sites. The proposed measures would enhance existing vegetation at these sites by increasing water retention time during draw-downs.

2.1.3.6 Terrestrial

GNP (1992c) proposes to implement a Back Channel Wildlife Habitat Management Plan to enhance the value of this area for wildlife. The plan would include snag (standing dead trees) management and even-aged and uneven-aged management of the adjacent forest. The goals of this management plan would be to increase vertical stratification and maintain riparian vegetation, while increasing and improving habitat within the area by selective timber harvesting.

2.1.3.7 Threatened and Endangered Species

GNP contends that present project operations have no impacts on threatened and endangered species (GNP, 1993c) and that the documented bioaccumulation of mercury in bald eagles is unrelated to project operation. GNP (1993c) believes that no mitigation measures are necessary because the proposed operational changes and construction would not adversely affect bald eagles.

2.1.3.8 Recreation

GNP proposes to maintain existing recreation facilities within the project areas and to enhance recreation opportunities by modifying existing reservoir operation and providing additional recreation facilities. For the Penobscot Mills Project, GNP proposes to:

- provide relatively stable water levels in the North Twin impoundment from May 1 through mid-August, unless GNP is unable to maintain the required 2,000 cfs minimum flow below Millinocket. This action would address concerns raised by the Maine Department of Conservation and the Save Our Scenic Lakes Association regarding the potential effects of fluctuating lake elevations on recreational activities;

- provide space for three vehicles and five trailered vehicles at the Dead Man's Curve boat access site and for four vehicles at the Route 157 boat access along Dolby Pond within 1 year following issuance of the new license. This action would respond to a recommendation by the Maine Department of Conservation;

- improve the Green Bridge boat access site above Quakish Lake by removing boulders and other obstructions at the shoreline and placing additional gravel in the parking area to accommodate approximately six additional vehicles. These improvements would be completed within 1 year following the issuance of a new license. This action would respond to recommendations by the Maine Department of Conservation; and

- assess the adequacy of the existing recreation facilities within the project area once every 10 years for the term of the new license in consultation with the Maine Bureau of Parks and Recreation.

For the Ripogenus impoundment, GNP proposes to:

- eliminate access fees for noncommercial, day use within the company's gate system for Maine residents, as a result of an agreement with the Fin and Feather Club (see license order);

- improve the informal boat launch on Caribou Lake by removing several trees, placing gravel to provide a pull-ahead area, and making minor improvements to expand the existing parking area;

- assess the adequacy of existing recreation facilities within the project area once every 10 years for the term of the new license in consultation with the Maine Bureau of Parks and Recreation; and

- attempt to schedule routine dam maintenance on week days between Labor Day and Memorial Day to avoid affecting downstream rafting.

For Upper Gorge, GNP proposes to:

- provide a minimum flow of 100 cfs in Upper Gorge from July 1 to September 30 to increase fishing opportunity (leakage would be provided during the remainder of the year); and

- maintain the abandoned dirt road that extends from Ripogenus dam along the top of Upper Gorge for pedestrian use (a gate has been installed at its entrance to restrict vehicular access).

For McKay station, GNP proposes to:

- provide the recreational flows outlined in section 2.1.3.2;
- modify the existing vehicle gate to allow unrestricted pedestrian access to the river 24 hours a day;
- install two concrete vault privies at the parking lot adjacent to the McKay station access road;
- establish a telephone message system that would be updated twice daily to provide information about flow conditions along the West Branch downstream of McKay station and any scheduled releases from the dam; and
- review the advisability of whitewater races below McKay station once the organizer of the event notifies GNP in writing of the event and provides documentation of appropriate state approvals.

For Never's Corner, GNP proposes to construct a set of changing rooms at the take-out for whitewater boaters.

2.1.3.9 Land Use

GNP proposes to donate a 250-foot conservation easement to the state of Maine for approximately 73 shoreline miles within the Ripogenus Project area. GNP proposes no easements for the Penobscot Mills Project area. The proposed easements would not be included within the project boundary.

2.1.3.10 Aesthetics

GNP does not propose to reduce impoundment draw-downs to improve aesthetics. GNP contends that reducing draw-downs would be incompatible with its Water Use Plan (WUP) and the flow required for different locations throughout the project areas.

2.1.3.11 Cultural Resources

In consultation with the State Historic Preservation Officer (SHPO), GNP developed two, site-specific Cultural Resource Management Plans (CRMPs). These plans describe data recovery and preservation activities for all identified sites.

2.2 STATUTORY REQUIREMENTS

2.2.1 Water Quality Certification Conditions

The Maine Department of Environmental Protection (DEP) and the Maine Land Use Regulation Commission (LURC) issued Section 401 Water Quality Certification (401 WQC) for the Ripogenus and Penobscot Mills projects (table 2-2).

Section 401(a)(1) of the Clean Water Act (CWA) requires an applicant for a federal license or permit for any activity that may result in a discharge into navigable waters of the United States to provide to the licensing or permitting agency a certification from the state in which the discharge originates that such discharge will comply with certain sections of the CWA. A state Water Quality Certificate (WQC), therefore, is a prerequisite for obtaining a Commission license. The Commission's past practice has been to include all state water quality conditions in any order issuing a project license; however, as stated in *Tunbridge Mill Corporation* (68 FERC ¶ 61,078, 1994), under Section 401(d), states may lawfully impose only conditions related to water quality. In examining the conditions proposed in the Penobscot Mills and Ripogenus WQCs in section 5 of this FEIS, we follow the principles discussed in *Tunbridge*.

Table 2-2. West Branch Penobscot River Basin hydroelectric project water quality certification (Source: GNP, Staff)

Project	Project Number	Date Granted
Ripogenus	2572	4/15/93
Millinocket Lake Storage	2458	4/22/93
Penobscot Mills	2458	4/22/93

2.2.1.1 Ripogenus Project

LURC granted certification that there is a reasonable assurance that the continued operation of the Ripogenus Project, as proposed by the applicant and modified herein, would not violate applicable water quality standards, subject to eight conditions (Boulter, 1993).

1. Minimum Flows

   A. Except as temporarily modified by operating emergencies beyond the applicant's control, as defined below, the Ripogenus Project must be operated such that minimum flows are maintained as proposed by the applicant (including 100 cfs seasonal flow in Upper Gorge), and described in this decision, with the following exceptions:

      (1) a minimum flow of at least 12 cfs must be maintained in Upper Gorge at all times; and

(2) during the period from May 1 to September 15, a daytime recreational flow of at least 2,000 cfs must be provided during normal months (as defined in the WUP and described above), and of at least 1800 cfs during wet or dry months. These flows must be achieved as soon as possible following any outage.

B. Operating emergencies beyond the applicant's control include, but may not be limited to, equipment failure or other temporary abnormal operating condition, generating unit operation or interruption under power supply emergencies, and orders from local, state, or federal law enforcement or public safety authorities.

C. Flows required to promote salmon spawning and incubation, as described in the application, shall be established each year in consultation with the Maine Department of Inland Fisheries and Wildlife.

2. The applicant shall continue to keep accurate flow records and monitor recreational use and shall review the effectiveness of its WUP with the Commission, other interested resource agencies, and affected private groups every 10 years over the term of the new project license.

3. The applicant shall conduct a study similar in scope to that conducted by the applicant for Millinocket Lake in 1992 to assess mercury concentrations in aquatic life in the Ripogenus impoundment and the West Branch. Such study shall include sampling of game fish in the project area. A work plan and proposed schedule for the study shall be submitted to the Commission for its review and approval within 90 days of the effective date of this certification. Such study, including all data collected, shall be submitted to the Commission upon completion. In addition, the applicant shall cooperate in a study to be conducted by the DEP and the EPA to determine the interrelationship and impacts of atmospheric deposition and water level fluctuations on concentrations of mercury and other heavy metals on aquatic life in the project waters.

4. The applicant shall, within six months of FERC relicensing or upon such a schedule as may be established by FERC, submit a plan for implementing all proposed fisheries, fishing, recreational, habitat, and navigational enhancements specified herein and those specified in its FERC application. This plan shall be reviewed by and must receive approval of the LURC.

5. This approval is limited to and includes the proposals and plans contained in the application and supporting documents submitted by the applicant except as herein specified. All variances from the plans and proposals contained in said documents are subject to the review and approval of the Commission prior to implementation.

6. The applicant shall secure and appropriately comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders required for the operation of the project.

7. This water quality certification shall be effective on the date of issuance of a new hydropower project license by the FERC and shall expire with the expiration of the FERC license.

8. This water quality certification does not constitute an approval of any aspects of the applicant's WUP or any other elements of its proposal that deal with upstream impoundments, as these are to be subject to future licensing by the FERC and water quality certification by the State.

2.2.1.2 Penobscot Mills Project

The Maine DEP certified that the continued operation of the Penobscot Mills Project would not violate applicable water quality standards, subject to 17 special conditions (Marriott, 1993). Six of these conditions pertain specifically to Millinocket Lake Storage dam, which has a separate WQC. (Maine DEP expressly waived its authority to certify that continued operation of the Penobscot Mills Project will meet applicable water quality standards in the section of the West Branch known as the Back Channel.)

Millinocket Lake Storage Dam.

1. Except as temporarily modified by operating emergencies beyond the applicant's control, a minimum flow of 60 cfs shall be maintained from the Millinocket Lake Storage dam to Millinocket Stream from May 1 to October 15 annually, and a minimum flow of 20 cfs shall be maintained during the remainder of the year.

2. Except as temporarily modified by approved maintenance activities, inflows to the project area, or operating emergencies beyond the applicant's control, the water level in Millinocket Lake shall be maintained between elevations 470.0 feet and 480.0 feet mean sea level (MSL) while providing water to maintain North Twin impoundment levels.

3. The applicant shall implement and monitor the results of an upgraded spring and fall brook trout stocking program as specified in Millinocket Stream. The Department reserves the right to approve a revised stocking program if deemed necessary to meet the goal of providing a seasonal fishery in Millinocket Stream.

4. The applicant shall provide enhancement of existing wetlands in the Penobscot Mills Project area, and shall submit plans for evaluating, implementing, and monitoring these enhancements.

5. The applicant shall cooperate in a study to be conducted by the DEP and the EPA to determine the interrelationship and impacts of atmospheric deposition and water level fluctuations on concentrations of mercury and other toxic metals on aquatic life in the project waters.

6. The applicant shall consult with the Department of Conservation regarding the need for a study to mark and remove submerged hazards to navigation in

Millinocket Lake, and shall, if requested by Conservation, submit plans for investigating and for marking and/or removing hazards in the lake.

North Twin, Millinocket, Dolby, and East Millinocket Hydroelectric Developments.

1. Except as temporarily modified by operating emergencies beyond the applicant's control, the Millinocket, Dolby, and East Millinocket developments shall be operated as run-of-river facilities while providing an instantaneous minimum flow of 2,000 cfs to the West Branch at Millinocket.

2. Except as temporarily modified by approved maintenance activities, inflows to the project area, or by operating emergencies beyond the applicant's control, the water level in the North Twin impoundment shall be maintained at or above the lake trout spawning/incubation level for the period on or about October 15 through May 1 annually, and shall be maintained at a relatively stable level from May 1 through mid-August annually, unless the minimum flow of 2,000 cfs cannot be maintained at Millinocket.

3. The applicant shall investigate the extent to which DO deficits in the Dolby impoundment are due to discharges from the Millinocket Mill, and shall submit the results of the investigation, along with a discussion of possible corrective actions, to the Department in conjunction with the next renewal of the Waste Discharge License for the Millinocket Mill.

4. The applicant shall cooperate in a study to be conducted by the DEP and the EPA to determine the interrelationship and impacts of atmospheric deposition and water level fluctuations on concentrations of mercury and other toxic metals on aquatic life in the project waters.

5. The applicant shall undertake appropriate repairs and/or modifications to the existing North Twin fishway.

6. The applicant shall conduct a study as specified to monitor togue (lake trout) reproductive success in the North Twin impoundment following licensing.

7. The applicant shall provide enhancement of existing wetlands in the Penobscot Mills Project area, and shall submit plans for evaluating, implementing, and monitoring these enhancements.

8. The applicant shall consult with the Department of Conservation regarding the need for a study to mark and remove submerged hazards to navigation in the North Twin impoundment, and shall, if requested by Conservation, submit plans for investigation and for marking and/or removing hazards in the impoundment.

9. The applicant shall improve existing recreational access facilities in the project area by: providing parking areas for four vehicles at the Route 157 Causeway site and for three vehicles and five trailered vehicles at the Dead Man's Curve site; and removing boulders at the boat launch and adding gravel to expand the

size of the parking area at the boat put-in site located upstream of Quakish Lake at the Green Bridge.

10. This approval is limited to and includes the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. All variances from the plans and proposals contained in said documents are subject to the review and approval of the Board or Department prior to implementation.

11. The applicant shall secure and appropriately comply with all applicable federal, state and local licenses, permits, authorizations, conditions, agreements and orders required for the operation of the project.

2.2.2 Section 18 Fishway Prescriptions

Section 18 of the FPA provides the Secretary of the U.S. Department of Interior (Interior) the authority to prescribe fishways[2] at Commission-licensed projects. Interior filed the following measures for license implementation pursuant to Section 18 for the Ripogenus and Penobscot Mills projects (letters from J. Deason, Interior, May 24, 1993).

Any license issued by the Commission for the Ripogenus Project or the Penobscot Mills Project should include the following special article:

> The Secretary of the Interior's authority to prescribe the construction, operation, and maintenance of fishways is reserved under Section 18 of the Federal Power Act.

2.3 PROJECT ALTERNATIVES

GNP proposes no modifications of existing impoundments and structures at the Ripogenus and Penobscot Mills projects but would provide several measures intended to enhance resources in the project area. Conservation intervenors (CI[3]) and EPA, Interior, PIN, TU and others requested that new licenses for the projects include enhancement measures (e.g., minimum flow releases) substantially greater than those proposed by GNP.

We evaluated the projects as proposed by GNP (Applicant's Proposal) and defined two alternatives to provide a sound basis for identifying the appropriate balance between developmental and nondevelopmental uses of the waterway. The Applicant's Proposal includes all enhancement measures proposed by GNP and some recreation enhancements that GNP agreed to through settlement agreements with several intervenors during scoping.

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[2] Section 18 of the FPA states: "The Commission shall require the construction, maintenance, and operation by a licensee at its own expense of. . . such fishways as may be prescribed by the Secretary of Commerce or the Secretary of Interior, as appropriate."

[3] The Conservation Intervenors consist of the following individual groups: American Rivers, American Whitewater Affiliation, Appalachian Mountain Club, Conservation Law Foundation, and Maine Audubon Society.

Alternative 1 includes measures proposed by the CI and other parties to maximize or substantially increase benefits for various resources, particularly fisheries, without regard to economic effect for GNP.

Alternative 2 includes enhancement measures intermediate between those sought by the CI and those proposed by GNP to enable us to evaluate a complete range of alternatives. To establish the specific measures appropriate for this alternative, we considered the benefits and effects of several different minimum flow levels for the Back Channel and Millinocket Stream before selecting the specific flows to include in Alternative 2 (see section 4).

Under the No-action Alternative, the projects would continue to operate as they do now.

2.3.1 Alternative 1

This alternative reflects the requests and interests of the CI, Interior, EPA, and others.

Under this alternative, the proposed project would be modified to reduce adverse effects or enhance environmental values beyond the level proposed by the applicant. The following measures would be implemented:

- maintain flows in Upper Gorge of 100 cfs year from July 1 to September 30 and 50 cfs during the remainder of the year;
- provide a minimum flow of at least 1,422 cfs in the West Branch below McKay station between October 15 and June 7
- provide greater stability of project impoundment levels;
- enhance wetlands both onsite and offsite for both projects;
- create building setbacks and vegetative buffers within the watershed to prevent development and potential subsequent degradation of water quality;
- maintain year-round flows of 60 to 80 cfs in Millinocket Stream;
- provide flows of 350 to 500 cfs in Back Channel;
- operate Millinocket, Dolby, and East Millinocket in instantaneous run-of-river mode;
- provide artificial nesting platforms for common loon and other aquatic birds; and
- assess the adequacy of existing recreational facilities within the project areas once every 6 years for the term of the new licenses in consultation with Fish and Wildlife Service (FWS), National Park Service (NPS), Maine Department of Inland Fisheries and Wildlife (DIFW), Maine Department of Conservation (DOC), and the Penobscot Indian Nation (PIN).

2.3.2 Alternative 2

FERC staff developed this alternative to present a level of enhancement that is intermediate between Alternative 1 and the No-action Alternative. Under this alternative, we considered adopting the following actions in addition to those proposed by GNP:

- instituting flows in Upper Gorge of 100 cfs from July 1 to September 30 and between leakage (12 cfs) and 30 cfs during the remainder of the year;
- provide a minimum flow of at least 1,422 cfs in the West Branch below McKay station between October 15 and June 7
- instituting flows in Back Channel between leakage and 165 cfs;
- instituting flows in Millinocket Stream of 60 cfs from May 1 to October 15 and 60 cfs or inflow during the remainder of the year;
- delaying and modifying fall draw-down at storage impoundments; and
- establishing shoreline protection measures within the project areas to protect existing aesthetic and recreational resources;
- enhancing wetlands on North Twin and Ripogenus impoundments; and
- providing artificial nesting platforms for common loon and other aquatic birds; and
- assess the adequacy of existing recreational facilities within the project areas once every 6 years for the term of the new licenses in consultation with FWS, NPS, DIFW, DOC, and the Maine Bureau of Parks and Recreation (BPR).

2.3.3 No-Action Alternative

Under the No-action Alternative, the projects would continue to operate under the terms and conditions of the existing licenses, and no new environmental protection or enhancement measures would be implemented. We use this alternative to establish baseline environmental conditions to compare with other alternatives.

2.3.4 Alternatives Considered but Eliminated from Detailed Study

We considered several other alternatives to the applicant's relicensing proposal but eliminated them from detailed study because they are not reasonable under the circumstances of this case:

- federal takeover and operation of the projects;
- issuing a nonpower license; and
- decommissioning the projects.

We do not consider federal takeover to be a reasonable alternative. Federal takeover and operation of the projects would require Congressional approval. Although that alone would not preclude further consideration of this alternative, no evidence indicates that federal takeover should be recommended to Congress. No party has suggested that federal takeover would be appropriate, and no federal agency has expressed an interest in operating the projects.

Issuing a nonpower license would not provide long-term resolution of the issues presented. A nonpower license is a temporary license that the Commission terminates whenever it determines that another governmental agency will assume regulatory authority for and supervision over the lands and facilities covered by the nonpower license. In this case, no agency has suggested its willingness or ability to do so. No party has sought a nonpower license, and we have no basis for concluding that the projects should no longer be used to produce power; therefore, a nonpower license is not a realistic alternative for relicensing.

The projects could be decommissioned with or without dam removal. Either alternative would involve denying the application and terminating the existing license with appropriate conditions. No participant has suggested that dam removal would be appropriate in this case, and we have no basis for recommending it. The existing developments provide extensive recreation opportunities for local residents and visitors to the region and also supply water for local municipalities. Dam removal, therefore, is not a reasonable alternative to relicensing the projects with appropriate mitigation and enhancement measures.

The second decommissioning alternative would involve retaining the dam and disabling or removing equipment used to generate power. Project works would remain in place and could be used for historic or other purposes. This would require us to identify another government agency that is willing and able to assume regulatory control and supervision of the remaining facilities. No agency has stepped forward, and no participant has advocated this alternative, nor have we any basis for recommending it. Because the power supplied by the projects is needed, we would also have to identify a source of replacement power. In these circumstances, we do not consider removal of electric generating equipment to be a reasonable alternative.

2.4 ECONOMIC COMPARISON OF ALTERNATIVES

In this section the staff analyzes the economic benefits of the proposed alternatives and determines the economic effects on the project of the various measures intended to provide environmental and recreational benefits. The staff performed an incremental analysis to estimate the annual net benefit (ANB) of each alternative. This analysis is incremental in that it considers only the power benefits (or costs) and the project costs produced by each alternative in comparison with the No-action Alternative. An alternative's ANB has two components:

- The annual power value, which consists of the value at current market prices of the change in annual power generation. This can be positive or negative depending on whether annual power generation increases or decreases.

- The annual project cost, which consists of its annualized capital cost and its annual operating and maintenance (O&M) cost

The incremental ANB for an alternative is obtained by subtracting its annual project cost from its annual power value.

We estimated the incremental ANBs using current (1996) costs and market values. We did not consider future inflation or escalation of market prices or construction costs. Our analysis assumed beginning operations immediately, amortizing project capital costs over the period of analysis, and holding power values constant at current levels during that time. The alternatives consisted of various combinations of operational modifications (all of which would reduce power generation) and physical improvements designed to provide environmental benefits (e.g., conservation easements and enhancements of wetlands and fisheries). The alternatives under consideration were

- the Applicant's Proposal;
- Alternative 1, based on the recommendations of the CI and some agencies;
- Alternative 2 (Final Recommendation), developed by the Commission's staff;
- Alternative 2 (Intermediate Flow); and
- the No-action Alternative.

Table 2-3 summarizes the key parameters used in the economic analysis.

Section 2.4.1 presents the calculation of the annual power value for each alternative. Section 2.4.2 presents the derivation of the annual project cost. Section 2.4.3 presents the incremental ANBs of each alternative and an estimate of the cost of power.

2.4.1 Annual Power Value

The five operational aspects of the alternatives under consideration that would affect annual power production are:

- flows from the Ripogenus impoundment to the West Branch of the Penobscot River (Ripogenus Project),
- flows in the Upper Gorge (Ripogenus Project),
- elevations in the North Twin impoundment (Penobscot Mills Project),
- flows in Millinocket Stream (Penobscot Mills Project), and
- flows in the Back Channel (Penobscot Mills Project).

Table 2-3. Economic analysis parameters (Source: Staff, GNP)	
Parameter	Value
Benefit/Cost Base Year	1996
Terms of Analysis & Financing	30 years
Depreciation Period	20 years
Interest & Discount Rates	10 percent
Annual Construction Cost Escalation Rate	0 percent
Annual Power Value Escalation Rate	0 percent
O&M Expense Rate	$7.17/MWh
Annual O&M Expense Escalation Rate	0 percent
Federal Tax Rate	34 percent
State and Local Tax Rate	3 percent
Current Value of Alternative Power*	$73.92/MWh
* Equivalent to the cost of obtaining replacement power in the form of firm purchases from Bangor Hydro-Electric.	

Table 2-4 summarizes the incremental losses in annual power generation associated with operational modifications for the alternatives compared with the No-action Alternative. Based on the project's current annual power output of 620,400 MWh (including hydroelectrical and hydromechanical units), the four alternatives would produce small losses in annual power output. These declines would range from 3 percent under the Applicant's Proposal to 7 percent under Alternative 1. The release of minimum flows to the Back Channel at the Penobscot Mill's Project would cause the most significant reduction in annual generation.

2.4.1.1 Applicant's Proposal

The operational changes under the Applicant's Proposal would entail

- providing a flow between 2,000 cfs and 2,300 cfs (depending on day of week) in normal years and between 1,800 cfs and 2,200 cfs (depending on day of week) in wet or dry years in the West Branch below McKay station during the recreation season;

- providing a minimum flow of 100 cfs in the Upper Gorge from July 1 to September 30 (with leakage from October 1 to June 30);

- maintaining relatively stable water elevations in the North Twin impoundment from May 1 to August 15;

- providing a minimum flow of 60 cfs in Millinocket Stream from May 1 to October 15 and 20 cfs from October 16 to April 30; and
- providing leakage in the Back Channel.

Table 2-4. Incremental* average annual power production losses (MWh) (Source: Staff, GNP)

	Applicant's Proposal	Alternative 1	Alternative 2: Final Recommendation	Alternative 2: Intermediate Flow
Ripogenus				
West Branch Recreation Flow	3,300	3,300	3,300	3,300
Upper Gorge Minimum Flow	2,200	5,355	2,200	3,787
Ripogenus Total	5,500	8,655	5,500	7,087
Penobscot Mills				
North Twin Elevation	5,100	5,100	5,100	5,100
Millinocket Stream Minimum Flow	350	771	771	771
Back Channel Minimum Flow	0	20,800	0	9,900
Penobscot Mills Total	5,450	26,671	5,871	15,771
Efficiency Reductions				
Hydroelectric Efficiency	4,100	4,100	4,100	4,100
Steam Efficiency	4,000	4,000	4,000	4,000
Efficiency Reductions Total	8,100	8,100	8,100	8,100
Total	19,050	43,426	19,471	30,958

* Relative to the No-action Alternative (current facilities and operations).

Table 2-4 shows that the total annual decline in power production would be 19,050 MWh, which is the lowest decline of the four alternatives.

2.4.1.2 Alternative 1

The CI's recommendations for West Branch flows and North Twin elevations were the same as under the Applicant's Proposal, but regarding the other operational aspects, this alternative would entail

- providing a minimum flow of 100 cfs in the Upper Gorge from July 1 to September 30 and 50 cfs from October 1 to June 30;

- providing a minimum flow between 60 cfs and 80 cfs in Millinocket Stream year-round; and

- providing a minimum flow between 350 cfs and 500 cfs in the Back Channel.

The annual losses in power production caused by these recommendations are shown in Table 2-4. This alternative would cause the largest annual decline in power generation, a loss of 43,426 MWh.

2.4.1.3 Alternative 2 (Final Recommendation)

The provisions for West Branch flows, Upper Gorge flows, North Twin elevations, and Back Channel flows were the same under this alternative as under the Applicant's Proposal, but this alternative would entail providing a minimum flow of 60 cfs in Millinocket Stream from May 1 to October 15 and 60 cfs or inflow from October 16 to April 30. The annual decline in power output under this alternative would be 19,471 MWh.

2.4.1.4 Alternative 2 (Intermediate Flow)

This alternative is the same as Alternative 2 (Final Recommendation) except for the following two differences:

- Flow in the Upper Gorge flow between October 1 and June 30 would be 30 cfs instead of 12 cfs; and

- the minimum flow in Back Channel would be 165 cfs year-round rather than leakage flow

Because of these two higher flows, this alternative would produce a decline in annual power generation of 30,958 MWh as shown in Table 2-5.

2.4.1.5 No-action Alternative

The No-action Alternative would involve no operational modifications. The current annual power output of 620,400 MWh from the two dams would be maintained.

2.4.1.6 Summary

The applicant states that the minimum flow requirements and draw-down limits in its proposal would impose operational constraints that would reduce the generating efficiency of its system under certain flow conditions. The applicant estimated the resulting average annual power losses at 4,100 MWh caused by reductions in hydroelectric operating efficiency and 4,000 MWh caused by reductions in steam generating efficiency. We allocated these losses on a system-wide basis, rather than to either project individually, and applied them to all the alternatives other than the No-action Alternative.

Table 2-5 presents the annual power value for each alternative. The annual power values were based on a current power cost of $73.92/MWh. This represents the marginal

cost that would be incurred by the applicant in making purchases for replacement firm power from Bangor Hydro-Electric (BHE). Our cost estimate is calculated from BHE's sales of electricity to industrial customers that were reported in the 1994 FERC Form 1. A representative of BHE said (April, 1996) that their rates had not changed in several years so this cost is still applicable (personal communication, Jeff Wood, BHE, April, 1996).

Table 2-5. Incremental* annual power values in dollars by alternative (Source: Staff, GNP) (1996$)

	Applicant's Proposal	Alternative 1	Alternative 2: Final Recommendation	Alternative 2: Intermediate Flow
Ripogenus				
West Branch Recreation Flow	- $243,900	- $243,900	- $243,900	- $243,900
Upper Gorge Minimum Flow	- $162,600	- $395,800	- $162,600	-$279,900
Ripogenus Total	- $406,500	- $639,700	- $406,500	-$523,800
Penobscot Mills				
North Twin Elevation	- $377,000	- $377,000	-$377,000	- $377,000
Millinocket Stream Minimum Flow	- $25,900	-$57,000	- $57,000	-$57,000
Back Channel Minimum Flow	$0	-$1,537,500	$0	-$731,800
Penobscot Mills Total	-$402,900	-$1,971,500	-$405,700	-$1,137,500
Efficiency Reductions				
Hydroelectric Efficiency	- $303,100	- $303,100	-$303,100	-$303,100
Steam Efficiency	- $295,700	- $295,700	-$295,700	-$295,700
Efficiency Reductions Total	- $598,800	- $598,800	-$598,800	-$598,800
Total	-$1,408,200	-$3,210,000	-$1,439,300	-$2,288,400

* Relative to the No-action Alternative (current facilities and operations).

The applicant indicated that annual O&M expenses are directly related to the amount of power generated, and would decline for each alternative where annual power production is reduced. The resulting reduction, or savings in annual O&M costs, would partially offset the cost of obtaining replacement power. The figure provided by the applicant indicates a reduction in annual O&M costs of $7.17/MWh. We determined the reduction in current year O&M costs that would occur under each alternative and included it in our analysis. We discuss these reductions in expenses here because they are related to power generation, but

they are not included in Table 2-5 because O&M expenses represent a portion of project costs, distinct from replacement (alternative) energy costs and, therefore, were included in the calculation of annual project costs.

2.4.2 Annual Project Cost

The annual project cost for an alternative consists of its annualized capital cost and its annual O&M costs. The capital costs for each of the alternatives are presented in Table 2-6. Approximately 94 percent of the capital cost of Alternative 1 is for the conservation easements; this is not a depreciable cost, and the staff accounted for this fact in its analysis. The No-action Alternative has no physical improvements and no capital cost.

Table 2-6. Capital cost by alternative (Source: Staff, GNP) (1996$)

	Applicant's Proposal	Alternative 1	Alternative 2: Final Recommendation	Alternative 2: Intermediate Flow
Ripogenus				
Wetlands Enhancements	$0	$1,285,600	$702,700	$702,700
Conservation Easements	$0	$8,316,500	$0	$0
Fisheries Enhancements	$0	$20,800	$20,800	$20,800
Ripogenus Total	**$0**	**$9,622,900**	**$723,500**	**$723,500**
Penobscot Mills				
Wetlands Enhancements	$0	$47,900	$47,900	$47,900
Conservation Easements	$0	$16,353,300	$0	$0
Penobscot Mills Total	**$0**	**$16,401,200**	**$47,900**	**$47,900**
Total	**$0**	**$26,024,100**	**$771,400**	**$771,400**

* Relative to the No-action Alternative (current facilities and operations).

The staff annualized the capital cost of each alternative based on the financing assumptions listed in Table 2-3 and added the change in annual O&M costs to estimate the incremental annual project cost. These costs are presented in Table 2-7; they are incremental in that they present the change in annual project cost that would occur under each alternative compared with the No-action Alternative.

The staff's analysis indicates that the annual project cost would be negative for all alternatives but Alternative 1 as shown in Table 2-7. A negative annual project cost (i.e., a cost savings) would occur for the following reasons:

- Annual O&M costs would decline because of the reduction in annual power generation as discussed in section 2.4.1.6.
- Minimal or no capital cost would produce minimal or no annualized capital costs (i.e., debt service payments). The exception is Alternative 1 that would have significant annual debt service payments.

- Tax benefits are produced when the net income for a component is negative (i.e., annual before-tax expenses exceed revenues).

Table 2-7. Incremental* annual project costs (Source: Staff, GNP)

	Applicant's Proposal	Alternative 1	Alternative 2: Final Recommendation	Alternative 2: Intermediate Flow
Ripogenus	-$164,300	$666,300	-$104,950	-$152,300
Penobscot Mills	-$162,800	$814,800	-$171,400	-$467,100
Efficiency Reductions Total	-$203,500	-$203,500	-$203,500	-$203,500
Total	-$530,600	$1,277,600	-$479,800	-$822,900

* Relative to the No-action Alternative (current facilities and operations).

The staff's analysis showed that for three of the four alternatives the combination of a reduction in annual O&M costs and tax benefits would exceed other annual costs such as debt service and fixed O&M costs (e.g., insurance and local taxes), producing negative annual project costs. This result occurs because O&M expenses and tax benefits are related to power production, which declines under all the alternatives; the other annual costs are related to capital costs, which are minimal or zero for three of the four alternatives. A negative annual project cost indicates that O&M expenses related to power production and tax expenses decreased more than the increase in annualized capital costs and other O&M costs.

2.4.3 Annual Net Benefits

All the alternatives would result in negative annual net benefits, as shown in Table 2-8. This would be due to the combination of the loss in annual power generation that would occur under each alternative, and its associated annual project costs. Even where the annual project costs would be negative (i.e., a cost reduction), the corresponding loss in revenues would be larger, still resulting in a negative ANB. The combined effects of the loss in efficiency and increased minimum flows would produce a loss in annual power generation. The net result would be an increase in the cost of generating power at the two projects. The Applicant's Proposal would reduce current-year net benefits by $877,600 (i.e., would cost the applicant $877,600 in the current year). Alternative 1 and Alternative 2 (Final Recommendation) would cost the applicant $4,487,600 and $959,500, respectively, in the current year. Alternative 2 (Intermediate Flow) has higher costs than Alternative 2 (Final Recommendation) because of the higher power losses that would result from the 165 cfs minimum flow in the back channel of the Penobscot Mills project. Alternative 1 would have the highest costs (i.e., it has the largest negative ANB) because of the high cost of acquiring the conservation easements.

The incremental analysis presents the economic costs to the applicant's shareholders of adding important environmental and recreational enhancements at the Penobscot and

Table 2-8. Annual net benefits by alternative[a] (Source: Staff)

Project & Component	Applicant's Proposal			Alternative 1			Alternative 2: Final Recommendation			Alternative 2: Intermediate Flow		
	Power Value	Annual Project Cost[b]	ANB	Power Value	Annual Project Cost[b]	ANB	Power Value	Annual Project Cost[b]	ANB	Power Value	Annual Project Cost[b]	ANB
Ripogenus Project												
Maintain stable flows in west br. of Penobscot River below McKay Station	-$243,900	-$98,600	-$145,300	-$243,900	-$98,600	-$145,300	-$243,900	-$98,600	-$145,300	-$243,900	-$98,600	-$145,300
Min. flow in upper gorge	-$162,600	-$65,700	-$96,900	-$395,800	-$159,900	-$235,900	-$162,600	-$65,700	-$96,900	-$279,900	-$113,100	-$166,800
Wetlands enhancements	$0	$0	$0	$0	$105,600	-$105,600	$0	$57,700	-$57,700	$0	$55,700	-$57,700
Holbrook stream fisheries enhancement	$0	$0	$0	$0	$1,700	-$1,700	$0	$1,700	-$1,700	$0	$1,700	-$1,700
Conservation easement	$0	$0	$0	$0	$817,500	-$817,500	$0	$0	$0	$0	$0	$0
Subtotal Ripogenus	-$406,500	-$164,300	-$242,200	-$639,700	$866,300	-$1,306,000	-$406,500	-$104,900	-$301,600	-$523,800	-$152,300	-$371,500
Penobscot Mills Project												
Main. rel. stable water levels in the North Twin impound. during summer season	-$377,000	-$152,300	-$224,700	-$377,000	-$152,300	-$224,700	-$377,000	-$152,300	-$224,700	-$377,000	-$152,300	$224,700
Wetlands enhancements	$0	$0	$0	$0	$3,900	-$3,900	$0	$3,900	-$3,900	$0	$3,900	-$3,900
Conservation easement	$0	$0	$0	$0	$1,607,400	-$1,607,400	$0	$0	$0	$0	$0	$0
Min. flow in Millinocket Stream	-$25,900	-$10,500	-$15,400	-$57,000	-$23,000	-$34,000	-$57,000	-$23,000	-$34,000	-$57,000	-$23,000	-$34,000
Min. flow in back channel	$0	$0	$0	-$1,537,500	-$621,200	-$916,300	$0	$0	$0	-$731,800	-$295,700	-$436,100
Subtotal Penobscot	-$402,900	-$162,800	-$240,100	-$1,971,500	$814,800	-$2,786,300	-$434,000	-$171,400	-$262,600	-$1,165,800	-$467,100	-$698,700
Operating Impacts			$0									
Hydro operating efficiency losses	-$303,100	-$103,000	-$200,100	-$303,100	-$103,000	-$200,100	-$303,100	-$103,000	-$200,100	-$303,100	-$103,000	-$200,100
Steam Generation Losses	-$295,700	-$100,500	-$195,200	-$295,700	-$100,500	-$195,200	-$295,700	-$100,500	-$195,200	-$295,700	-$100,500	$195,200
Subtotal Operating	-$598,800	-$203,500	-$395,300	-$598,800	-$203,500	-$395,300	-$598,800	-$203,500	-$395,300	-$598,800	-$203,500	-$395,300
Total (Both Projects)	-$1,408,200	-$530,600	-$877,600	-$3,210,000	$1,277,600	-$4,487,600	-$1,439,300	-$479,800	-$959,500	-$2,288,400	-$822,900	$1,465,500

[a] Relative to the No-action Alternative.
[b] A minus sign (-) under the Annual Project Cost Column indicates a reduction in costs, or a savings.

Ripogenus projects. Because there would be no power enhancements, including them in the existing projects would reduce the projects' current total ANBs.

2.4.4 Cost of Power

Another way of applying the staff's economic analysis is to compare the cost of power under each alternative to that of the least-cost power alternative. The least-cost power alternative is purchasing power from BHE, or a current cost of 73.92 mills/kWh. The staff estimated the increase in the cost of generating power at the Penobscot and Ripogenus projects that would occur under the four alternatives. This analysis considers both the total annual power output that would occur if an alternative was implemented, and the annual cost of producing the total annual power output. These results are presented in Table 2-9.

Table 2-9. Cost of power by alternative (Source: Staff)

Alternative	Cost of Power (mills/kWh)	ANB Over the Least-cost Alternative (mills/kWh)	% Change in Cost of Power from No-action Alternative
Least-cost alternative: purchase from BHE	73.92	NA	
No-action	34.10	39.82	
Applicant's proposal	34.30	39.62	0.6%
Alternative 1	38.67	35.25	13.4%
Alternative 2 (Final Recommendation)	34.41	39.51	0.9%
Alternative 2 (Intermediate Flow)	34.50	39.42	1.2%

The staff estimated the power cost of the No-action alternative based on a current book value for the two dams of $31,949,500 in 1995 dollars and on the O&M cost of $7.17/MWh. As shown in Table 2-9, we estimate the current power cost of the existing projects to be 34.1 mills/kWh, indicating that the two projects are currently capable of producing power at a cost well below that of the least-cost power alternative.

Table 2-9 shows that implementing any of the alternatives would result in only a small absolute increase and a small percent increase in the cost of producing power at the two projects. The maximum cost increase would be 4.57 mills/kWh under Alternative 1. The maximum increase in the cost of power in percentage terms would be 13.4 percent under Alternative 1. The Applicant's Proposal would have a minimal adverse effect on the cost of power, increasing it by 0.2 mills/kWh, or about 0.6 percent. The largest increase in the cost of power would be caused by the requirement to purchase conservation easements as shown by

highest power costs for Alternative 1 in Table 2-9. Table 2-9 further confirms that the proposed recreation, conservation, and environmental enhancements for both versions of Alternative 2 can be made at both projects with only a small increase in the cost of power. Even with these improvements the cost of power would be about half that of the least-cost alternative.

3.0 AFFECTED ENVIRONMENT

3.1 GENERAL SETTING

The Penobscot River Basin, which covers 8,750 square miles, is the largest river basin in Maine and the second largest in the Northeast, after the Connecticut River Basin (figure 3-1). Headwaters arise at elevations of between 800 and 1,200 feet (Baum, 1983). The basin, which is 95 percent forested, is located in central Maine and empties into Penobscot Bay about 20 miles south of Bangor. Average annual precipitation in the region is approximately 42 inches as rainfall. This includes snowfall, which averages 95 inches (Cutting, 1959).

A principal physiographic feature of the northern part of the basin is 5,267-foot- high Mt. Katahdin, the state's highest peak, located in the 200,000-acre Baxter State Park. Several large impoundments and a variety of headwaters in the basin feed the Penobscot River (figure 3-2).

Throughout the 19th and 20th centuries, the West Branch, which drains about 2,100 square miles, has been used for lumber and paper-making. These industries used water resources to transport materials and products and in industrial processes. The growth of the towns of Millinocket and East Millinocket paralleled the growth of the mills, which GNP has operated since they were built. The West Branch economy continues to be extremely dependent on the lumber and paper industries. The region is also home to the Penobscot Indian Nation (PIN), much of whose cultural heritage is closely associated with the river and the resources it provides.

Construction of dams, which began on the estuarine tributaries during the late 1700's, has strongly influenced the environmental resources and socioeconomics within the basin. The first mainstem dam was built in the mid-1820's in the Old Town-Milford area. Other early mainstem dams include the Great Works dam, constructed just after 1830, and a dam at McMahon's Falls in Veazie constructed in 1833. Figure 3-1 depicts dams in the basin, and they are listed in Appendix A. This FEIS covers projects on the West Branch, which joins the main stem approximately 3 miles downstream of the East Millinocket Development (figure 3-1). One-hundred thirty-seven dams have been constructed on the West Branch and its tributaries since logging began in 1828 to facilitate the transportation of timber downstream to more populated areas. Construction of dams within the Ripogenus and Penobscot Mills project areas began in 1846; however, Stone dam, the oldest existing dam, was completed in 1899 (figure 3-2). Table 3-1 lists impoundments located upstream of the Ripogenus and Penobscot Mills projects, and figure 3-2 shows their locations.

3.2 GEOLOGY AND SOILS

The Penobscot River Basin is located in the New England upland physiographic region. The area has gentle slopes interspersed with occasional mountains or monadnocks of resistant rocks composed of metamorphic bedrock (shale, slate, and schist) with igneous intrusions. The main stem of the Penobscot River is a lower area; hills generally rise 300 to

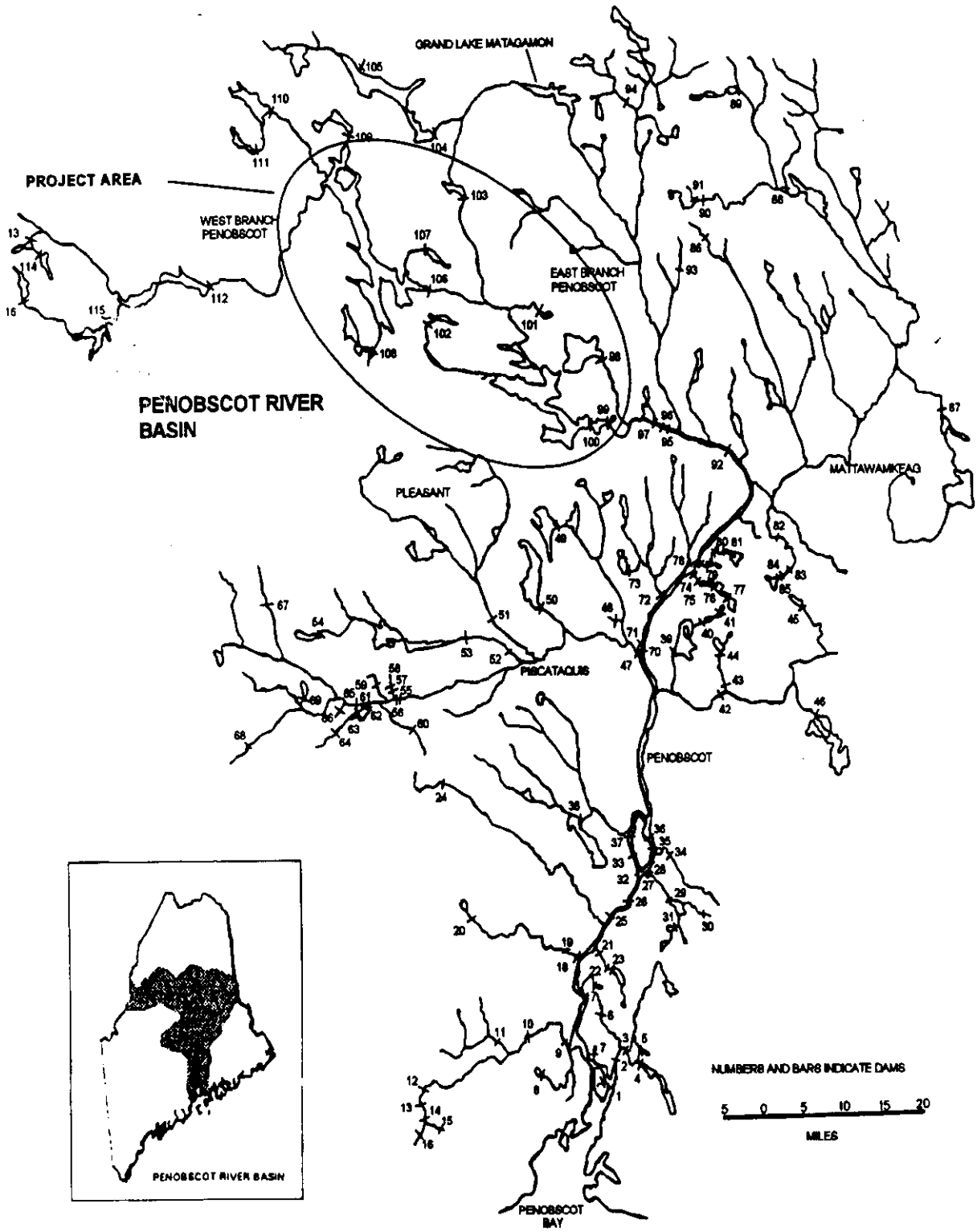

Figure 3-1. Existing dams within the Penobscot River Basin and the project area; the key for identification of numbered dams is presented in Appendix A (Source: Staff)

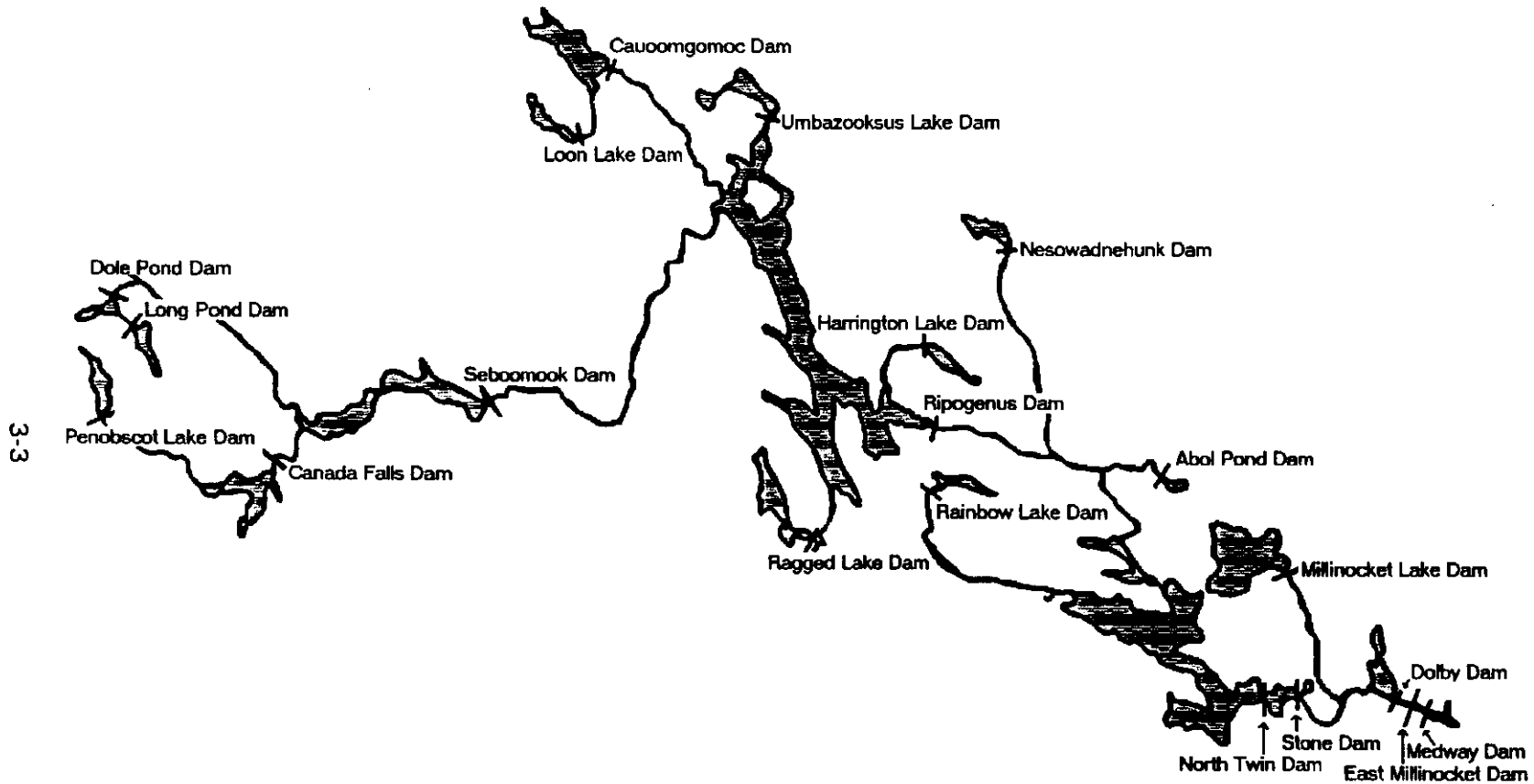

Figure 3-2. Existing dams on the West Branch of the Penobscot River (Source: Staff)

400 feet. The terrain of the West Branch region is characterized by rolling hills and mountains ranging from 2,000 feet to more than 5,000 feet (Mt. Katahdin).

Table 3-1. West Branch impoundments upstream of the Ripogenus and Penobscot Mills projects (Source: GNP, Staff)

Impoundment	Map No.	Usable Storage (acre-feet)	Drainage Area (square miles)
Rainbow	102	5,900	10.7
Nesowadnehunk	103	9,734	14.3
Harrington	107	7,691	39.6
Umbazooksus	109	9,458	25.7
Loon	111	10,537	59.9
Dole Pond	113	3,857	42.8
Long Pond	114	3,007	14.4
Penobscot	116	8,081	15.8
Total Unlicensed		58,265[a]	223.1
FERC No. 2634			
Ragged Lake	108	30,500	34
Caucoongomic	110	42,500	165
Seboomook	112	106,700	469
Canada Falls	115	23,400	164
Total Project 2634		203,100	832
Grand Total		261,365[b]	1,055.1

[a] 2.5 billion cubic feet (bcf)
[b] 11.4 bcf

3.3 STREAMFLOW

3.3.1 Regional

In 1841, construction of Lock dam (No. 105 on figure 3-1), Telos dam (No. 104 on figure 3-1), and Telos Cut altered the natural hydrology of the Penobscot River Basin. These facilities diverted flow from the Saint John River Basin to the Penobscot River Basin for log driving. Water is still diverted from Telos, Chamberlain, Round Pond, and Allagash lakes, although log driving no longer takes place. An agreement between the Maine Department of Inland Fisheries and Wildlife (DIFW) and the East Branch Improvement Company mandates a minimum flow of 150 cfs in the East Branch of the Penobscot River from Grand Lake

Matagamon (figure 3-1). GNP is required to maintain a minimum flow of 2,000 cfs from the West Branch of the Penobscot River. A 1911 court decree specifies flow proportions within the Stillwater River (a portion of the Penobscot River that branches off from the main stem in Milford and rejoins it in Orono) and the Penobscot River. These flow proportions are 30 percent and 70 percent, respectively, for average flow conditions; as flows decrease below average, the proportion of flow to the Stillwater decreases, reaching 216 cfs (9 percent) at a Penobscot River flow of 2,400 cfs.

Regulation of storage and flow in upper branches of the basin moderates discharge throughout the lower basin. In general, upstream storage in the west branch increases flows to the downstream areas during low-flow periods and reduces flows during higher spring flows. Flooding is a relatively minor problem in the Penobscot; damages occur infrequently in larger towns such as Bangor, Orono, and Old Town. At present, no flood-damage reduction projects are planned in the basin, although most communities participate in the Federal Emergency Management Agency (FEMA) National Flood Insurance Program.

The average annual runoff throughout the basin is about 1.7 cfs per square mile of watershed; this is equivalent to about 22 inches per year, or 55 percent of the mean annual precipitation. More than 40 percent of the runoff occurs during March, April, and May; the remainder is distributed uniformly throughout the rest of the year.

3.3.2 Site-specific

Figure 3-2 shows dams and impoundments located in the West Branch of the Penobscot River. Table 3-1 presents usable storage capacities and drainage areas for impoundments upstream of the Ripogenus and Penobscot Mills projects. Total usable storage for these upstream impoundments is approximately 11.4 billion cubic feet (bcf), or 19 percent of the total impounded storage in the West Branch. Eight of these projects are unlicensed, and four of them make up the Great Northern Storage Project (FERC Project No. 2634); none have power generating facilities. Table 3-2 lists characteristics of the impoundments associated with the Ripogenus and Penobscot Mills projects.

The average flows in the West Branch at McKay station and Dolby station are 2,699 cfs and 3,979 cfs, respectively. Figures 3-3 and 3-4 show annual flow-duration curves for the West Branch downstream of McKay station and Dolby station. Table 3-3 lists the peak discharges for the PMF, spillway design flood, and standard project flood flows. The highest flow recorded at Ripogenus dam during the period of study (1970 to 1985) was 15,185 cfs; the lowest flow was 200 cfs. At Dolby dam, the highest flow recorded was 35,947 cfs; the lowest was 2,000 cfs. GNP calculated the unregulated 7Q10 flows (the lowest flow that would be expected to occur over a 10-year period for a duration of 7 days) as 81 cfs at Ripogenus dam and 126 cfs at Dolby dam (in the absence of any flow regulation).

3.4 WATER QUALITY

3.4.1 Regional

Water quality in the Penobscot River, including the West Branch, has varied widely since the West Branch was settled. Pollution sources during this period included saw mills,

Table 3-2. Impoundment characteristics of developments in the Ripogenus and Penobscot Mills projects (Source: GNP, Staff)

Development	Impoundment, Lake Names	Map No.	Gross Storage (acre-feet)	Usable Storage (acre-feet)	Usable Storage (billion cubic feet)	Normal Maximum Water Surface Area (acres)	Normal Maximum Water Surface Elevation (feet USGS)
Ripogenus	Ripogenus Lake, Chesuncook Lake, Caribou Lake, Moose Pond, Black Pond, Brandy Pond	106	710,000	688,705	30.0	29,270	941.6
East Millinocket	East Millinocket	96	1,950	0	0	128	287.2
Dolby	Dolby Pond	97	41,956	0	0	2,048	336.2
Millinocket	Ferguson Pond	99	--	0	0	262	457.4
Millinocket	Quakish Lake	99	8,100	0	0	1,344	458.7
North Twin	North Twin Lake, South Twin Lake, Elbow Lake, Pemadumcook Lake, Ambajejus Lake	100	346,000	344,000	15.0	17,790	491.9
Millinocket Lake Storage	Millinocket Lake	98	45,370	45,370	2.0	8,640	480.0

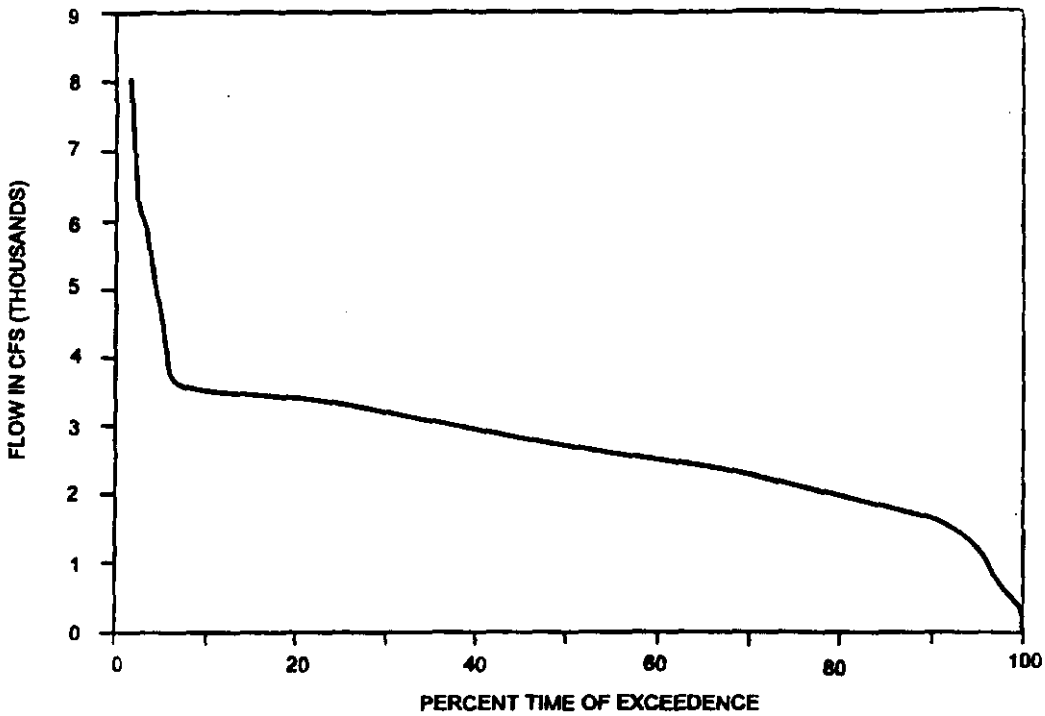

Figure 3-3. Annual flow duration curve at McKay station for the period 1970-1985

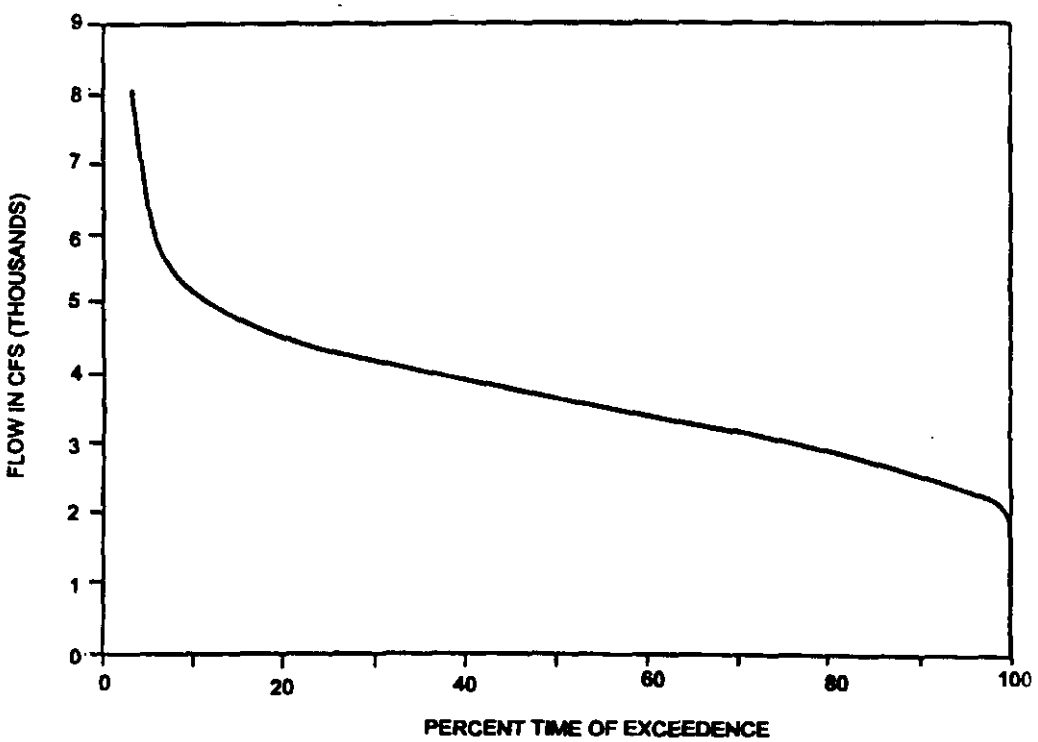

Figure 3-4. Annual flow duration curve at Dolby station for the period 1972-1985

shoe factories, leather tanning operations, pulp and paper manufacturing plants, and untreated municipal sewage (Baum, 1983). Minimum flows required from the Penobscot Mills project has lessened the impact of some of these pollution sources by providing dilution flows during low flow periods. Since the early 1800's, when demand on land and water resources of the basin increased sharply, periodic efforts have been made to improve water quality. Such efforts have often coincided with recognition that Atlantic salmon stocks were being adversely affected. The most recent effort followed passage of the Federal Water Pollution Control Act of 1972, which required using improved technologies to treat all waste sources by 1977. Additionally, this act set the goal of achieving B-2 water quality classification (swimmable-fishable) by 1983. Today, water quality in the Penobscot is much improved, particularly in the West Branch, because of these regulations, changes in industrial processes, and mill closings. Table 3-4 lists major sources of municipal and industrial discharges, and table 3-5 lists water quality classification for various reaches of the Penobscot River. Table 3-6 defines the water use and standards for each classification.

Table 3-3. Peak discharge of West Branch impoundments (Source: GNP, Staff)

Dam	License No.	Peak Discharge PMF/SDF (cfs)	Peak Discharge SPF (cfs)
Canada Falls	2634	16,700	-
Seboomook	2634	42,500	-
Caucomgomoc	2634	10,400	-
Ragged Lake (SDF)	2634	600	-
Ripogenus	2572	65,800	51,300
North Twin	2458	64,300	49,700
Stone	2458	64,800	50,700
Millinocket Lake	2458	4,400	2,100
Dolby	2458	64,000	53,700
East Millinocket	2458	64,000	53,700
Weldon	2520	95,700	87,100

PMF = probable maximum flood
SDF = spillway design flood
SPF = standard project flood

3.4.2 Site-specific

3.4.2.1 Conventional Water Quality

Ripogenus. GNP collected water quality data in 1986, 1987, and 1988 to characterize existing DO and temperature conditions in the impoundment, Upper Gorge, and the West Branch. DO within the impoundment ranged from 3.3 parts per million (ppm) to 10.0 ppm during the summer, and saturation values ranged between 31 and 104 percent. Temperature ranged from 6°C to 25°C during the same period. In Upper Gorge, DO ranged from 7.4 ppm to 12.3 ppm between May and November; saturation ranged from 75 to 100 percent.

Table 3-4. Major point sources on the Penobscot River (Source: Mitnick, 1991)

Industrial Pulp and Paper				License Limits		
Licensee	**Location**	**Receiving Water**	**Flow (mgd)**	**Mo. Ave. BOD5 (lb/day)**	**Daily Max. BOD5 (lb/day)**	**Treatment**
Great Northern Paper	Millinocket	West Branch	43	13,700	20,500	Secondary
Great Northern Paper	E. Millinocket	West Branch	30	10,574	18,980	Secondary
Lincoln Paper	Lincoln	Main stem	13.5	4,772	9,176	Secondary
James River	Old Town	Main stem	24.4	7,500	18,000	Secondary
Champion Inter.	Bucksport	Estuary	16	3,100	10,000	Secondary

Municipal				License Limits		
Licensee	**Receiving Water**	**Flow (mgd)**	**Mo. Ave. BOD5 (lb/day)**	**Weekly Ave. BOD5 (lb/day)**	**Daily Max. BOD5 (lb/day)**	**Treatment**
Millinocket	West Branch	2.33	375	563	625	Secondary
Lincoln	Main stem	1.07	268	402	446	Secondary
Howland	Main stem	0.15				Untreated
Old Town	Main stem	1.7	425	638	709	Secondary
Orono*	Main stem	1.84	384	614	690	Secondary
Veazie	Main stem	0.19	48	71	80	Secondary
Bangor	Main stem	9				Primary
Brewer*	Main stem	3.03	758	1,137	1,264	Secondary
Winterport	Estuary	0.11				Primary
Bucksport	Estuary	0.323				Primary

* Industrial input

Temperature ranged from 7°C to 18°C during the same period. DO values for the West Branch at McKay station were between 7.3 ppm and 11.6 ppm. Saturation values ranged between 82.6 and 101 percent. Temperatures ranged from 5°C to 22°C.

Table 3-5. Water quality classification of the Penobscot River Basin (Source: Mitnick, 1991; Boulter, 1993; and Marriott, 1993)

Class	Description
GPA	Ripogenus impoundment
B	West Branch from Ripogenus dam to outlet of Ferguson Pond, except North Twin impoundment
GPA	North Twin impoundment
GPA	Millinocket Lake
A	Millinocket Stream from Millinocket Lake dam to railroad bridge
B	Millinocket Stream from railroad bridge to West Branch Canal
C	Millinocket Stream from West Branch Canal to the confluence with West Branch
C	From outlet of Ferguson Pond to confluence with East Branch, including all impoundments
C	Main stem, from the confluence with the East Branch to confluence with Mattawamkeag, including all impoundments
B	Main stem, from the confluence with the Mattawamkeag River to the confluence with Cambolasse Stream
C	Main stem, from the confluence with Cambolasse Stream to the confluence with Piscataquis River, including all impoundments
B	Main stem, from the confluence with Piscataquis River to the Maine Central Railroad bridge in Bangor-Brewer
C	Main stem, from the Maine Central Railroad bridge in Bangor-Brewer to the confluence with Reeds Brook
SC	Penobscot estuary, entire length

Penobscot Mills. Water quality conditions in the Penobscot Mills Project area, which vary widely, reflect the variety of habitat types and trophic conditions there. A water quality sampling program conducted by GNP between 1986 and 1988 showed that DO values and saturation values were usually, but not always, above the standards for the respective classification of each riverine segment or impoundment. DEP (Marriott, 1993) classified Ferguson Pond, Quakish Lake, Dolby Pond, and East Millinocket impoundment as riverine rather than GPA (table 3-5), although they exhibit some lacustrine characteristics. Accordingly, they must meet numerical standards, unlike North Twin and Millinocket Lake, which are classified as GPA. Quakish Lake, Ferguson Pond, and Dolby Pond exhibit weak thermal stratification. The combination of substantial amounts of organic matter and thermal stratification causes frequent DO deficits in the deeper strata of these impoundments (GNP, 1991b). East Millinocket, which is a true riverine impoundment, does not experience such

deficits. DEP (Marriott, 1993) concluded that, although DO levels in Dolby Pond are occasionally substandard, these events do not seem to be caused by project operations. DEP, however, did require GNP to conduct further studies of the extent and cause of the DO deficits in Dolby Pond as a condition of the WQC. DEP did not require such studies in Quakish Lake or Ferguson Pond. Riverine segments of the Penobscot Mills Project all met or exceeded the respective water quality standards. Water temperatures in project impoundments and riverine segments rarely exceed 25°C.

Table 3-6. State of Maine river and stream water quality standards for dissolved oxygen (Source: Mitnick, 1991; Boulter, 1993; Marriott, 1993)

Classification	Water Uses	Standard
A	Drinking water supply after disinfection Fishing Recreation in and on the water Industrial process and cooling water supply Hydroelectric power generation Navigation Habitat for fish and other aquatic life	≥7 ppm or ≥75 percent saturation[a]
GPA	Drinking water supply after disinfection Fishing Recreation in and on the water Industrial process and cooling water supply Hydroelectric power generation Navigation Habitat for fish and other aquatic life	no numerical standards
B	Water supply (after treatment) Fishing Recreation in and on the water Industrial process and cooling water supply Hydroelectric power generation Navigation Habitat for fish and other aquatic life	≥7 ppm or ≥75 percent saturation[b]
C	Water supply (after treatment) Fishing Recreation in and on the water Industrial process and cooling water supply Hydroelectric power generation Navigation Habitat for fish and other aquatic life	≥5 ppm or ≥60 percent saturation[a]

(a) Except that in identified salmonid spawning areas where water quality is sufficient to ensure spawning, egg incubation, and survival of early life stages, water quality sufficient for these purposes is to be maintained.

(b) Except that for the period from October 1st to May 14th, the 7-day mean DO concentration is not to be less than 9.5 ppm and the 1-day minimum DO concentration is not be less than 8.0 ppm in identified fish spawning areas.

3.4.2.2 Toxics

Mercury is toxic above certain concentrations. Methylated mercury (the bioavailable form) in the water column or sediments of a water body can accumulate in organisms throughout the food chain, especially at the higher trophic levels represented by predatory fish, bald eagles, and other consumers of fish. EPA's fish consumption guideline is 0.6 micrograms per gram (µg/g) of total mercury in edible fish tissue (EPA, 1993). Some samples collected from project waters have exceeded this guideline. Independent studies by FWS and DIFW indicate that bald eagles nesting near the Dolby impoundment contain concentrations of mercury almost 25 times higher than concentrations in eagles nesting in less industrialized parts of Maine.

The Conservation Intervenors (CI), Trout Unlimited (TU; American Rivers et al., 1992), EPA (1992), Interior (FWS, 1992), and PIN (1992) all have expressed concern about mercury concentrations within the project areas.

In 1988, GNP sampled sediment from project waters to investigate possible relationships between project operations and mercury concentrations. Sample sites were located upstream and downstream of mill discharges. Concentrations in sediments below discharges ranged from 0.06 to 1.60 µg/g, whereas concentrations in sediments above discharges ranged from less than 0.03 to 0.3 µg/g. For comparison, mercury concentrations in sediments from Schoodic Lake and Sabathday Lake were 0.55 µg/g and 0.59 µg/g, respectively.

GNP funded studies of mercury concentration in the tissues of fish from the project area during 1992. Mean concentrations of mercury were 0.87 µg/g in Dolby Pond chain pickerel, 1.09 µg/g in North Twin lake trout, and 1.20 µg/g in Millinocket Lake trout. Table 3-7 summarizes data from both of these studies and other studies in selected Maine lakes. Various theories have been proposed to explain the origin of mercury within project and nonproject waters. Mercury can originate both from natural sources, such as weathering of bedrock or flooding and subsequent leaching from topsoil, and from various industrial processes that release mercury-contaminated effluent (LURC, 1993). Atmospheric deposition also has been suggested as a primary source of mercury loadings.

3.5 FISHERIES RESOURCES

3.5.1 Regional

The Penobscot drainage once supported large spawning runs of Atlantic salmon, alewife, and American shad in addition to populations of resident species such as brook trout, lake trout, and blueback trout, which is an uncommon and unique salmonid found in several lakes in the basin. Baum (1983) estimated that, before 1800, the Penobscot salmon run ranged between 40,000 and 75,000 adult fish. No estimates of the size of the historic salmon run in the West Branch are available. Anadromous clupeids are reported to have traveled as much as 200 miles upstream from the mouth of the river (Atkins, 1887), including into the West Branch. These spawning runs decreased substantially as the basin was developed for timber-related industry. Both pollution and dam building contributed to the decline.

Table 3-7. Range and mean of mercury concentrations (µg/g) in sediments and fish tissues from project waters and selected Maine lakes. Data from GNP (1991b)

	Sediments	Chain Pickerel[b]	Lake Trout[b]	Smallmouth Bass[b]
East Millinocket impoundment[a,c]	0.06 - 0.40 0.29	0.58 - 1.23 0.87		
Dolby Pond[a,c]	0.28 - 1.60 0.86	0.58 - 1.23 0.87		0.50 - 1.24 0.91
Mattamiscontis Lake		0.34 - 0.93 0.58		
Molunkus Lake		0.35 - 1.32 0.68		0.34 - 1.28 0.63
North Twin impoundment[a]	0.1 - 0.3 0.22		0.76 - 1.50 1.09	
Millinocket Lake[a]	0.1 - 0.2 0.13		0.69 - 3.20 1.20	
Carr Pond			0.43 - 0.78 0.66	
Debsconeag Lake	0.03 - 0.2 0.14		0.20 - 0.31 0.27	
Schoodic Lake	NA - NA 0.55		0.15 - 0.50 0.28	
Sabathday Lake	NA - NA 0.59			

(a) Project water
(b) Fillets
(c) Downstream of mill

Today, although the lower Penobscot is the site of an active restoration program for anadromous Atlantic salmon, the West Branch supports a high-quality fishery for landlocked Atlantic salmon (Baum, 1983). In addition, the West Branch contains a mixture of warmwater and coldwater species, depending on the local habitat conditions. Generally, warmwater species are found in the shallower impoundments, and coldwater species inhabit deeper impoundments and riverine reaches (Appendix B). Smallmouth bass and pickerel, both introduced to the drainage in the 1800's, are important fisheries, especially in shallower impoundments. Other species of recreational importance are lake trout, brook trout, burbot, white perch, various sunfish species, and smelt. The West Branch also supports a typical Maine assemblage of nongame species including creek chub, fallfish, longnose dace, blacknose dace, white sucker, and slimy sculpin. There are no anadromous fish in the West Branch because there are no fish passage facilities, and DIFW's management goals do not include restoring anadromous fish in this portion of the river basin. State and federal fisheries agencies have no current plans to restore anadromous fish to the West Branch but Interior has reserved its authority to prescribe fishways under Section 18 of the FPA in the future.

The following sections present life history information for key species.

3.5.1.1 Landlocked Atlantic Salmon

The life histories of landlocked salmon and anadromous salmon are similar except that landlocked subadults reside in freshwater impoundments rather than in the ocean while growing to sexual maturity. Spawning, nursery, resting, and holding habitat requirements are the same (FWS, 1989). This section describes the physical habitat requirements of Atlantic salmon as excerpted from the Final EIS for Atlantic Salmon Restoration in New England (FWS, 1989).

Spawning Habitat. Good spawning habitat contains sufficient gravel areas with substrate material of 0.5 to 4 inches in diameter (Peterson, 1978; Warner, 1963) to permit movement of well-oxygenated water through redds (nests). Free movement of water through the substrate is critical because salmon eggs may be deposited as deep as 12 inches (Warner, 1963). Water temperatures during the spawning period normally range from 45°F to 50°F (Jordan, 1981). Water temperatures lower than 50°F are desirable for normal egg development; 43°F is optimum (Peterson et al., 1977).

Salmon within the project areas originate from both hatchery stockings and natural reproduction. The Ripogenus Project area supports a completely self-sustaining population of landlocked salmon. Spawning occurs in seven of the tributaries to the impoundment, including the West Branch. Spawning occurs in the main stem and tributaries between McKay station and North Twin impoundment. This reach is unusual because the fish spend their entire life cycle in the riverine environment rather than moving seasonally from lake to river, as do most other known populations.

Most of the fish in the impoundments and riverine reaches within the Penobscot Mills Project area are of hatchery origin. Salmon populations in the North Twin impoundment and Millinocket Lake comprise 82 percent and 91 percent hatchery fish, respectively, based on data from creel censuses and routine field sampling. Wild fish in North Twin and Millinocket Lake are most likely from the West Branch or the tributaries of the impoundments, several of which contain documented spawning and nursery habitat.

Downstream of North Twin, salmon occur in smaller numbers and are generally of hatchery origin. The West Branch between North Twin and Quakish Lake has a hatchery contribution of approximately 80 percent. There are no tributaries in this reach, although spawning is known to occur in the main stem. Dolby Pond, Millinocket Stream, Quakish Lake/Ferguson Pond, East Millinocket impoundment, and the remaining riverine reaches of the Penobscot Mills Project area support small populations of salmon, mostly of hatchery origin. Spawning has been documented in Millinocket Stream.

Nursery Habitat. Salmon nursery habitat is typically composed of shallow riffle areas interspersed with deeper riffles and pools. Substrate material ranging from 0.5 inches to more than 9 inches in diameter affords adequate cover for the juvenile salmon (Knight, 1981). Juvenile salmon will grow at water temperatures below 45°F (Symons, 1979), and growth is optimal in streams with daily peaks of 72°F to 77°F (Elson, 1975). Water temperatures higher than 83°F can be harmful to young salmon (Fry, 1947).

Resting and Holding Areas. Adult salmon prefer to rest in pools, which provide temporary refuge from swift currents. These pools usually lack cover and can be warmer than stream portions used as holding areas.

Holding areas, which are normally close to the spawning grounds, consist of pools with the cover, depth, temperature, and water velocities preferred by adult salmon. Pools with gravel substrate and water velocities of less than 1.6 feet per second are preferred (Frenette et al., 1972). Optimum water temperatures in adult holding areas are 50°F to 54°F, but temperatures of 60°F and daily fluctuations to 77°F are tolerated if the water cools to 68°F or less at night (Elson, 1975).

3.5.1.2 American Eel

The Penobscot drainage supports a commercial fishery for American eel, a catadromous fish. Adult eels from the Penobscot River, like all other eels produced along the east coast of the United States, migrate to the Sargasso Sea, where they spawn and die (Bertin 1956). Larvae produced in the Sargasso migrate to coastal regions, where they undergo a two-stage transformation into "glass eels" and then into elvers (immature eels). Elvers migrate into freshwater rivers and lakes. Upon reaching adulthood (8 to 13 years), female eels migrate great distances upstream. Males, however, usually remain in the coastal region for 5 to 20 years before returning to the Sargasso Sea.

Upstream passage for eels can be provided by modifications which are fairly simple, compared to upstream passage needs of salmon. The basic requirements are a pipe or flume of some type, with approximately 2 inches of water flowing through it. Often, an existing ice or trash sluiceway can be used. Synthetic bristles are placed within the fishway which makes it easier for the juvenile eels to ascend the fishway. Clay (1995) describes upstream eel fishways using this basic design concept which have been used successfully at dams as high as 68 meters.

Downstream passage for eels is usually achieved using fishways designed for other species such as salmon. However, any screens or bars which are used in front of the intakes, they need to be designed to exclude fish of the same size as an adult eel. The

passage facilities also need to be operating during the period when adult eels are migrating to spawn. Site-specific studies may be required to determine when this occurs although generally it is thought to occur in most rivers during late summer or fall (Flagg, undated).

Specific design parameters for eel fishways are not as critical as those for many other species because of the eel's natural ability to negotiate instream blockages. Eels are known, for example, to get past dams on their upstream migration by moving over land adjacent to rivers. This usually occurs at night while it's raining. The moisture from the wet grass, leaves, etc. allows the eels to survive out of water long enough to reach the forebay. Eels are also known to climb almost vertical faces of structures such as spillways, as long as the face is wet (Flagg, undated). These abilities help explain why eel populations persist in even heavily impounded rivers despite the lack of fish passage facilities. Often eels are the only migratory fish species which remains after other species such as shad, salmon, or striped bass have disappeared. Eels appear in the Ripogenus impoundment, more than 100 river miles upstream of Bangor and upstream of 11 operating hydroelectric projects. Large numbers of elvers also appear annually in the fishway at the Great Northern Paper Company's Mattaceunk Project (BHE, 1993c).

3.5.1.3 Other Species

The brook trout fishery in the West Branch declined in importance during the 1950's as the popularity of the landlocked salmon fishery increased (GNP, 1991a). Brook trout remain common, although not as abundant as salmon. GNP conducted electrofishing surveys in 1984 on six West Branch tributaries to estimate brook trout densities: Holbrook Stream, Carry Pond Brook, Harrington Hill Brook, Trout Brook, Rocky Pond Brook, and Fowler Brook. Density estimates averaged 21.4 trout (both young-of-year and adult) per 100 square yards of habitat (range: 0.9 to 41.0). GNP's annual salmon redd surveys provide additional information about brook trout distribution and reproductive status. GNP personnel have observed brook trout redds in the Horserace, upper Abol Deadwater, Trout Brook, Katahdin Stream, and Abol Stream.

Smelt that are landlocked in the West Branch spawn in tributaries during early spring. They migrate into streams in the evening and return to the lake the next morning for several consecutive days. Each day, the proportion of females in the run increases. Eggs hatch in approximately 7 to 10 days, depending on water temperature. Within the project area, smelt are found in all impoundments and provide important forage for landlocked salmon. GNP studied "smelt drift," or the movement of smelt from one project water to another via spillage or turbine entrainment, from 1984 to 1989. Smelt drift in the Ripogenus Project area averaged 28,085 pounds per year (GNP, 1991a). Smelt drift has been documented at all of the Penobscot Mills developments in tailrace drift-net sampling conducted by GNP from 1986 to 1989. Although highly variable, total smelt drift at Millinocket, Dolby, and East Millinocket is substantial during certain years. In 1986, for example, the total smelt drift at Dolby between March and December was estimated at 20,370 pounds.

Lake trout spawn during fall at depths between 6 inches and 15 feet. Eggs are deposited between rocks and are not covered with gravel, as are the eggs of most other salmonids. Impoundment draw-down during spawning periods can cause dewatering of eggs and poor reproductive success and is, therefore, of concern in project impoundments.

Smallmouth bass spawn during spring in the littoral zone of lakes and ponds and in low-velocity areas of rivers. Eggs are deposited in depressions, and the nest is guarded until the fry emerge and seek shelter in aquatic vegetation.

3.5.2 Site-specific

Fisheries resources in the project areas include those in impoundments and their tributaries, the West Branch of the Penobscot River and its tributaries, and bypass reaches. The following sections characterize fisheries resources in Ripogenus impoundment, Millinocket Lake, North Twin impoundment, Quakish Lake, Ferguson Pond, Dolby Pond, Upper Gorge, Millinocket Stream, Back Channel, and riverine sections of the West Branch of the Penobscot River, including habitat types and fish community composition (section 3.10 presents recreational fisheries data). Table 3-2 presents impoundment characteristics.

3.5.2.1 Ripogenus Impoundment

Habitat. Ripogenus impoundment is 20.8 miles long and includes Ripogenus Lake, Caribou Lake, Chesuncook Lake, and Black and Brandy ponds. The former three lakes are typically oligotrophic, with maximum depths of 150 feet, 84 feet, and 115 feet, respectively. In contrast, Black and Brandy ponds are shallower and mesotrophic; however, no bathymetric data for the ponds are available. The total area of the impoundment is approximately 29,270 acres. Assuming full-pool conditions and a lake volume of 710,000 acre-feet (GNP, 1991a), average depth is approximately 24 feet. Water level fluctuations, which depend on the project's mode of operation, affect both quality and quantity of littoral zone habitat.

Fish Community. The Ripogenus impoundment supports warmwater and coldwater species. From 1986 to 1989 Charles Ritzi Associates, consultants to GNP, studied the fish community in the project area, including Ripogenus impoundment. Ritzi collected 24 species of fish representing 14 families, including salmon, brook trout, lake whitefish, burbot, smelt, white perch, yellow perch, and several nongame species (GNP, 1991a; table 3-6). No threatened or endangered species were collected or observed during sampling.

3.5.2.2 West Branch

Habitat. The West Branch flows for 20.8 miles between McKay station and Ambajejus Lake (North Twin impoundment). This segment of the river and its tributaries provides habitat necessary for spawning, nursery, and adult life for a variety of species. The habitat is most suitable for salmonids, including landlocked Atlantic salmon and brook trout. According to DIFW and GNP, the limiting factor determining the abundance of salmon in the West Branch is young-of-year nursery habitat.

Fish Community. The West Branch fish community is nearly the same as that in Ripogenus impoundment, with the addition of six species that prefer riverine habitat, such as round whitefish and redbreast sunfish (Appendix B, table 2). Landlocked salmon is the dominant gamefish in this reach.

3.5.2.3 Upper Gorge

Habitat. Upper Gorge is a historical river channel that is bypassed and now receives minimal flows, except for spillage. The approximately 3,900-foot channel between Ripogenus dam and McKay station has an average gradient of 2.5 percent, with substrate of ledge, boulder, and cobble. Upper Gorge is bordered by steep, nearly sheer, rock walls throughout its length. Under existing flow management regimes (resulting in either very low or very high flows), the habitat is marginal; many of the pools provide suitable habitat for salmon or trout only at certain flows. Habitat surveys indicate that Upper Gorge has virtually no spawning habitat for salmon or trout, based on the presence of redds. Young-of-year trout are presumed to originate from tributaries (GNP, 1991a).

Fish Community. Upper Gorge supports approximately half of the species found in the West Branch (Appendix B, table 2) and contains no species unique to the project area. Brook trout and landlocked salmon inhabit Upper Gorge. The salmon probably enter Upper Gorge during periods of spillage.

3.5.2.4 North Twin Impoundment

Habitat. North Twin impoundment, which is also known as the Pemadumcook Chain of Lakes, is an oligotrophic, 17,790-acre lake comprising five separate lake basins (Ambajejus, Pemadumcook, North Twin, South Twin, and Elbow lakes). Except for Elbow Lake, which is relatively shallow, maximum depths of the basins range from 55 to 101 feet. Mean depth of the entire impoundment is 27.7 feet. As in other impoundments in the project area, water management causes seasonal draw-downs of up to 17 feet. Including the West Branch, the impoundment has 10 tributaries, which provide some spawning habitat for salmon, trout, and smelt. The shoreline of the impoundment is mostly large rocks and boulders and lacks large areas of sand or gravel substrate. Numerous islands and boulder reefs add to the quantity of fish habitat.

Fish Community. North Twin has a mixed coldwater and warmwater community including several game species and the typical Maine assemblage of minnows and suckers. Appendix B, table 1, lists all species found in the impoundment. Smelt provide the forage that supports salmon and lake trout. Salmon in North Twin are mostly stocked, whereas Ripogenus supports a self-sustaining population. Brook trout are found in the tributaries, but they are not abundant.

3.5.2.5 Millinocket Lake

Habitat. Millinocket Lake is similar to North Twin impoundment physically and biologically. Surface area is 8,640 acres at normal pool elevation, and the mean and maximum depths are 23.6 and 86 feet, respectively. Three streams enter Millinocket Lake, and the main outlet is at the dam, where water is released into Millinocket Stream. Additional outflow occurs at the pumping station into North Twin impoundment. Sandy Stream provides spawning habitat for both salmon and brook trout, but Mud Brook contains only brook trout spawning habitat.

Fish Community. Millinocket Lake supports a mixed warmwater/coldwater fish community that, except for salmon and lake trout, is self-sustaining. Appendix B, table 1, lists species in the impoundment. The fish community is similar to that in the North Twin and Ripogenus impoundments.

3.5.2.6 Quakish Lake/Ferguson Pond

Habitat. Quakish Lake and Ferguson Pond were formed in 1899 by the construction of Stone dam and a system of dikes. They have surface areas of 1,344 and 262 acres, respectively. Both are relatively shallow and productive compared to other lakes in the project areas. Quakish Lake's mean and maximum depths are 10.5 and 37 feet, whereas those of Ferguson Pond are 8.5 and 19 feet. Both lakes contain numerous stumps and submerged accumulations of pulpwood. Substrates are generally fine, with large areas of soft, organically rich bottom. The 1,600-foot section below the Stone dam gatehouse is a steep-banked riverine area approximately 5 feet deep with good riparian vegetation and adult salmon habitat.

Fish Community. The fish communities in Quakish Lake and Ferguson Pond are typical of Maine mesotrophic lakes and include warmwater and coldwater species. Salmon and lake trout are believed to originate from upstream stockings. See Appendix B, table 1, for a complete list of species. Pickerel and white perch are the dominant gamefish.

3.5.2.7 Dolby Pond

Habitat. Dolby Pond is a mesotrophic 2,048-acre impoundment with maximum depth of 46 feet and mean depth of 20 feet. It is separated from Upper Dolby Pond, which is relatively shallow, by State Route 157. The pond has three tributaries, including the West Branch. Stumps and large accumulations of pulpwood are common, and there are a variety of substrate types. Aquatic vegetation is abundant.

Fish Community. In addition to the typical New England assemblage of minnows and suckers, Dolby Pond supports a diverse community of warmwater and coldwater species. Appendix B, table 1, lists species found in the impoundment. Smallmouth bass, pickerel, white perch, salmon, and several species of sunfish, smelt, and yellow perch are found in Dolby Pond.

3.5.2.8 East Millinocket Impoundment

Habitat. East Millinocket impoundment is a mesotrophic, riverine impoundment with a surface area of 128 acres, mean depth of 11 feet, and maximum depth of 24 feet. The banks are steep and forested. The upstream portion of the impoundment is the Dolby tailrace, which has a relatively constant flow because Dolby dam is operated as run-of-river. Besides the West Branch, the impoundment has one other small tributary.

Fish Community. Because angler use is low, not much is known about the fish community in the impoundment except in the Dolby tailrace, where nearly all sampling has occurred. The fish fauna probably is similar to that in other riverine segments of the project area. Appendix B, table 1, lists the known species.

3.5.2.9 West Branch - North Twin Dam to Quakish Lake

Habitat. This section of the West Branch contains a variety of kinds of riverine habitat with a range of substrates, velocities, depths, and instream cover. There are no tributaries; however, there is some habitat for young-of-year, parr, and spawning in the main stem. Overall, habitat is best suited for adult salmon.

Fish Community. Appendix B, table 2, shows the fish species collected from this section of river. Generally, species richness is much less here than in upstream sections of the West Branch; however, salmon, brook trout, and several nongame species are present.

3.5.2.10 West Branch - Millinocket Development Tailrace to Dolby Pond

Habitat. This section is approximately 3 miles long and includes Shad Pond, a shallow, lacustrine area near the junction of Back Channel and the West Branch. No spawning has been documented, although some habitat is suitable for spawning. Lack of cover makes the reach poor habitat for young-of-year and parr. There are no tributaries.

Fish Community. Species composition is similar to that in the West Branch from North Twin to Quakish Lake (Appendix B, table 2).

3.5.2.11 Millinocket Stream

Habitat. This 7.9-mile stream section connects the Millinocket Lake dam with the Millinocket tailrace. Habitat is suitable for young-of-year and parr salmon and brook trout. Adult salmon habitat is limited by lack of deep pools. Little Smith Brook is the only tributary. Brook trout is the dominant gamefish in Millinocket Stream, and the population is supplemented with annual stockings.

Fish Community. This reach contains a mixture of warmwater and coldwater species, including smallmouth bass and brook trout (Appendix B, table 2).

3.5.2.12 Back Channel

Habitat. The Back Channel was the original river channel before it was diverted for log driving and hydroelectric generation. Currently, it receives leakage flows of 2 to 5 cfs, except during spillage, when it receives flows in excess of 29,000 cfs. Because of this flow regime, the Back Channel contains very little fish habitat, although potential habitat is extensive. GNP conducted an Instream Flow Incremental Methodology Study (IFIM) for the 4.5-mile-long the Back Channel in 1988 to estimate the flows necessary to provide habitat for various life stages of landlocked salmon. GNP considered flows ranging from leakage (2 to 5 cfs) to 2,000 cfs. The results indicated that total weighted usable area (WUA; a measure of habitat quantity) was maximized for all life stages except adult salmon at flows between 170 and 500 cfs. Adult salmon habitat increased incrementally up to 2,000 cfs; however, the rate of increase from leakage to 500 cfs was greater than the rate from 500 cfs to 2,000 cfs. Electrofishing surveys have documented the presence of small populations of brook trout where tributaries enter the Back Channel; there are three tributaries along this reach. Grand Falls, where an approximately 15 foot drop in stream bottom occurs, is located approximately

2.7 miles below Stone dam. This falls is a natural barrier to upstream migration of warmwater species, such as smallmouth bass and pickerel. It is also likely to be an upstream migration barrier to young life stages of salmonids, including landlocked Atlantic salmon, although it is probably passable by adult salmon at higher river flows. However, the actual flow threshold at which Grand Falls becomes negotiable to salmon is undocumented, and no run of landlocked salmon presently exists in the Back Channel.

Fish Community. Because of the limited amount of habitat under current flow conditions, the fish community in the Back Channel is limited (Appendix B, table 2).

3.5.2.13 East Millinocket Tailrace

Habitat. This 300-yard-long section is contiguous with the Medway impoundment (FERC Project No. 2666). The 3- to 5-foot depths, heavy substrate, and moderate-to-high velocity make it most suitable for adult salmon, although there are small amounts of habitat for young-of-year and parr.

Fish Community. Few surveys have been conducted within this reach because angler use is extremely low. According to GNP personnel, only one angler was observed between 1986 and 1989. Appendix B, table 2, lists species documented in this section of the river.

3.6 WETLANDS

3.6.1 Basinwide

About 30 percent of the total land area of Maine is estimated to have been wetlands before the 19th century. Current figures show that about 24.5 percent of the total area of the state is wetlands (Dahl, 1990). Since the beginning of the 19th century, wetlands throughout the Penobscot River Basin have been altered or inundated to some degree by large-scale projects such as dams for the logging industry, water storage, and hydroelectric generation. Predominant wetlands types within the Penobscot River Basin are palustrine emergent marsh (primarily bogs), palustrine scrub/shrub, and wetland floodplain forests (Tiner, 1984).

3.6.2 Ripogenus Project

More than 1,251 acres of wetlands border the Ripogenus impoundment (Appendix C, figures 1 through 3). Alder thickets constitute 118 acres, wet meadow/emergent marsh 282 acres, wet meadow/open water 66 acres, and open bog/wet meadow 785 acres. The areas of conifer swamp/wet forest and deep marsh/aquatic bed have not been measured or estimated. Wetlands surveys conducted by GNP indicate that these are generally discrete plant communities that are not entirely hydrologically dependent on the Ripogenus impoundment (GNP, 1991a). The following are brief descriptions of the principal wetlands types:

- Alder thickets, composed primarily of dense stands of speckled alder, occur as a discontinuous band along the shorelines of the Ripogenus impoundment and the

deadwaters[4] of the West Branch. (Appendix C, table 3, lists the plant species found in alder thickets in the vicinity of the Ripogenus Project.)

- Wet meadow/emergent marsh and wet meadow/open water occur along the shorelines of Ripogenus impoundment and West Branch deadwater, often in association with beaver dams. The most common species include grasses, sedges, and rushes. (Appendix C, table 5, lists the plant species found in the wet meadow/emergent marsh and wet meadow/open water habitat in the Ripogenus Project area.)

- Open bog/wet meadow occurs on the periphery of the impoundments and in association with streams and beaver ponds. The most abundant plants include the shrubs leatherleaf, Labrador tea, bog rosemary, and bog laurel. (Appendix C, table 6, lists plant species found in open bog/wet meadow habitat in the Ripogenus Project area.)

- Conifer swamp/wet forest is found primarily in the deadwater areas along the shorelines of the West Branch. Principal tree species include northern white cedar, black spruce, green ash, yellow birch, and red maple. The predominant shrubs are the overstory species interspersed with speckled alder, striped maple, and skunk currant. (Appendix C, table 4, lists the plant species found in the conifer swamp/wet forest in the Ripogenus Project area.)

- Deep marsh/aquatic bed is found in still waters of ponds and lake embayments with water depths of 2 to 10 feet, when sufficient fine substrates are present. Predominant plants include manna grass, pond lily, pondweed, burreed, and smartweed. (Appendix C, table 7, lists plant species found in deep marsh/aquatic bed habitat in the Ripogenus Project area.)

The following major systems represent wetlands around the Ripogenus impoundment:

- The 437-acre Brandy Pond wetlands system is located at the confluence of the Upper West Branch, Caucomgomoc Stream, and Umbazooksus Stream. It is a large open bog/wet meadow, grading outward (toward the Ripogenus impoundment) to wet meadow/emergent marsh.

- The Quaker Brook system is approximately 183 acres and is located north of Caribou Lake on the west side of Chesuncook Lake. The lower half of the system is wet meadow/emergent marsh along both banks of Quaker Brook, and it is inundated at normal high water level for part of the year. The upper half of the system is open bog/wet meadow, where surface water is present most of the year.

- The shoreline zone of the Ripogenus impoundment includes the area directly above the water line that is exposed during annual draw-downs of the impoundment. The substrate ranges from ledge and large boulders to smaller

[4] Deadwaters are backwaters, coves, or other sheltered environments where wetlands are often present.

rocks and cobbles, with a few areas of coarse granular sand. Predominant plants within the shoreline zone are typical of those adapted to fluctuating water regime and disturbance. Many areas are dominated by "weedy" plant species. There are some scattered areas of submerged aquatic vegetation and emergent plants in the lower end of the dewatered zone. These areas are believed to be most affected by draw-downs.

- The Upper Gorge area between Ripogenus dam and McKay station contains predominantly very rocky substrate with high, steep-sided rock walls, which has restricted wetlands development. Low (leakage) flow from Ripogenus dam also has restricted wetlands development. Vegetation is very sparse in general in Upper Gorge.

Of the 528 acres of riparian wetlands bordering West Branch in the vicinity of the Ripogenus Project, most are associated with deadwaters. These deadwaters consist primarily of alder thickets, conifer swamp/wet forest, wet meadow/emergent marsh, wet meadow/open water, and open bog/wet meadow. These wetlands closely resemble those in unregulated lakes in remote parts of Maine (GNP, 1991a). The riparian zone wetlands between McKay station and Ambajejus Lake are characterized by alder thickets and open patches of grasses and sedges. Drier riparian sites at slightly higher elevations are dominated by hardwood and softwood mixed forests.

3.6.3 Penobscot Mills Project

Primary wetlands types found throughout the Penobscot Mills Project area include alder thickets, conifer swamp/wet forest, wet meadow/emergent marsh and wet meadow/open water, open bog/wet meadow, and deep marsh/aquatic bed. A total of 296 acres of wetlands border the North Twin impoundment (Appendix C, figure 4). Principal kinds of wetlands at North Twin are wet meadow/emergent marsh (180 acres), open bog/wet meadow (114 acres), and wet meadow/open water (2 acres). The three principal wetlands systems in the vicinity of North Twin are:

- White Horse Island wetland complex, which is wet meadow/emergent marsh, with open water east and south of the island.

- Stephenson's Landing wetlands, which consists of two distinct types, wet meadow/emergent marsh and open bog/wet meadow. The wetlands are flooded during high water.

- Impoundment shoreline wetlands, which are characterized by plants tolerant of fluctuating water levels during draw-downs and human disturbance. The substrate of the dewatered shoreline zone ranges from ledge and large boulders to smaller rocks and cobbles and coarse, granular sand.

Millinocket Lake encompasses about 709 acres of wetlands (Appendix C, figure 5). Wetlands types include wet meadow/emergent marsh (383 acres), open bog/wet meadow

(316 acres), alder thickets (8 acres), and wet meadow/open water (2 acres). There are three major wetland systems at Millinocket Lake:

- Pickerel Cove wetlands consists of two wet meadow/emergent marshes.
- The Grant Brook wetlands complex consists of open bog/wet meadow.
- Impoundment shoreline wetlands are characterized by plants found in constantly wet soils.

GNP identified 159 acres of wetlands, predominantly wet meadow/emergent marsh, at Quakish Lake (Appendix C, figure 6). These wetlands are primarily herbaceous with occasional scattered shrubs. Shoreline zones are absent around Quakish, Ferguson, Dolby, and East Millinocket impoundments because water levels are stable (GNP, 1991b).

GNP identified 219 acres of wetlands at Dolby Pond; most of these are wet meadow/emergent marsh (Appendix C, figure 7). These wetlands are predominantly herbaceous.

The East Millinocket impoundment area encompasses very few wetlands because of past development of the Millinocket Mill complex and the associated mill yards on its eastern shore (GNP, 1991b).

Riverine wetlands border Millinocket Stream and sections of the West Branch in the vicinity of the Penobscot Mills Project:

- Millinocket Stream has small areas of emergent marsh with scattered shrubs along the shoreline. Areas of emergent and scrub/shrub wetlands occur in several small deadwaters that have developed along the stream.
- Sections of the West Branch from North Twin impoundment to Quakish Lake and from the Millinocket tailrace to Dolby Pond contain the same wetlands types as Millinocket Stream. Shad Pond, which could be considered a portion of the West Branch, supports abundant emergent and deep marsh wetlands.
- The Back Channel consists of a main channel and an overflow channel. Five tributary streams flow into the main channel. The substrate of the main channel is predominantly large cobbles and boulders, but silt and sand have accumulated in a few sections, allowing development of small areas of wetlands. Narrow areas of riparian scrub/shrub wetlands occur in narrow margins along both the main channel and the overflow channel.

3.7 TERRESTRIAL RESOURCES

3.7.1 Basinwide

Approximately 95 percent of the Penobscot River Basin is forested (Pierce et al., 1993). Historically, the predominant vegetation type throughout northern Maine, including the

Penobscot River Basin, was spruce-fir forest. Currently, predominant vegetation type is spruce-fir forest, grading to pine-hardwood forests to the south and east (Pierce et al., 1993). Red spruce and balsam fir are the predominant trees in the spruce-fir forest. Principal trees in the pine-hardwood forest are oaks and white pine. In addition, a substantial portion of the basin is palustrine-forested, scrub/shrub, and emergent wetlands. Agricultural land also is found in parts of the northeastern section of the river basin (Cutting, 1959). The basin is relatively flat; average slope is less than 5 percent (Pierce et al., 1993).

There was little commercial use of northern Maine forests until the early-to-mid 1800's, when the first dams were built, and the late 1800's and early 1900's, when commercial logging began. Historically, forest-product companies have owned and used large tracts of forest to guarantee steady supplies of wood for their lumber mills (Harper et al., 1992). Large tracts of forest were cut heavily to supply the lumber mills; other tracts were lost through inundation by the dams. Another historic factor that reduced regional forests was the series of severe budworm epidemics between 1913 and 1919 (Pierce et al., 1993). In addition, much of the forested land in northern Maine (especially parcels on or adjacent to water) is currently under increasing commercial development pressure, especially from the vacation home industry (J. Sewall Co., 1993).

Wildlife species associated with the Penobscot River Basin include animals that live in the flood plain (e.g., moose, white-tailed deer, beaver, red-winged blackbird), feed in the water (e.g., waterfowl, turtles, frogs, otter, mink), feed along the shoreline (e.g., raccoon, fox, bear, shorebirds), live on or in the banks (e.g., otter, mink, muskrat), or feed in flight (e.g., swallow, swift, bats).

3.7.2 Ripogenus Project

The following sections describe terrestrial resources at the project boundaries[5] and in the immediately surrounding area. Lands bordering the project are predominantly forested; hardwoods and softwoods occur in varying proportions. Softwoods are generally predominant; however, hardwoods predominate in some forests. GNP has not quantified these forest resources. Wetlands also occur within the project boundaries and the immediately surrounding area (see section 3.6). The project area encompasses one Maine State Registered Area Critical (RCA), Gero Island (see section 3.7.2.3). Wildlife of the Ripogenus Project area is typical of that found throughout northern Maine.

3.7.2.1 Softwood-dominated Mixed Forest

Softwood-dominated mixed forest is the most abundant vegetation type throughout the Ripogenus Project area. It occurs within scattered, large sections of the project area and the immediately surrounding area and is typically interspersed with somewhat smaller stands of hardwood-dominated forest. Predominant overstory trees in the softwood-dominated mixed forest are red spruce and balsam fir. White pine also is abundant, but does not occur as

[5] In this resource section, the Ripogenus Project boundaries are the Ripogenus impoundment to the high water mark and immediately adjacent lands.

frequently. Subdominant trees in the softwood-dominated mixed forest include red maple, yellow birch, paper birch, and balsam poplar.

The shrub layer in the softwood-dominated mixed forest is composed predominantly of sapling trees of the overstory species. Other principal species within this layer include striped maple, sugar maple, shadbush, and skunk currant. The most predominant plants within the herbaceous layer in the softwood-dominated mixed forest are wood sorrel, bunchberry, and star flower. Other commonly observed herbaceous plants include goldthread, enchanter's nightshade, bristly wintergreen, and twinflower. (Appendix C, table 1, lists the softwood-dominated mixed forest plant species found in the Ripogenus Project area.)

3.7.2.2 Hardwood-dominated Mixed Forest

Hardwood-dominated mixed forest is the subdominant vegetation type within the Ripogenus Project area and the immediately surrounding area. Hardwood-dominated forest generally occurs in more scattered discontinuous parcels and somewhat smaller stands than softwood-dominated forests. Within the hardwood-dominated parcels the predominant species vary according to amount of shading, density of cover, position on slopes, and proximity to impoundment shorelines.

In shaded areas around the impoundment shorelines at the Ripogenus Project, predominant trees are big toothed aspen, trembling aspen, paper birch, and yellow birch. Principal shrub species along the shores are speckled alder and willows. Hardwoods are much more predominant in the mixed stands on flat areas and on lower slopes away from the shoreline (particularly southern slopes). Principal species are beech, yellow birch, and paper birch. Other less prominent trees in flat areas and on lower slopes away from the shoreline include sugar maple, white ash, and red maple. Northern red oak is a subdominant species at scattered locations along the riparian zone of the West Branch.

The shrub layer consists of overstory regeneration; American beech and sugar maple are the most abundant species. Other predominant shrubs and trees within the shrub layer include striped maple, mountain maple, shadbush, beaked hazel, and witch hobble. Locations with this shrub layer mix indicate a typical regional northern hardwood climax stage (GNP, 1991a). Primary plants in the herbaceous layer of the hardwood-dominated mixed forest are oak fern, Solomon's seal, star flower, shinleaf, spinulose wood fern, and sarsaparilla. (Appendix C, table 2, lists the plant species of the hardwood-dominated mixed forest in the Ripogenus Project area.)

3.7.2.3 State-listed Critical Areas

Gero Island, which is located near the northern boundary of the Ripogenus Project at the northern end of Chesuncook Lake, is a Maine RCA (RCA 534). The island carries a stand of old growth white pine, which is considered rare in Maine and of scenic value. Maine's RCAs are considered to be of statewide significance.

Other areas of special interest that meet technical criteria for RCAs but that are not registered because of other considerations are called Qualified, but Unregistered Areas. The Ripogenus Project area encompasses four such areas: Ripogenus Gorge (PCA 39Q), the

Cribworks (PCA Q40), Big Ambejackmockamus Falls (PCA Q41), and Nesowadnehunk Falls (PCA 1Q). Ripogenus Gorge, located directly east of the Ripogenus dam, qualifies because of its geologic features, the presence of a rare plant, its scenic qualities, and its relatively undisturbed state. The Cribworks, Big Ambejackmockamus Falls, and Nesowadnehunk Falls are downstream of McKay station and qualify because of their scenic features (GNP, 1991a).

3.7.2.4 Wildlife

The Ripogenus Project is within the range[6] of 48 mammal, 158 bird, and 24 reptile and amphibian species (Appendix C, tables 8 through 10). GNP's wildlife surveys documented 11 reptile and amphibian, 86 bird, and 19 mammal species in the Ripogenus Project area (GNP, 1991a).

Reptile and amphibian species diversity is relatively low in the project area (and in the region in general) due to the harsh, long winters typical of northern latitudes (45° 40' north). (Appendix C, table 10, lists species observed in the Ripogenus Project area during the GNP reptile and amphibian survey.) About 35 of the 86 bird species observed in the vicinity nest there; another 31 species probably nest nearby and forage in the project area, and about 20 species probably migrate through the project area (GNP, 1991a; Appendix C, table 9).

As indicated by GNP's mammal surveys, the highest density of small mammals (such as deer mice) occurs in the hardwood-dominated forest. Other common mammals are coyote, bobcat, black bear, white-tailed deer, and moose. In the softwood-dominated mixed forest and conifer swamp/wet forest, red squirrel, fisher, deer mouse, southern red-backed vole, northern flying squirrel, and snowshoe hare are the predominant mammals. Marten, coyote, bobcat, black bear, white-tailed deer, and moose are also found. The mammals observed most frequently in the riparian and impoundment shoreline habitats are moose and muskrat. In the wet meadow/emergent marsh, meadow jumping mice, muskrat, beaver, river otter, meadow vole, and red fox are typical species. In alder thickets, raccoons, meadow jumping mice, ermine, snowshoe hare, and white-tailed deer are typical. In open bog/wet meadow habitat, browsing and grazing animals such as moose, white-tailed deer, meadow vole, and southern bog lemming are typical. Deep marsh/aquatic bed habitat is used almost exclusively by beaver and muskrat and occasionally by moose (GNP, 1991a). (Appendix C, table 8, lists mammals observed in the Ripogenus Project area.)

3.7.3 Penobscot Mills Project

The following sections describe terrestrial resources within the project boundaries and the immediately surrounding area. Lands bordering the project are predominantly forested; hardwood-dominated and softwood-dominated forests occur in approximately equal proportions. GNP has not quantified these forest resources. Wetlands also occur within the project boundaries and the immediately surrounding area (see section 3.6). Wildlife of the Penobscot Mills Project is typical of that found throughout northern Maine.

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[6] A species' range is the geographic boundaries within which conditions are appropriate for the species.

3.7.3.1 Softwood-dominated Mixed Forest

In contrast to the Ripogenus Project, softwood-dominated and hardwood-dominated forests occur in approximately equal proportions within the Penobscot Mills Project area (GNP, 1991b). In general, hemlock and white pine are the predominant trees on flat, low-lying areas behind the impoundments; red pine and northern white cedar occur less frequently. As slopes and elevation increase, red spruce and balsam fir increase in abundance. Hardwood trees, including beech, paper birch, yellow birch, and sugar maple, occur in limited numbers in these areas. These hardwoods occur in much lower proportions than the softwoods in the softwood-dominated mixed forest (GNP, 1991b).

The shrub and herbaceous layer of the softwood-dominated mixed forest is similar to that found at the Ripogenus Project. (Appendix C, table 1, lists the softwood-dominated mixed forest species in the Penobscot Mills Project area.)

3.7.3.2 Hardwood-dominated Mixed Forest

In low, flat areas, shade-intolerant hardwood species such as trembling aspen, big toothed aspen, red maple, and paper birch predominate. Principal understory plants are lowbush blueberry, huckleberry, wintergreen, and bracken. Plant species composition in some areas of the project may be a function of the recent high incidence of forest fires in the project area (GNP, 1991b). All of these shade-intolerant species are early colonizers of burned areas (Barbour, 1980).

As slopes and elevation increase, beech, sugar maple, red maple, white ash, and northern red oak predominate. Less predominant trees on the slopes are paper birch and yellow birch, and softwood species including hemlock, balsam fir, and red spruce. The shrub and herbaceous layers of the hardwood-dominated mixed forest are similar to those at the Ripogenus Project. (Appendix C, table 2, lists the hardwood-dominated mixed forest species found in the Penobscot Mills Project area.)

3.7.3.3 Wildlife

The Penobscot Mills Project is within the range of 48 mammal, 158 bird, and 23 reptile and amphibian species (Appendix C, tables 8 through 10). GNP observed 9 reptile and amphibian, 80 bird, and 21 mammal species in the Penobscot Mills Project area during habitat-based surveys. GNP did not conduct population-based surveys.

Because of the harsh, long winters, reptile and amphibian species diversity is relatively low in the project area (and in the region in general). (Species observed in the vicinity of the Ripogenus Project during the GNP reptile and amphibian survey are shown in Appendix C, table 10.) About 32 of the 86 bird species observed in the area nest there; another 28 species probably nest nearby and forage in the project area, and about 20 species probably migrate through the area (GNP, 1991b; Appendix C, table 9).

Mammals found in the Penobscot Mills Project area are similar to those at the Ripogenus Project. (Appendix C, table 8, lists mammals observed in the Penobscot Mills Project area.)

3.8 THREATENED AND ENDANGERED SPECIES

3.8.1 Basinwide

The bald eagle *(Haliaeetus leucocephalus)*, a federally and state-listed endangered species, breeds in many locations throughout the West Branch Basin. As of 1991, there were 123 known nesting pairs of bald eagles in Maine (Welch, 1991). The West Branch Basin is one of the most important nesting and wintering areas for bald eagles in Maine (MSPO, 1987).

3.8.2 Ripogenus Project

In a letter dated February 12, 1990, FWS stated that the bald eagle is the only federally listed species known to occur in the Ripogenus Project area, but that the ranges of the long-tailed shrew (*Sorex dispar*), a C3 candidate for federal listing,[7] and North American lynx (*Felis lynx canadensis*), a C2 candidate for federal listing,[8] overlap the project area. GNP indicated that neither species was observed during surveys.

As of 1992, there were four known active bald eagle nests in the Ripogenus Project area; in 1993 there were three active nests.[9] The nests are in the northeastern, southwestern, and southern-most portions (along the West Branch) of the project. Other eagle pairs occupy territories in the area but are not nesting.

Common loon (*Gavia immer*), a bird species of concern in Maine, breeds primarily in the Chesuncook Lake portion of the Ripogenus impoundment. Other adult loons with chicks were observed in Brandy Pond during bird surveys conducted on June 15, 1987, (GNP, 1991a). Ring-billed gull (*Larus delawarensis*), considered an uncommon breeding species for the project area, and common tern (*Sterna hirundo*), cited in Maine's List of Threatened and Endangered Animals as a species of special concern, both breed on Gull Island and Tern Ledge, located near the northern end of Chesuncook Lake (GNP, 1991a).

In a letter dated February 21, 1995, FWS indicated that several additional species of concern (that were not considered in the DEIS) may occur in the vicinity of the projects and that they should be considered in the FEIS. These species, all federal C2 candidates, include yellow lampmussel (*Lampsilis cariosa*), brook floater (*Alasmidonta varicosa*), extra striped snaketail dragonfly (*Ophiogomphus anomalus*), and midget snaketail dragonfly (*Ophiogomphus howeii*). The extra striped snaketail dragonfly and the midget snaketail dragonfly have also been proposed as state listed threatened and endangered species, respectively. The FWS indicated that exuvia (exoskeletons shed during molting) of midget

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[7] Animals listed under the C3 category have proven to be more abundant or widespread than previously believed, or are not subject to any identifiable threat. In this context, the Commission did not consider this species important in its review of the project.

[8] C2 indicates that federal listing as threatened or endangered is possibly appropriate, but conclusive data on biological vulnerability and threat are not currently available to support such listing.

[9] Data for two of the 1992 eagle nest sites were not available for 1993.

snaketail dragonfly were observed in the West Branch in 1994. FWS stated that information pertaining to the distribution of all these species is severely limited.

No federally listed threatened or endangered plant species are known to occur within the Ripogenus Project area; however, two plants on Maine's official list of rare plants, purple clematis (*Clematis occidentalis*) and northern woodsia (*Woodsia alpina*), occupy the banks of the West Branch between McKay station and Ambajejus Lake (GNP, 1991a). A stand of old growth pine, which is considered rare in Maine, is located on Gero Island in Chesuncook Lake.

3.8.3 Penobscot Mills Project

As of 1992, there were two known active bald eagle nests in the Penobscot Mills Project area. During 1993 there also were two active nests; however, only one of the two nests was the same during both years. The nests are located between the North Twin Development and Stone dam and to the west of the Dolby Development. Other eagle pairs occupy territories in the area but are not nesting.

Common loon breeds in the North Twin impoundment, Millinocket Lake, and Quakish Lake. It also could breed in Dolby Pond and in other areas of the Penobscot Mills Project (GNP, 1991b).

Orono sedge (*Carex oronensis*), a C2 species, was observed a considerable distance from the North Twin impoundment shoreline during a botanical survey conducted by GNP, but it was never found within the limits of the Penobscot Mills Project (GNP, 1991b).

3.9 RIVER AND LAND MANAGEMENT PLANS

The state has developed several river and land management plans for the lower Penobscot River Basin. Some plans are considered "comprehensive plans" under Section 10 (a)(2) of the FPA.

3.9.1 Maine Rivers Study

The Maine Rivers Study (DOC, 1982) is an inventory of natural, economic, and recreational resources of the state rivers of Maine. This study identified the river stretches in Maine that stand out as remarkable from statewide and regional perspectives. The significant resource values of the West Branch are geologic, ecologic, inland fishery, scenic, boating, historic, and canoe touring. The study notes that the West Branch is eligible for inclusion in the National System for Wild and Scenic Rivers and that the West Branch is one of the state's highest quality fishery resources.

3.9.2 State of Maine Comprehensive Rivers Management Plan

The three-volume Maine Comprehensive Rivers Management Plan (MSPO, 1987) is a compilation of plans, parts of plans, state laws, executive orders, and maps produced by a variety of state agencies and elected officials. Volume 1 is an executive order mandating designation of river sections that merit special protection, a report on the projected

contribution of hydroelectric generation to meeting Maine's electricity needs in 1990 and 2000, and a statewide fisheries plan that specifies river-by-river fishery considerations and fish passage needs at existing and proposed hydroelectric generating facilities. Volume 2 contains the 1982 Maine Rivers Study. Volume 3 provides a discussion of the laws, implementing orders and plans, and river-specific plans necessary to implement a statewide Maine Rivers Policy.

3.9.3 Statewide Comprehensive Outdoor Recreation Plan

The Maine Statewide Comprehensive Outdoor Recreation Planning Program (SCORP; MDOC, 1988, 1993) is the basis for a 5-year plan for managing Maine recreation resources. The SCORP contains an inventory of current recreation resources, a demand forecast, and discussion of policies. The SCORP divides the state into geographic regions to identify regional differences in use based on the origin of users. The West Branch is in the Katahdin/Moosehead travel region of Maine, where the most popular recreational activities are fishing, camping, and hunting. The SCORP recognizes the need in the region for boat and fishing access, canoe access, family camping, and primitive camping.

3.9.4 Maine Strategic Plans, Vol. II, Inland Fisheries

This plan established goals to (1) maintain optimum population levels of freshwater fishes and associated aquatic species; (2) maintain optimum quality, quantity, and diversity of habitat; and (3) provide for optimum and diverse uses of freshwater fishes for sportfishing, aesthetic, economic, ecologic, scientific, and educational purposes. The plan further states the specific objectives of the Maine DIFW: (1) to provide for a projected demand of approximately 436,700 licensed and unlicensed anglers and 2.6 million angler-days, (2) to provide for a combined harvest of approximately 3.1 million fish of all species from lakes and 674,000 fish of coldwater species from streams, and (3) to maintain fishing quality for the major gamefish species at approximately current levels.

3.9.5 Maine Statewide River Fisheries Management Plan

The DIFW prepared this plan for The Governor's Cabinet Committee on Hydropower Policy. Goals and objectives are general: (1) maintain optimum population levels of freshwater fishes and associated aquatic species; (2) maintain optimum quality, quantity, and diversity of habitat; and (3) provide for optimum and diverse use of freshwater fishes for sportfishing, aesthetic, economic, scientific, and educational purposes. The plan also states that the Maine DIFW intends to review and act on proposed dam projects on a case-by-case basis.

3.10 RECREATION RESOURCES

3.10.1 Regional

The project areas are located in the Katahdin/Moosehead Travel Region, the largest of the eight travel regions in Maine (figure 3-5). This area is rich in natural resources and offers abundant outdoor recreation opportunities. A disproportionately large percentage of total state park land (79 percent), including Baxter State Park (202,064 acres), is within this region.

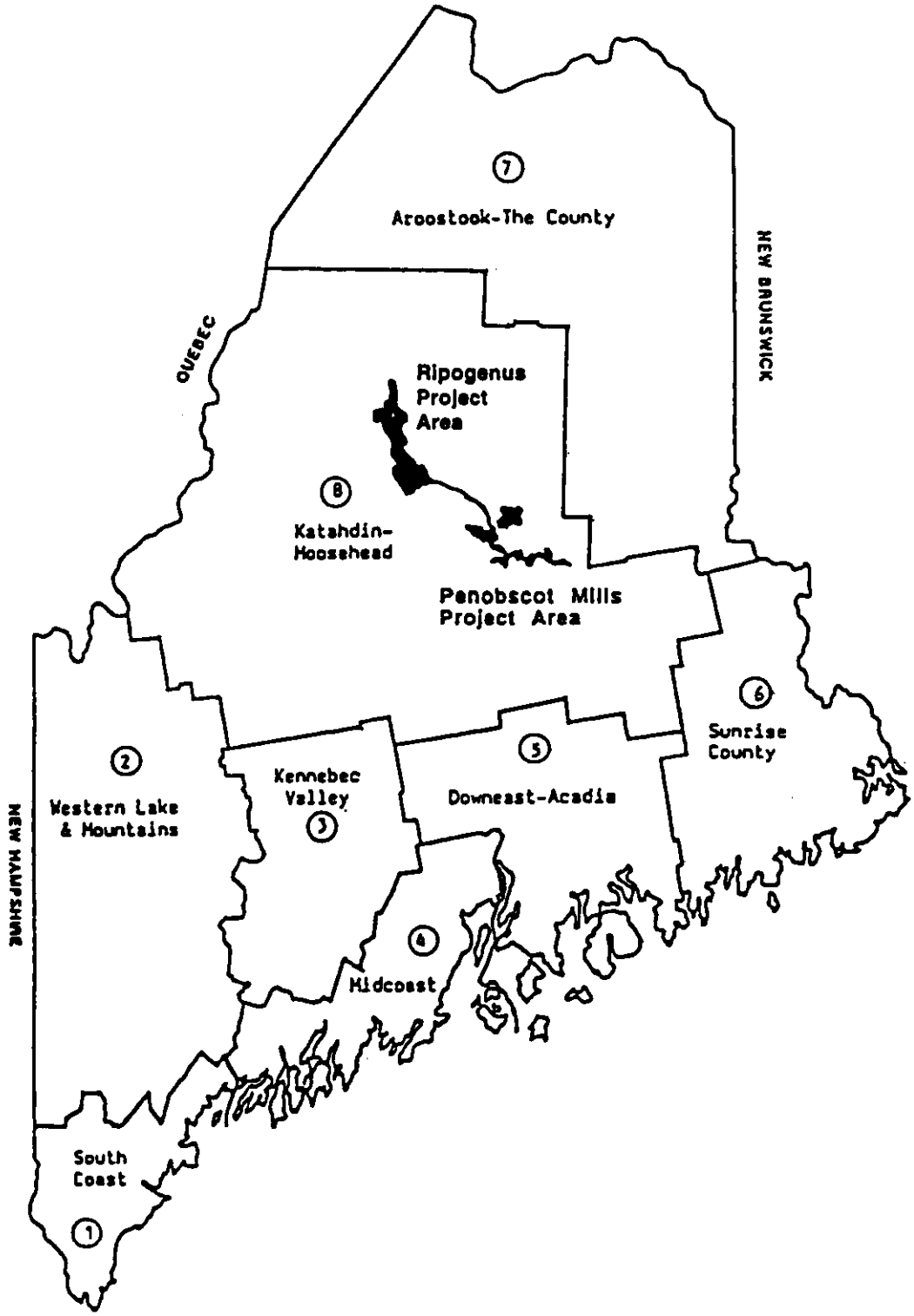

Figure 3-5. Travel regions in Maine showing location of Penobscot Mills Project area (Source: SCORP, 1988)

Mount Katahdin and other peaks within Baxter State Park are visible from much of the project area, which is only a few miles from the park boundary. The West Branch of the Penobscot River and other recreation facilities within the project areas provide additional recreation opportunities for Baxter State Park visitors. Much of the land there is owned by GNP, which allows public access for recreation.

3.10.2 National Designations

The West Branch of the Penobscot River within the project boundaries has not been designated as a National Wild and Scenic River, although it is eligible and included on the National Rivers Inventory maintained by Interior. The state of Maine has not requested federal designation of the river as a wild, scenic, or recreational river.

A short section of the Appalachian National Scenic Trail, a part of the National Trails System, crosses the project area on the western edge of Pemadumcook Lake. In 1990, GNP granted a conservation easement to the state of Maine to protect the entire Appalachian Trail within GNP's land holdings. A short segment of the Maine Interconnecting Trail System (ITS) is located along the northern shore of Pemadumcook Lake, a popular snowmobile route.

No National Wilderness Areas or National Natural Landmarks are within the project areas or would be affected by the proposed projects.

3.10.3 Existing Recreation Facilities/Opportunities in the Project Region

The project areas offer a wide array of private and commercial recreation opportunities. The kinds and extent of development along the shores and on the islands of the project impoundments are varied. Residential and recreation development is a function of the accessibility of the impoundment, the natural limitations on construction because of wetlands and soil types, and the zoning districts established by LURC.

In the past, GNP awarded leases to current and retired employees for use as private camps. GNP terminated this practice in the early 1970's and has not issued new leases since that time (GNP, 1991a, 1991b). The approximately 900 existing leases are transferable and renewable annually. Nearly 80 percent of these are concentrated along the shoreline of the North Twin impoundment (Ambajejus, South Twin, and North Twin lakes). Most leased sites are developed with summer cottages, and many have floating or fixed docks.

Eighteen commercial facilities exist throughout the project area, and most are located on land leased from GNP (1991a, 1991b). Most of these are camps offering swimming, boat rental, guide services, and convenience goods.

Public and private recreational facilities include 6 public boat launches, 4 private boat launches, 4 public boat put-ins, 2 informal boat put-ins, 8 permitted campsites (which require a fire permit from the Maine Bureau of Forestry), 15 authorized campsites (which have been approved by the landowner, the Maine Bureau of Parks and Recreation, and the Bureau of Forestry and do not require a fire permit), and several formal and informal picnic areas.

The six project impoundments total nearly 60,000 acres of water surface. The 29,270-acre impoundment created by Ripogenus dam is the second largest lake in the state. All of the impoundments except East Millinocket (128 acres) are available for recreation.

The West Branch between Ripogenus dam and Ambajejus Lake is heavily used for whitewater boating and fishing. In cooperation with commercial rafting outfitters, GNP provided put-in facilities at McKay station (including a gravel parking area for outfitter buses, a gravel raft-staging area, a generator/compressor to inflate the rafts, and two portable toilets), five launch sites along the river, and take-out facilities at Never's Corner. Other informal river access points for canoes, kayaks, and fishing exist throughout the area. GNP recently modified the security fence at McKay station to allow 24-hour pedestrian access.

GNP owns hundreds of miles of current and former logging roads surrounding the project areas, which are open to the public and are used by hikers, hunters, cross-country skiers, bird watchers, and others. A popular trail follows the eastern rim of Upper Gorge from Ripogenus dam to below McKay station.

Table 3-8 summarizes the recreation facilities and opportunities available at each project.

Several public and private roads provide access to the project area, including State Route 157, which links East Millinocket and Millinocket and provides access to Dolby Pond; State Route 11, which runs southwest from Millinocket and serves the Twin, Elbow, and Quakish lakes; State Road, which provides access to Millinocket and Ambajejus lakes and Baxter State Park; and Golden Road, GNP's privately owned haul road that is used primarily for transporting cut timber to the mills but also provides access to the Ripogenus Development and the Upper West Branch area.

3.10.4 Current Recreational Use

Current recreational uses of the project areas include fishing, swimming, boating, hunting, ice fishing, camping, hiking, snowmobiling, canoeing, cross-country skiing, waterskiing, sailing, and sightseeing. Most land-based recreation occurs on nonproject lands owned by GNP.

3.10.4.1 Ripogenus Project

The Ripogenus Project area is part of GNP's West Branch District, a 1.2-million-acre commercial forest. Access to the district is controlled through three checkpoints: Debsconeag, Sias Hill, and Twenty-Mile. Approximately 55 to 60 percent of visitors enter the district through the Debsconeag checkpoint, the closest access point to Interstate 95 and Millinocket (GNP, 1991a). Sias Hill accounts for 25 to 30 percent of visitors, and Twenty-Mile accounts for approximately 15 percent. Figure 3-6 summarizes recreational- use trends for the GNP's West Branch District.

Since 1985, use of the West Branch District has remained relatively constant at 150,000 visitors per year, but the number of visitor-days dropped in 1987 after GNP instituted access fees. According to GNP's gate data, most visitors come in July and August, or during

Table 3-8. Recreation facilities summary (Source: Staff)

Lakes	Surface Area	Recreational Use	Activities	Facilities	# Private Leases	# Commercial Leases	Access Points
RIPOGENUS PROJECT · Ripogenus Lake · Caribou Lake · Chesuncook Lake	29,270 acres	Light	Swimming Fishing Ice Fishing Snowmobiling X-C Skiing Boating Canoeing Camping Sightseeing	· 18 campsites	60	3	2 Public Boat Launches · Chesuncook Dam Point · Umbazooksus Stream 1 Private Boat Launch · Allagash Gateway Campsite 1 Informal Boat Launch · Western Shore of Caribou Lake
PENOBSCOT MILLS PROJECT NORTH TWIN · N. Twin Lake · S. Twin Lake · Pemadumcook Lake · Ambajejus Lake · Elbow Lake	17,790 acres	Heavy	Fishing Boating Waterskiing Swimming Snowmobiling Ice Fishing Canoeing X-C Skiing	· S. Twin Lake Picnic Area · Ambajejus Lake Beach · 3 campsites	703	4	2 Public Boat Launches · Ambajejus Lake · Partridge Cove (S. Twin) 2 Private Boat Launches · Bartons Marina · North Woods Trading Post 1 Public Boat Put-in · Norcross (Elbow Lake)
MILLINOCKET LAKE	8,640 acres	Heavy	Fishing Boating Waterskiing Swimming Snowmobiling Ice Fishing Canoeing X-C Skiing	· 2 campsites	120	7	2 Public Boat Launches · Millinocket Lake · Millinocket Dam 1 Private Boat Launch ·Robinson Twin Pines Camp 1 Informal Boat Put-in · Near Robinson Twin Pines Camp
MILLINOCKET · Quakish Lake · Ferguson Pond	1,606 acres	Light	Fishing Canoeing Ice Fishing		0	0	1 Public Boat Put-in · Green Bridge
DOLBY POND	2,048 acres	Light	Fishing Canoeing Ice Fishing	Dolby Picnic Area	0	0	2 Public Boat Put-ins · Dead Man's Curve (Jerry Brook) · Rt. 157 (Dolby Flowage)
E. MILLINOCKET	128 acres	Restricted	None		0	0	None

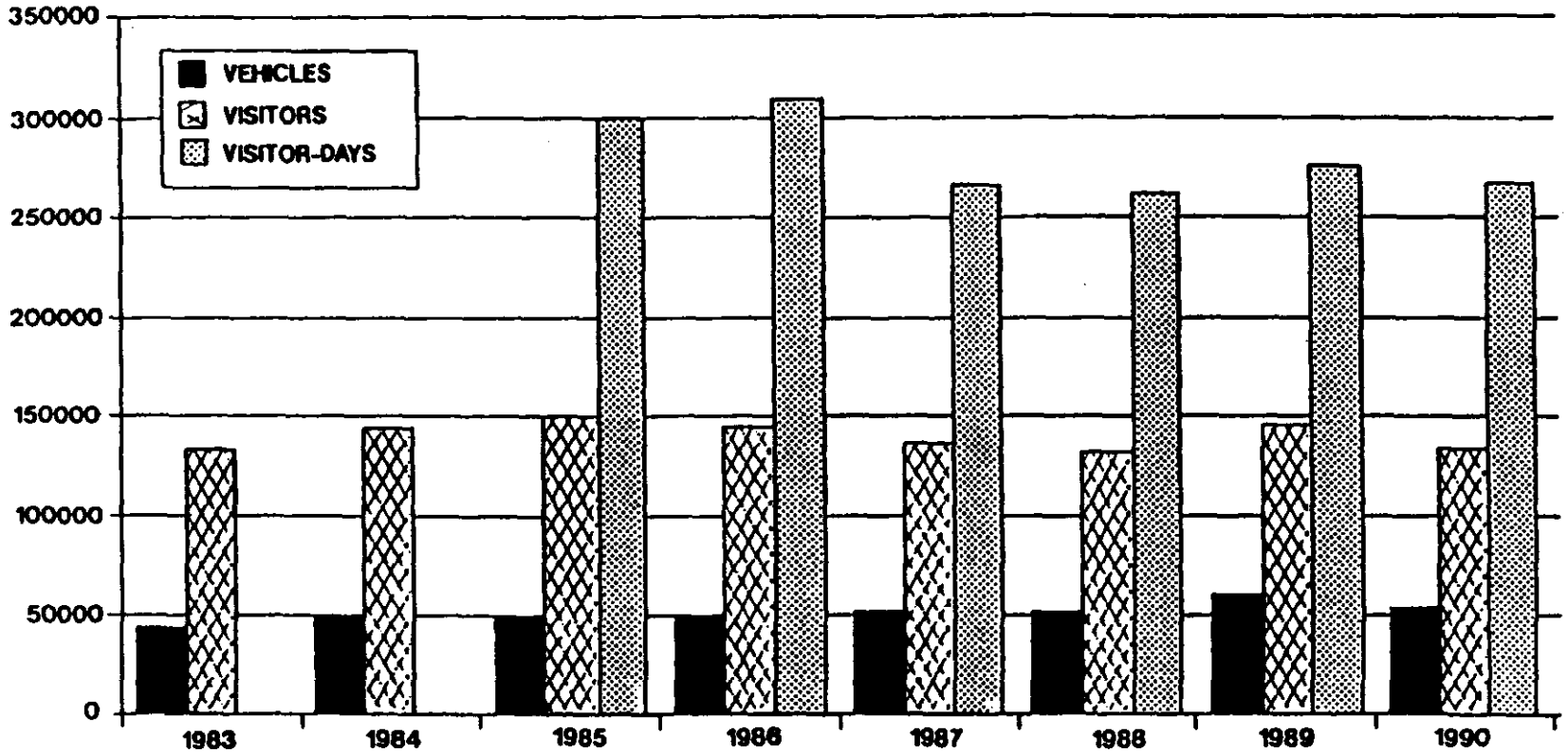

Figure 3-6. Trends in recreational use of GNP's West Branch District

the prime fishing and hunting months of June and November (GNP, 1991a). Figure 3-7 summarizes summer activity for 1986, the last year that GNP asked visitors to specify the purpose of their visits when registering at the checkpoint. According to 1987 gate records, 65 percent of visitors to the West Branch District were from Maine.

GNP charges fees for accessing Ripogenus Project lands and other nonproject areas between May 1 and November 30. These fees defray GNP's cost to maintain use of its land for public recreational use (GNP, 1991a). An $8-per-vehicle or $48-per-season access fee for nonresidents and a $4-per-vehicle or $24-per-season fee for Maine residents allows nearly unlimited access to all of GNP's West Branch District. GNP also charges commercial rafting outfitters a license-use fee of $4 per rafting customer and a $3 access fee per customer.

GNP estimates approximately 4,000 to 5,000 angler-days of fishing on the Ripogenus impoundment during the April 1 to September 30 open-water fishing season, 2500 to 4000 angler-days during the winter ice fishing season (January 1 to March 31), and 9900 camping days (GNP, 1991a). In addition to the salmon fishery, the impoundment also supports important fisheries for lake trout, burbot, and lake whitefish.

Current operations of the Ripogenus impoundment result in annual water level fluctuations of as much as 44 feet. Since 1972, the maximum draw-down during the summer recreation period (between Memorial Day and Labor Day) has been 15.25 feet; the average has been 3.5 feet.

In 1987, GNP surveyed residents of Millinocket, East Millinocket, and Medway regarding their recreational use of the project area (GNP, 1991a). Nearly 30 percent of the respondents reported that the Ripogenus Project area is the most important location for their outdoor recreation; only 5 percent felt that the area is overused.

Camping, fishing, whitewater boating, and sightseeing are popular along the West Branch. The area experiences approximately 47,000 camping days each year. The West Branch also is recognized as one of the world's premier landlocked salmon fisheries, and GNP estimates that approximately 5,900 to 8,000 angler-days occur along the river between April 1 and September 30 (GNP, 1991a). Fishing quality is high at 0.41 fish per angler-day (state goal is 0.2). The average size of creeled salmon is 18.5 inches and 2.25 pounds (state goals are 17 inches and 1.75 pounds). According to 1986 GNP gate data, fishing accounted for the highest rate of visitor days (27 percent) for the West Branch District. The West Branch and its tributaries support a brook trout fishery with average annual catches of 584 fish.

The West Branch is one of the most challenging whitewater boating rivers in the eastern United States. It contains 1 of only 2 significant Class V rapids in New England and 5 of only 40 rapids identified by the Maine Critical Area Program as having statewide significance. This river is suitable for expert level kayaking, rafting, and guided canoe touring (with portages). In Maine, the commercial boating value of the West Branch is second only to the Kennebec River (DOC, 1982).

The popularity of commercial whitewater rafting has increased enormously since it began in the project area in 1977; however, after peaking in 1985 at nearly 19,000, the number of customers has averaged approximately 18,600 and declined to 17,962 in 1989 and

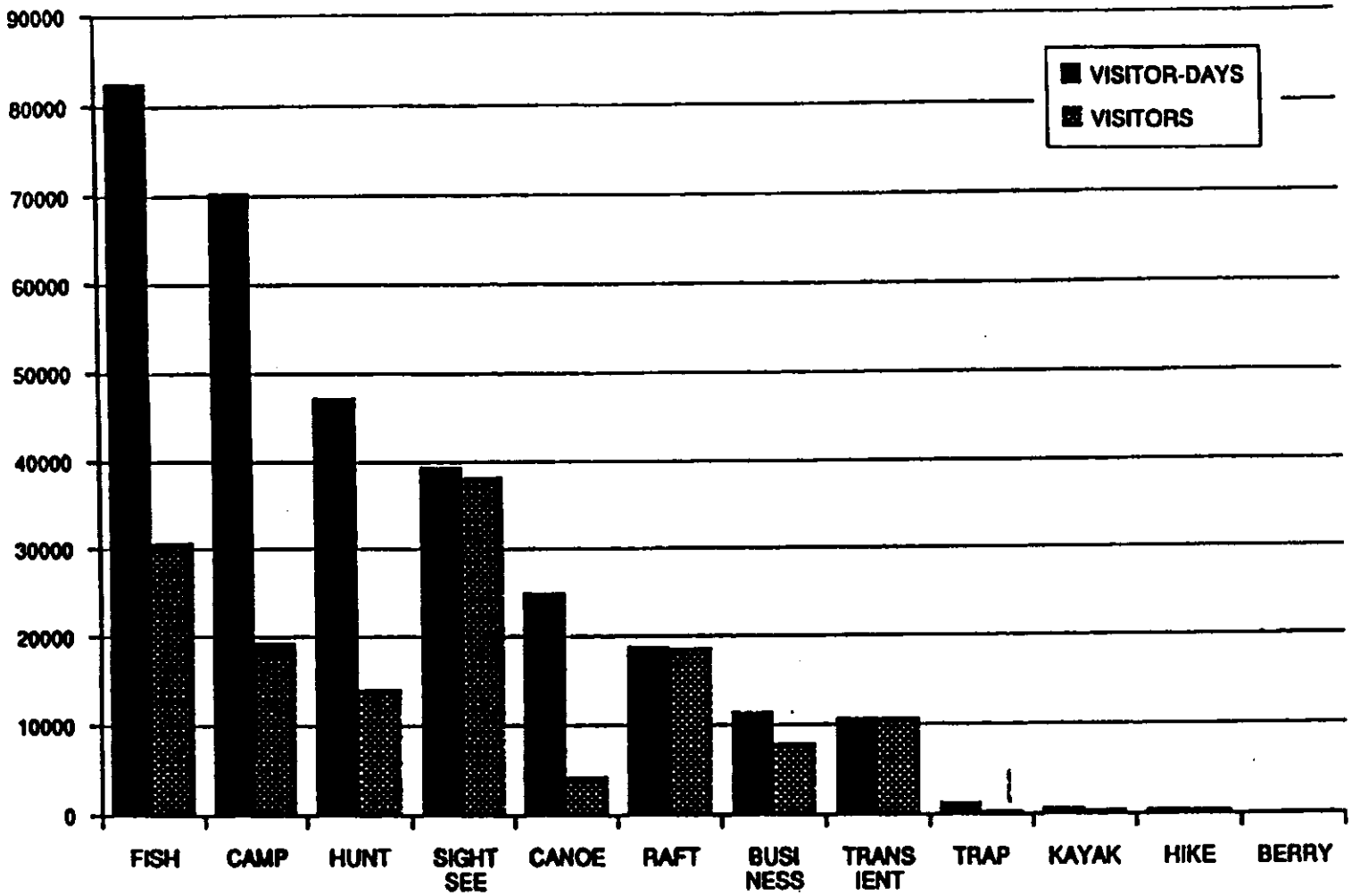

Figure 3-7. Summary of summer activity within GNP's West Branch District

16,441 in 1990 (GNP, 1991a). In 1985, the Maine legislature established a maximum of 560 commercial passengers per day on the West Branch.

In 1990, GNP surveyed commercial whitewater rafting customers and private whitewater boaters who used the West Branch below Ripogenus dam regarding the quality of recreation experience and spending patterns (GNP, 1991a). Nearly all of the whitewater rafting customers (97 percent) were very or extremely satisfied with their experience. Eighty-five percent stated they would definitely return, and 100 percent stated that they would recommend rafting on the Penobscot River to others. Quality of whitewater and safety were the most important factors affecting a rafter's choice of boating locations.

More than 90 percent of whitewater boaters were very or extremely satisfied with their experience; 93 percent stated they would definitely return, and 98 percent stated that they would recommend the West Branch to other paddlers. Paddlers preferred flows above 3,000 cfs and below 2,000 cfs. Respondents paddling at intermediate flows (2,000 to 2,600 cfs) preferred higher, more predictable flows. Many paddlers who responded as somewhat, not very, or not at all satisfied with the flow levels had frequent boating experience on the West Branch, averaging 43 trips.

The upper Penobscot River also provides one of the best opportunities for multiday wilderness canoe trips in the eastern United States. The 83-mile route from Seboornook Lake to Millinocket is a popular trip. Some suggest that Upper Gorge may offer whitewater boating opportunities. Upper Gorge currently receives only leakage (12 cfs) and occasional spillage flows.

The Maine Department of Conservation (DOC) states that the limited development in the project area; the extensive, high-quality natural resources; the existing recreational facilities; and the amount of public use of the river make the Ripogenus Project area one of the most important recreational areas in Maine (letter from C.W. Ten Broeck, DOC, November 5, 1990).

3.10.4.2 Penobscot Mills Project

In 1987, GNP surveyed year-round residents, leaseholders, and visitors to the Penobscot Mills Project area to assess recreational use patterns (GNP, 1991b). The survey showed that more than 80 percent of the recreational visitors are Maine residents, and nearly 60 percent of the total are local residents. More than 50 percent of the local residents identify the Penobscot Mills Project area as their principal outdoor recreation area and believe the impoundments receive "about the right amount of use."

Current operations of the Penobscot Mills Development result in annual water level fluctuations of as much as 22 feet at the North Twin impoundment (North Twin, South Twin, Pemadumcook, and Elbow lakes) and 6.2 feet at Millinocket Lake. Since 1972, the North Twin impoundment has sustained a maximum draw-down of 9.7 feet during the summer recreation period; average draw-down was 1.5 feet. During the same time, Millinocket Lake experienced a maximum draw-down of 3.4 feet and an average draw-down of 0.6 feet. Draw-downs expose boaters and waterskiers to navigation hazards, increase the distance to the

water for swimmers, and make use of private docks and public boat launches (i.e., Barton's) more difficult.

The Millinocket, Dolby, and East Millinocket developments operate in run-of-river mode; maintenance and flashboard failure cause minimal water level fluctuations.

Several entities suggest that Millinocket Stream and the Back Channel may offer whitewater boating opportunities (letter from D. Sosland, CI, February 29, 1992). The "AMC River Guide" describes the 7.8-mile section of Millinocket Stream from Millinocket dam to the bridge at Millinocket as containing Class II rapids and quickwater. Currently, the stream receives a minimum flow of 20 cfs and is navigable only during spillage periods. The "AMC River Guide" describes the 4.5-mile the Back Channel as offering Class III and Class IV rapids mixed with flatwater. The Back Channel is navigable during spillage periods. Recreational fisheries in the Penobscot Mills Project area include both coldwater and warmwater species. The landlocked salmon fisheries of North Twin impoundment and Millinocket Lake receive approximately 5,000 and 2,400 angler-days of use, respectively. Anglers also target lake trout, burbot, and lake whitefish. Estimated use of Dolby Pond ranges between 1,200 and 1,800 angler-days annually, directed primarily at smallmouth bass, chain pickerel, and white perch. Millinocket Stream is stocked annually with brook trout and contains smallmouth bass and some salmon that drop down from Millinocket Lake. Quakish Lake, Ferguson Pond, and the riverine sections within the project area also receive some fishing pressure.

3.10.5 Future Demand for Recreation

The 1988 SCORP evaluated the adequacy of 16 kinds of outdoor recreation activities by travel region and projected deficiencies in the Katahdin/Moosehead Travel Region for boating/fish access, canoe access, and family and primitive camping. These needs are regional, not necessarily project-specific. DOC stated that existing recreational facilities within the project area, including water access, are adequate to meet current demand.

The 1993 SCORP also projected statewide trends over the next 5 to 10 years for various outdoor recreational activities including:

- Moderate-growth activities (0.9 to 3.0 percent increase in annual user days)

  - canoeing and kayaking
  - cross country skiing
  - lake and pond fishing
  - hunting

- Small-to no-growth activities (0.9 percent increase to 0.9 decrease in total annual user days)

  - primitive camping
  - river and stream fishing
  - hiking
  - ice fishing
  - snowmobiling

The 1993 SCORP recognizes that recreational use in the northern Maine Woods is increasing. Visitor days have increased a total of 26.5 percent since 1980, although annual growth rates have slowed to 1.2 percent since 1987. Hunting, camping, hiking, and rafting visits are the major contributors to this growth.

3.10.6 Access for People with Disabilities

No specially designed access to recreational facilities is available for people with disabilities.

3.11 LAND USE ISSUES

3.11.1 Regional

The Ripogenus Project and Penobscot Mills Project areas lie within a remote, forested region of northern Maine. Commercial forestry operations are the predominant land use, and the small towns in the region developed around past and present forestry operations.

GNP owns roughly 2.1 million acres of woodland in northern Maine, much of which lies within the watershed of the West Branch of the Penobscot River. GNP owns in fee or holds flowage rights to all the project lands and most land surrounding the project area. Development within the region, primarily by GNP, includes forestry-related access roads, paper mills, and hydropower facilities. Recreation development consists of private and commercial recreational facilities, predominantly lakefront cabins and seasonal camps leased by GNP (1991a, 1991b).

In 1986, LURC evaluated more than 1,500 lakes larger than 10 acres as part of the Maine Wildland Lake Assessment. The assessment rated the value of seven resources: fish and wildlife, scenic quality, shoreline character, botanic features, cultural and historic resources, and physical features (hydrology and geology). LURC combined these ratings to obtain a cumulative resource value and established three resource classes: lakes of statewide significance, lakes of regional significance, and lakes of local or unknown significance. Although the overall project area includes only 22 percent (337 lakes) of the rated lakes, LURC classified seven lakes within the Penobscot Mills Project area and six lakes within the Ripogenus Project area as lakes of statewide significance (table 3-9). The remaining lake in the Penobscot Mills Project area and two lakes within the Ripogenus Project area are rated as having regional significance. LURC did not classify any of the lakes within the project region as having local or unknown significance (Land & Water Assoc., 1993).

3.11.1.1 Maine Land Use Regulation Commission

LURC, which was created in 1969, is responsible for planning, zoning, and land-use regulation for Maine's unorganized townships. Most of the Ripogenus Project and Penobscot Mills Project areas are within unorganized townships.

Table 3-9. Summary of significance classifications of lakes in the Ripogenus and Penobscot Mills project areas (Source: LURC, 1990b)

Lake/Pond	Maine Wildlands Assessment Significance	Lake Mgmt Class	Development			Protection				Municipal		Land Management Agency
			D-GN	D-CI	D-RS	P-GP	P-AL	P-RP	P-SL	M-SL	M-IND	
Ripogenus												
Caribou Lake	Statewide	3			35%	65%						ML
Chesuncook Lake	Statewide	2					83%		17%			ML, MB
Debsconeag D.	Statewide	1						100%				
Ripogenus Lake	Regional	2	20%				80%					ML
TOTAL RIPOGENUS			**3%**		**5%**	**10%**	**60%**	**14%**	**8%**			
Penobscot Mills												
Ambajejus L.	Statewide	3,5	7%		53%	40%						ML
Dolby Pond	Statewide	7		7%		65%				28%		ML. EM, MI
East Millinocket	Not Rated	NR							50%		50%	ML, EM
Elbow Lake	Statewide	3				100%						ML
Ferguson P.	Regional	7								100%		MI
Millinocket L.	Statewide	7	1%		12%	87%						ML
N. Twin L.	Statewide	3			33%	67%						ML
Pemadumcook L.	Statewide	3			10%	90%						ML
Quakish	Statewide	7				100%						ML
S. Twin L.	Statewide	3,5			15%	85%						ML
Shad P.	Not Rated	NR				30%				70%		ML, MI
TOTAL PENOBSCOT			**1%**	**1%**	**13%**	**72%**			**2%**	**10%**	**2%**	
TOTAL COMBINED			**2%**	**1%**	**11%**	**52%**	**20%**	**3%**	**5%**	**4%**	**4%**	

ML - Maine Land Use Regulation Commission MB - Maine Board of Parks and Recreation
MI - Town of Millinocket EM - Town of East Millinocket

LURC established three resource-based zoning districts to ensure compatibility of future development with existing land use and natural resources. The zoning districts include Protection, Development, and General Management Districts:

- Protection Districts (P) are areas in which development would jeopardize unusual or fragile natural resources.

- Development Districts (D) are designated areas of existing residential, commercial, industrial, or recreational development where future compatible development is encouraged.

- General Management Districts (M) are existing and recommended areas of commercial forest-product or agricultural use (LURC, 1991).

Each of the three broad zoning districts is divided into subdistricts with specific land-use standards. Two protection subdistricts, Great Pond (P-GP) and Accessible Lakes (P-AL), and one management subdistrict, General Management (M-GN), encompass most of the land area within and adjacent to the Ripogenus Project and the Penobscot Mills Project areas. Other subdistricts within the project areas include development: General Development (D-GN), Residential Development (D-RS), and Commercial Development (D-CI); and protection: Resource Plan (P-RP) and Shoreland Plan (P-SL). Portions of the project areas are within the towns of Millinocket and East Millinocket and subject to local zoning regulations (MUN-SL and MUN-IND). Table 3-10 summarizes the zoning regulations for the Ripogenus Project and Penobscot Mills Project areas.

General land use standards apply to all subdistricts, unless otherwise specified within a particular subdistrict, and include shoreline frontage specifications, minimal setbacks, maximum building height, and vegetative buffers. A minimum of 200 feet of shoreline frontage per dwelling unit is required for residential development along lakes and ponds; 300 feet of shoreline frontage is required for commercial, industrial, or other land uses. A minimum of 150 feet of shoreline frontage per residential dwelling unit is required along streams; 200 feet for commercial, industrial, or other land uses.

LURC requires a minimum setback of 100 feet from the shoreline of lakes and ponds and 75 feet from stream or river shorelines. Structures built within 500 feet of the normal high water mark can be no higher than existing screening vegetation or 25 feet, whichever is greater. Vegetative buffers must be maintained within 75 feet of the high water mark of streams, and 100 feet of the high water mark of lakes and ponds (LURC, 1991).

Protection districts encompass nearly 75 percent of the total lake shoreline in the region (table 3-9). P-GP, which extends 250 feet from the normal high water mark of the designated lakes, encompasses most of the land within both project areas. This subdistrict is used to regulate development and land use to protect the recreation potential, fishery habitat, and scenic character of the designated area.

P-AL is found only in the Ripogenus Project area, along most of the shoreline of Chesuncook Lake (about 80 percent) and Ripogenus Lake (about 80 percent). The P-AL

Table 3-10. Summary of zoning classifications (Source: LURC, 1991)

Zone	Linear Feet Shoreline Per Structure	Setback	Vegetative Buffer	Timber Harvest	Residential Dwellings	Subdiv./ Multi. Unit	Camp-grounds	Perm & Non-Perm Docks/ Boat Ramps
M-GN	N/A	N/A	N/A	Yes	P	No	P	N/A
D-CI	300'	150'	100'	P	No	P	P	P/Yes
D-GN	200'/300'[b]	100'/150'	100'	P	P	P	P	SP/Yes
D-RS	200'	100'	100'	P	P	SP	No	SP/Yes
MUN-SL	100	75'	75'					
P-RP	–	500'	50'	Std/P	No	No	SP	Sp
P-AL	1 mile	100'	100'	P	P	P	SP	SP/Yes
P-GP[a]	200'/300'	100'/150'	100'	Std	P	No	SP	SP/Yes
P-SL1[a] &SL2	150'/200'	75'/100'	75'	Std	P	No	SP	SP/Yes

[a] Timber harvesting regulations prohibit clear cutting within 50 feet of the high water mark.
[b] Includes both residential development/commercial and other development.

MUN-SL - extends 75' of highwater mark
P-AL - extends 500' of highwater mark (Class 2 lakes)
P-GP - extends 250' of highwater mark
P-RP - extends 500' of highwater mark in project; varies under LURC
P-SL1 - extends 250' of highwater mark
P-SL2 - extends 75' of highwater mark

P - permit
SP - special permit
Std - must follow LURC standards
Yes - allowed without permit
No - not allowed

subdistrict extends 500 feet from the normal high water mark. In this zone, single-family detached dwellings are allowed by permit at the rate of one dwelling unit per shoreline mile.

P-RP provides the means for more efficient and effective management of single or multiple protection subdistricts. The P-RP subdistrict permits landowners to develop a resource management plan for a land area. The resource management plan must follow standards developed by LURC and be submitted for review and approval for designation. Upon approval by LURC, land use activities are allowed in accordance with the plan. The P-RP subdistrict applies to areas along the West Branch of the Penobscot River, from Ripogenus dam to Ambajejus Lake within the Ripogenus Project area. The conservation easement there is a required component of the resource management plan. P-SL applies to Chesuncook Lake (about 17 percent) and East Millinocket (about 50 percent).

The M-GN subdistrict encompasses a few small areas within the project region, and most of the land adjacent to it. The M-GN subdistrict areas permit forestry and agricultural management activities. LURC (1991) decided that land areas within this district do not require the special protection provided by the protection subdistricts.

Development districts constitute approximately 15 percent of the total area of lake shoreline in the combined project region. D-GN, which recognizes existing development and encourages compatible development within and adjacent to these areas, is found along previously developed portions of Ripogenus and Ambajejus lakes. D-RS, which encourages concentration of residential development within and adjacent to existing residential areas, is found along Caribou Lake in the Ripogenus Project area and Ambajejus, Millinocket, and Twin lakes in the Penobscot Mills Project area. D-RS requires clustering residential development to protect shorelines along lakes classified as Class 3 (Ambajejus and South Twin). D-CI is found only along a small portion of Dolby Pond.

LURC timber harvesting regulations for P-SL1 and P-GP protection subdistricts include:

- no clearcutting within 50 feet of the normal high water mark, and harvesting activities within this area must maintain a well-distributed stand of trees to protect the aesthetic and recreational value and water quality of the area;

- at distances between 50 feet and 250 feet, harvesting activities may not create single openings greater than 14,000 square feet, and single canopy openings of over 10,000 square feet may not be closer than 100 feet apart; and

- harvesting within 250 feet of the normal high water mark may not remove more than 40 percent of the volume on each acre in a 10-year period.

For P-AL districts the harvesting provisions for 50 to 250 feet described above would apply to the full 500-foot protection zone.

LURC (1991) and DOC (1992) require maintaining unscarified filter strips between the exposed mineral soil and the normal high water mark of surface water areas as indicated below:

Average Slope of Land Between Exposed Mineral Soil and Normal High Water Mark (percent)	Width of Strip Between Exposed Mineral Soil and Normal High Water Mark (feet along surface of the ground)
0	25
10	45
20	65
30	85
40	105
50	125
60	145
70	165

In 1990 LURC established seven management classes based partially on the ratings developed in the Wildlands Lakes Assessment to provide protection plans and development guidelines for designated lakes (LURC, 1990a, 1990b). LURC incorporated some of these guidelines into the land use districts and standards zoning regulations.

Four of the seven management classes apply to the lakes and ponds within the project region. Debsonceag Deadwaters is rated Class 1, and the guidelines include prohibiting development within one-quarter mile of shorelines and restricting permanent vehicular access. Chesuncook and Ripogenus lakes are rated Class 2, and guidelines include restricting density to one dwelling unit per mile of shoreline for areas within 500 feet of the shoreline. LURC incorporated these guidelines into the P-AL subdistrict.

Class 3 designation applies to most lakes and ponds within the Penobscot Mills Project area, including North Twin Lake, Elbow Lake, Pemadumcook Lake, portions of Ambajejus Lake and South Twin Lake, and to Caribou Lake in the Ripogenus Project area. Guidelines for this classification include conserving natural resources while supporting responsible development.

Developed portions of Ambajejus and South Twin lakes are rated Class 5, and guidelines include measures to maintain natural qualities and enhance scenic values. Cluster development is required, except where inappropriate due to site characteristics. Finally, guidelines for Class 7 lakes (Dolby Pond, Ferguson Pond, Millinocket Lake, and Quakish Lake) involve managing lakes for multiple uses, including resource conservation, recreation, and timber production.

3.11.1.2 Shoreland Zoning Act

The Shoreland Zoning Act of 1971 requires municipalities to establish land-use controls for designated shoreland areas. This act protects water quality, aquatic and wildlife habitats, and historical and cultural resources; conserves natural resources; preserves open space; and anticipates and responds to development impacts within shoreland areas.

The towns of Millinocket and East Millinocket encompass approximately 10 percent of the lake shoreline in the project region. These towns adopted zoning regulations that conform

to requirements stated in the Shoreland Zoning Act, including a shoreline zone (MUN-SL) and an industrial zone (MUN-IND). Designated shoreland areas within the project region include sections of Millinocket Lake, Shad Pond, Dolby Pond, and the Back Channel. The areas extend 250 feet from the high water mark of designated lakes and ponds, and 75 feet from the high water mark of designated streams.

Land use controls provided in the Shoreland Zoning Act include a minimum lot area and minimum 100-foot shoreline frontage; structure setbacks of 75 feet; clearing limitations, including a minimum of 75 feet of vegetative buffer along the shoreline; timber harvesting limitations; erosion and sedimentation control; sewage disposal; and provisions for nonconforming uses. The primary land use controls applied within the project region include vegetative buffers and use of selective-cut timbering methods along the stream channels (DEP, 1992).

3.11.1.3 Natural Resources Protection Act (NRPA)

The NRPA establishes a regulatory permitting process to prevent degradation and encourage protection and enhancement of natural resources. Activities that require a permit include removal and displacement of soil, sand, vegetation and other materials; draining; filling; and construction, repair, or alteration of any permanent structure. Permits are processed and regulated by the Maine DEP.

The proposed activity must meet environmental standards set by this legislation. These standards maintain that the proposed activities must not interfere with scenic, aesthetic, recreation, or navigational uses; cause unreasonable soil erosion or sedimentation; unreasonably harm vegetation, aquatic species, wildlife, or habitat; interfere with natural water flow; lower water quality; cause an increase in flooding; or cross river segments identified as outstanding (unless with specified provisions; DEP, 1993a, 1993b).

3.11.1.4 Maine Forest Practices Act (MFPA)

The MFPA provides a consistent and comprehensive perspective on the role of Maine's vast forest resources. It is a catalyst to encourage and promote sustained-yield management and use of forests and related resources. Many acres of forest in Maine are privately owned, and the act provides a means to regulate timber harvesting.

Timber harvest regulations include standards for clear cutting (areas over 50 acres require a forest management plan); regeneration standards (within 5 years of completing timber harvest); and notification before harvest. Forest management and harvest plans must be updated every 10 years and prepared by a licensed professional forester. These plans must outline activities to regenerate, improve, and harvest standing timber crops. Forest management and harvest plans also must include locations of water bodies and wildlife habitats identified by the DIFW.

Failure to comply with regulations leads to fines enforced by state, county, or municipal law enforcement officers. Municipalities considering adopting new ordinances to regulate timber harvest must consult with the Bureau of Forestry (State of Maine, 1989).

3.11.2 Site-specific

3.11.2.1 Ripogenus Project

The primary land uses within the Ripogenus Project area are forestry, water storage, and hydropower facilities. A few small recreational developments occur along the impoundment shorelines. GNP granted approximately 60 leases for private camps and commercial campsites on Ripogenus, Chesuncook, and Caribou lakes.

In 1981, GNP donated a conservation easement defined in the Resource Protection Plan for the Penobscot Waterway (LURC, 1981) starting 400 feet below Ripogenus dam and continuing down to the inlet at Ambajejus Lake. The conservation easement incorporates the lands wholly owned by GNP within 500 feet of the normal high water mark of each side of the Penobscot River measured as a horizontal distance landward of such high water mark, including islands lying within the Penobscot River (LURC, 1981).

The conservation easement established under the LURC P-RP zone prohibits residential and commercial development within 500 feet of the shoreline. Timber harvesting practices within the easement must follow LURC standard regulations requiring written notification of LURC before any harvesting. The Maine Bureau of Parks and Recreation regulates the resource management and recreational use of lands within the easement and on Gero Island in Chesuncook Lake (GNP, 1993b).

LURC regulates most land within both project areas, except for land within Millinocket and East Millinocket. Both towns are developing and updating comprehensive plans.

3.11.2.2 Penobscot Mills Project

Primary land uses within the Penobscot Mills Project area include hydroelectric facilities, impoundments, forestry, pulp and paper industry, and recreation. Most impoundment shoreline consists of undeveloped woodlands and several developed areas. Both private and commercial development are concentrated along Ambajejus, South Twin, North Twin, and Millinocket lakes.

GNP awarded leases to current and retired employees but has issued no new leases since the early 1970's. All existing leases are transferable and renewable annually. In the Penobscot Project area, GNP has granted approximately 823 leases for private camps, commercial camping, guiding services, and boat launches on Ambajejus, South Twin, North Twin, Pemadumcook, and Millinocket lakes.

Land uses in Millinocket and East Millinocket include residential, commercial, industrial, institutional, and rural/undeveloped land. GNP owns most of the undeveloped land within the town boundaries; primary uses are open space and a landfill (East Millinocket, 1993).

3.11.3 Proposed Land Uses

Future land use within the project region is expected to remain similar to current use. The three land regulatory agencies within the project region (LURC, Millinocket, and East

Millinocket) establish goals to protect natural resources and accommodate reasonable growth and development. Future land use issues (pertinent to the project region) anticipated by LURC continue current issues related to river protection, lake protection, forestry regulations, and development.

In its draft comprehensive plan, East Millinocket proposes to implement more structured land use regulations. The proposed districts would include more specific shoreline zoning related to resource protection and land use categories. The town of Millinocket stated land use policies in its draft comprehensive plan: "to regulate, through land use zoning, site development review, permitting, and quality tax records, all future growth and development of the town, recognizing all locational limitations, the local character, and economic importance of the land area" (Millinocket, 1992).

Projected land use development was determined in the Northern Forest Lands Study (USDA Forest Service and Governor's Task Force on Northern Lands, 1990). Large tracts of private forest may remain, but they probably will be concentrated away from accessible lakes and public roads. Forest with the highest value for recreation development is the most vulnerable to changes in land use, including lake shore, river frontage, scenic vistas, and access to alpine ski areas.

The study also indicated that changes in the land base will further encourage forest industry to pursue land development projects. Lakeshores in all but the most inaccessible regions of the Northern Forest probably will be developed, with cottages and year-round homes dotting the shorelines (FS, 1990). Land with lake frontage is in the highest demand. In a 3-year period, 50 percent of all applications for permits to subdivide land involved lakeshore property (FS, 1990).

3.12 AESTHETIC RESOURCES

3.12.1 Regional

The aesthetic resources of the region include diverse water, land-form, and vegetative patterns. The area provides numerous opportunities for viewing wildlife in vast forested lands of diverse vegetation. Distant views include Mount Katahdin and other peaks within Baxter State Park. Visual resources related to water include the flatwater expanses of many lakes and the West Branch of the Penobscot River.

As part of the Maine Wildland Lakes Assessment, LURC (1990b) conducted the Scenic Lakes Evaluation in Maine's unorganized towns using a multistep procedure to identify lakes with the greatest scenic value. The rating criteria included elevation changes in areas surrounding the lakes, shoreline configuration, foreground and background relief, vegetation diversity along the shoreline, presence of inharmonious development, and presence of special features (such as extreme water clarity or wildlife viewing). Four lakes within the project areas were rated as having "outstanding scenic significance," and two were rated as being "significant."

Structures within both project areas are primarily limited to seasonal camp buildings and project structures, including dams, powerhouses, pumping stations, and paper mills.

Several national historic structures, such as the Ambajejus Boom House and Chesuncook Village, are noted historic and visual landmarks of the region.

Shoreline development within the region consists primarily of seasonal private and commercial camps. The type and extent of development vary considerably (Dewan & Assoc., 1990a, 1990b). The shorelines of the most heavily developed area are irregular with many inlets and peninsulas.

Forestry clear cutting practices often have visual impacts within the region. LURC and the MFPA regulate forestry practices within the Ripogenus Project and Penobscot Mills Project areas. Timber harvesting regulations define the size and location of allowable clear cutting and provide measures for limiting the visual impacts related to forestry practices.

3.12.2 Site-specific

3.12.2.1 Ripogenus Project

Significant visual elements within the Ripogenus Project area include the Ripogenus impoundment, Ripogenus dam, McKay station, and the transmission line from McKay station to Millinocket. Ripogenus dam creates a 29,270-acre impoundment consisting of three lakes and three ponds. The shorelines of these lakes and ponds are largely undeveloped, and the primary uses of the surrounding land are forestry (timber production and transportation) and recreation.

The transmission line between McKay station and Millinocket is supported primarily by wooden structures that blend into the surrounding forest. The Ripogenus dam itself is visually significant within the region. Sightseers are drawn to the dam to view its massive size and engineering accomplishments. The impoundment created by the Ripogenus dam provides many views of lakes and shorelines. None of the lakes within the Ripogenus Project area have scenic ratings; however, LURC did identify Ripogenus Lake and Chesuncook Lake as warranting further evaluation (Dewan & Assoc., 1990b).

Annual draw-down levels for the Ripogenus impoundment averaged 16.5 feet and ranged up to 30.6 feet during the period of record for GNP's flow analysis (1970 to 1985). Draw-downs expose the shoreline.

Development along the impoundment occurs in three areas: Chesuncook dam, Chesuncook Village, and along the western shoreline of Caribou Lake. Development consists of private and commercial camps, most of which are seasonal camps on sites leased from GNP. Structures are diverse and located primarily along the shorelines.

Upper Gorge is also an important scenic destination. Stretches of Upper Gorge contain sheer vertical walls that rise 75 feet above the riverbed. Motorists can view the West Branch from points along Golden Road from Abol Ridge to McKay station (Dewan & Assoc., 1990b).

3.12.2.2 Penobscot Mills Project

Significant visual resources of the Penobscot Mills Project include the five impoundments and associated structures. Most of the project structures are positioned in inconspicuous locations and are screened from major public highways. The principal access to the project area, State Route 11, offers periodic views of the lakes, ponds, and surrounding distant hills (Dewan & Assoc., 1990a).

All lakes in the North Twin impoundment (except Ambajejus Lake) are designated as "outstanding scenic resources" because of numerous islands, shorelines and beaches, diverse vegetation, and views of Mount Katahdin. Ambajejus Lake and Millinocket Lake are rated as "significant scenic resources." No other lakes within the Penobscot Mills Project area are rated for scenic resources value (Dewan & Assoc., 1990a).

The two most developed areas within the project area are the south shore of South Twin Lake and the eastern end of North Twin Lake. The typical development is seasonal camps on land leased from GNP. The typical camp is a one-story structure of modest design and often includes outside storage areas for recreational equipment, household items, or firewood (Dewan & Assoc., 1990a).

GNP controls flow in the West Branch. The primary visual influence of flow management relates to the visual character of several impoundment shorelines and bypass reaches. Project operations cause water levels in Millinocket Lake and the North Twin impoundment to fluctuate. Draw-downs result in seasonal fluctuations in shoreline elevations of up to 6.2 feet (up to 3.4 feet in summer) for Millinocket Lake and up to 22 feet (up to 9.7 feet in summer) for North Twin impoundment. Draw-down of impoundment levels increases shoreline exposure, typically of gravel and boulders.

Diversion of water flow from the bypass reaches exposes rocky streambeds. Current flows in the Back Channel, the bypass reach from Stone dam to Shad Pond, average 2 to 5 cfs, and flows in Millinocket Stream from Millinocket Lake dam down to the town of Millinocket average 20 cfs.

3.13 CULTURAL RESOURCES

3.13.1 Regional

3.13.1.1 Prehistoric

A few site discoveries indicate that Paleo-Indians camped and hunted large game within the region, specifically within the Ripogenus Project and Penobscot Mills Project areas, around 9000 to 7000 B.C. Evidence of the archaic period occupations, typically hunter-gatherer groups, is more common than evidence of the Paleo-Indian in the Penobscot drainage. These populations range from the early archaic (ca. 7000 to 5500 B.C.), to middle archaic (ca. 5500 to 4000 B.C.), and late archaic (4000 to 1000 B.C.). Late archaic period sites, the most common sites identified in the project region, are found along the lower Penobscot River (GNP, 1991a, 1991b).

Woodland era populations (ca. 1000 B.C. to 1550 A.D.) occupied the entire Penobscot River drainage basin and nearby waterways. The woodland culture of this era continued earlier hunter-gatherer patterns of subsistence. The Penobscot Indians, a riverine tribe, resided along the streams and lakes within the project area. The Penobscot Indians, whose population numbered as many as 3,300 in the early 1600's, were reduced to 200 people by the late 1700's. Various aboriginal groups remained widespread in the region until the late 18th century, when they gathered along the main stretch of the lower Penobscot River (GNP, 1991a, 1991b).

3.13.1.2 Historic

Euro-American occupation began with settlement of the Penobscot River valley after the resolution of the French and Indian War in the 1760's. Before 1828, activities within the region focused on exploration and trapping. Demand for timber led to a number of exploratory surveys during the late 18th and early 19th centuries. Joseph Treat surveyed the Penobscot Mills area for land and timber resources in 1820 under an agreement with the state of Maine. In 1829, Thomas Fowler, Sr. established the first permanent Euro-American settlement in the local area (GNP, 1991a, 1991b).

3.13.1.3 Pulp and Paper Industry

The first large-scale lumbering operation within the region began in 1828 along the West Branch near present-day East Millinocket. Primary settlements along the West Branch consisted of lumber camps and small outposts. Timber companies constructed log-driving dams at narrow or steep falls to improve transport of harvested logs to mills downstream. The Chesuncook dam, built in 1840 at the outlet of Chesuncook Lake, was one of the earliest dams in the region (GNP, 1991a, 1991b).

In 1846, the Maine legislature chartered the Penobscot Log Driving Company (PLD) to lessen the cost and difficulty of small drives within the region. PLD contracted with numerous companies to construct and improve dams, canals, sluices, and booms. Construction included approximately 137 dams on the West Branch and surrounding tributaries.

GNP, founded in 1898, quickly became the largest lumbering company in the region. Originally, the company owned 338,000 acres, predominantly within the region of the West Branch of the Penobscot River. GNP expanded its land holding to include more than 2.1 million acres; contracted with hundreds of loggers; and quickly became a great, regional economic influence (Rolde, 1990).

Millinocket mill, constructed in 1899, was the first mill in the region and the largest newsprint mill in the United States. By 1900, the population of Millinocket rose to 2000 people, and the town incorporated on March 16, 1901. GNP built a second mill, the East Millinocket mill, in 1906, and by 1907 the town of East Millinocket incorporated. Hardy S. Fergusen, recognized as one of the world's foremost pulp and paper mill engineers, designed Millinocket mill, East Millinocket mill, and Ripogenus dam (GNP, 1991a, 1991b).

3.13.2 Site-specific

3.13.2.1 Ripogenus Project

GNP built several dams within the Ripogenus Project area to meet increasing needs for water storage and power for the mills. The Chesuncook dam, built in the 1840's, was the earliest. Subsequent dams built to increase water storage capacity included a small dam (1865) downstream from Chesuncook dam, and a timber crib dam (1887) upstream of the Ripogenus dryway dam.

Ripogenus dam, built between 1915 and 1916, significantly increased the water storage capacity and size of the impoundment, submerging the former Chesuncook dam. Ripogenus dam has remained virtually unchanged since that time. In 1950, GNP built McKay station at the lower end of Ripogenus Gorge (GNP, 1991a).

National Register and Significant Sites. Phase I and Phase II archeological surveys identified 130 aboriginal sites; 73 were attributed to known periods of prehistory and history, and at least 36 sites were considered potentially eligible for the National Register (GNP, 1991a). Subsequent research and consultation with the SHPO led to a final recommendation that 15 sites be considered for Phase III mitigation (GNP, 1992b).

Chesuncook Village is listed in the National Register of Historic Places, recognizing its importance as a frontier logging settlement. The village incorporates the original log shanty constructed in 1849, the Chesuncook House built in 1863, and a boom house constructed at the head of Chesuncook Lake in 1911. GNP moved the boom house and converted it to a church in 1923.

Ripogenus dam, a significant achievement in controlling water resources in Maine, is eligible for the National Register of Historic Places. A draft National Register nomination completed in 1992 specifies the contributions of Ripogenus dam to the broad patterns of history, significant engineering, and industrial development in the Penobscot River Valley (GNP, 1991a).

Overall Significance. The significance of the sites identified within the project region relates to both regional and local aboriginal history and prehistory. Past studies in Maine focused upon coastal locations, limiting the archeological surveys of inland riverine areas and populations. Archeological research for the Ripogenus and Penobscot Mills and projects provides valuable information for formulating models of interior aboriginal adaptations over time. This research is significant beyond local applications and contributes to regional studies throughout Maine (GNP, 1991a, 1991b).

3.13.2.2 Penobscot Mills Project

The Penobscot Mills Project consists of four developments along the West Branch and one located at the outlet of Millinocket Lake. North Twin dam and Millinocket Lake dam are on sites of previous dams. Dams built during mill construction, Stone dam (1899), North Twin dam (1903), and East Millinocket dam (1906), remain primarily unchanged.

The Dolby Development was constructed in 1906 because the East Millinocket impoundment, which was originally intended to be larger, was inadequate. Dolby station originally served as a combination pulp mill and generating station and was converted from a hydromechanical to hydroelectric station in 1925. The dam created Dolby Pond and has remained unchanged since construction (GNP, 1991b). The Millinocket Development includes Millinocket Lake dam, built in 1910, and a pumping station and pumphouse built in 1950.

National Register and Significant Sites. Preliminary archeological surveys conducted during 1981 and 1985 indicated that the West Branch area below McKay station had been an occasional prehistoric route; there was no evidence of permanent or long-term settlement. Aboriginal populations occupied the Penobscot River drainage during the late Paleo-Indian period and throughout later periods. Artifacts discovered include lithic, ceramic, and organic remains (GNP, 1991b).

The University of Maine at Farmington Research Center conducted further archeological surveys and testing during 1987 and 1988 to identify sites within the project region that may be eligible for listing on the National Register of Historic Places. A total of 124 aboriginal sites were identified and verified; 78 sites were attributed to known periods of prehistory and history, and at least 25 sites were considered potentially eligible for the National Register. Subsequent research and consultation with the Maine SHPO led to a final recommendation that seven sites be considered for mitigation (GNP, 1992a).

The Ambajejus Boom House, built in 1907 at the head of Ambajejus Lake, is one of the most significant remaining buildings of the lumbering culture of the West Branch. The Ambajejus Boom House is listed in the National Register, recognizing the importance of logging operations on the West Branch (GNP, 1991b).

3.14 SOCIOECONOMIC RESOURCES

The Ripogenus and Penobscot Mills projects affect the socioeconomics of the north central Maine counties of Penobscot and Piscataquis and the incorporated towns of Millinocket and East Millinocket. In comments received during scoping, intervenors, residents, and businesses in this region all indicated that continued operation and economic vitality of the GNP paper mills is essential to provide employment and municipal tax revenues that support community services.

3.14.1 Demographic Conditions

3.14.1.1 Population

Although population in the region grew modestly (approximately 7 percent) between 1980 and 1990 (table 3-11), the population of the Millinocket urban area (including Millinocket, East Millinocket, and Medway) decreased by 6.5 percent. The decrease is largely the result of worsening economic conditions and declining GNP employment levels (Millinocket, 1992). This represents the second largest loss in population in Maine during the 1980's.

Table 3-11. Population and rate of growth for Penobscot and Piscataquis counties and Millinocket/E. Millinocket (1980-1990)

Total Population	1980	1990	Rate of Change (%) 1980-1990
Penobscot County	137,015	146,601[a]	7.0
Piscataquis County	17,634	18,653[b]	5.8
Millinocket	7,567	6,959[a]	-8.1
E. Millinocket	2,372	2,166	-8.7
Medway	1,871	1,922	2.7

[a] Population data provided by the town of Millinocket (letter from J. Haskell, Town Planner, town of Millinocket, to J. Kotredes, Town Manager, town of Millinocket, August 28, 1993).
[b] Bureau of the Census, 1980, 1990a.

The number of housing units grew moderately in Penobscot County and Millinocket during the 1980's, whereas Piscataquis County experienced tremendous growth in new housing because of the recreation homes established primarily by Maine residents in the scenic lakes region of upper Piscataquis County (table 3-12).

Table 3-12. Housing units in Penobscot and Piscataquis counties and Millinocket/E. Millinocket, 1980-1990 (Source: Bureau of the Census, 1980, 1990a)

	Housing Units (1980)	Housing Units (1990)	Rate of Change 1980-1990
Penobscot County	49,416	61,359	24.1
Piscataquis County	7,109	13,194	85.0
Millinocket	2,715	2,867	5.5
E. Millinocket	NR	846	NA

3.14.1.2 Employment

Manufacturing accounts for about 16 percent of the employment in Penobscot and Piscataquis Counties (table 3-13). Major employers in the project region are (Millinocket, 1992):

- Bowater/GNP (1,037 employees);
- Millinocket Regional Hospital (205 employees);
- Millinocket Machine and Foundry Company (20 employees); and
- Bangor and Aroostook Railroad (75 employees).

GNP employs approximately 2,000 people in the Millinocket area, which represents about one-third of all jobs in the area. Using the Maine Department of Labor employment *multiplier* of 1.61, GNP supports more than 3,200 jobs in the area. GNP pays more than $121 million in wages/salaries/benefits within Maine, much of which is concentrated in the Millinocket area. Since 1990, the labor force has increased modestly across the state

Table 3-13. Employment by industrial sector for Maine, Piscataquis, and Penobscot counties, 1993 (Source: Bureau of the Economic Analysis, May, 1995).

	Maine Employment by Sector	Percent by Sector	Penobscot County Employment by Sector	Percent by Sector	Piscataquis County Employment by Sector	Percent by Sector
Farm	12,065	1.8%	910	1.1%	236	2.9%
Ag. Serv., Forestry & Fish.	11,184	1.6%	801	1.0%	130	1.6%
Mining	305	0.0%	30	0.0%	D	
Construction	38,923	5.7%	3,768	4.6%	286	3.5%
Manufacturing	98,893	14.6%	11,909	14.6%	2,449	30.4%
Transportation and public utilities	27,023	4.0%	4,548	5.6%	419	5.2%
Wholesale trade	26,466	3.9%	3,533	4.3%	D	
Retail trade	130,400	19.2%	16,120	19.8%	1,417	17.6%
Finance, insurance, and real estate	39,292	5.8%	3,247	4.0%	274	3.4%
Services	186,507	27.5%	21,682	26.6%	1,592	19.7%
Government						
Federal, civilian	16,159	2.4%	1,178	1.4%	62	0.8%
Military	14,049	2.1%	847	1.0%	103	1.3%
State and local	77,627	11.4%	12,800	15.7%	1,093	13.6%
Total	678,893	100.0%	81,373	100.0%	8,061	100.0%

D = not disclosed for confidentiality.
Note: The above employment data is presented on a place of work basis.

and in the project region. During that period, however, unemployment in Millinocket remained consistently above the state average, often by several percentage points (table 3-14). GNP announced plans to eliminate 200 additional positions during 1994.

3.14.1.3 Income

Traditionally, Millinocket has had one of the highest income levels in the state, in large part because of the high wages paid by GNP (table 3-15). The 1990 labor contract for the mills established only minor increases in wages for the next 10 years. Declining employment opportunities and incomes may erode the town's ability to provide community services (Millinocket, 1992).

3.14.2 Municipal Services and Government Revenue

Millinocket and East Millinocket provide most public services in the project region, including schools, police, fire and emergency services, and recreation. School officials expect a slight decline in enrollment through 1997; consequently, space in the schools is sufficient.

East Millinocket's total revenue for 1991 was $5.7 million; Millinocket's total revenue was $13.16 million. Property taxes were 65 percent and 63 percent of the total revenue of the towns, respectively.

Table 3-14. Labor force participation in Maine and Penobscot and Piscataquis counties, 1990-92 (Source: Maine Department of Labor Statistical Handbook, 1990, 1991, 1992)

	Labor Force	Number Employed	Number Unemployed	Unemployment Rate
1992 - Maine	662,000	615,000	47,000	7.1
Penobscot Co.	71,820	66,520	5,300	7.4
Piscataquis Co.	8,860	8,110	760	8.5
Millinocket	4,390	3,990	400	9.1
1991 - Maine	647,000	598,000	49,000	7.5
Penobscot Co.	70,980	65,320	5,660	8.0
Piscataquis Co.	8,730	7,910	830	9.5
Millinocket	4,240	3,810	430	10.2
1990 - Maine	635,000	603,000	33,000	5.1
Penobscot Co.	69,540	65,810	3,740	5.4
Piscataquis Co.	8,590	8,030	570	6.6
Millinocket	4,260	3,980	280	6.5

Table 3-15. Per capita and household incomes for Maine, Penobscot and Piscataquis counties and Millinocket/E. Millinocket, 1980-1990 (Source: Bureau of the Census)

	1980 Household Income (per capita)	1990 Median Household Income (per capita)
Maine	$13,816 ($5,768)	$27,854 ($12,957)
Penobscot County	$14,181 ($5,593)	$26,631 ($12,231)
Piscataquis County	$12,260 ($4,990)	$22,132 ($9,919)
Millinocket/ E. Millinocket	$19,840 ($6,829)*	$35,610 ($13,216)

* E. Millinocket not recorded on Table 168 of 1980 Census Draft.

Millinocket and East Millinocket rely on industry, especially GNP, to pay a substantial proportion of local taxes. Bowater/GNP is the primary taxpayer for both Millinocket and East Millinocket, representing 72 percent and 88 percent of the towns' total property tax revenues, respectively.

4.0 ENVIRONMENTAL IMPACTS

Although FERC licenses the Ripogenus and Penobscot projects separately, many of the effects of operating the two projects are linked to such an extent that they cannot be considered independently (e.g., effects on streamflow); therefore, our environmental analyses are described according to the integrated or project-specific effects of the Applicant's Proposal and alternatives, as appropriate.

4.1 GEOLOGY AND SOILS

4.1.1 Applicant's Proposal

Construction activities associated with GNP's proposed enhancements at the Ripogenus Project would cause the only effects on the geology and soils in the project areas. Improvement of boat ramps, construction of changing facilities and additional parking facilities, and development of the Holbrook Stream nursery area could cause minor, short-term impacts. Local disturbances of the vegetation and soil could cause sediment to run off into adjacent waters if not properly contained. GNP has not yet stated how it would minimize these potential impacts. We conclude that a sediment control plan prepared and submitted in accordance with local, state, and federal regulations would ensure that adequate precautions are taken during construction of the applicant's proposed enhancements. GNP proposes no construction at the Penobscot Mills Project; therefore, there would be no construction-related effects or other effects on geology and soils in that area.

4.1.2 Alternatives 1 and 2

These alternatives do not include additional construction activities beyond those proposed by GNP that would affect geology and soils; therefore, these alternatives would have the same effects as the Applicant's Proposal.

4.1.3 No-action Alternative

Under the No-action Alternative, the project would not be modified, and geology and soils would not be affected.

4.2 STREAMFLOW

This section presents our analysis of streamflow at the Ripogenus and Penobscot Mills projects for all alternatives and the effects of alternative flow management on water uses in the West Branch of the Penobscot River. Because flow management at the Ripogenus Project affects the feasibility of managing flows downstream at the developments of the Penobscot Mills Project, we analyzed the effects of the alternatives on streamflow for both projects together.

The feasibility of increasing minimum flow releases from several developments and meeting numerous, apparently conflicting, water management objectives has been a major

point of contention between GNP and several intervenors. GNP developed a water use model to evaluate the consequences of various flow releases at all developments. The CI questioned the validity of the model structure and the accuracy of the output. We evaluated GNP's water use model and concluded that it was appropriate for investigating streamflow issues at the Ripogenus and Penobscot Mills projects (see Appendix D for our evaluation of the model).

GNP conducted numerous model runs and provided extensive results representing various combinations of minimum flows and impoundment draw-down constraints specified by the staff (under the No-action Alternative, existing flows would continue, and no feasibility analysis was necessary). As noted in section 2.3, to define Alternative 2 we considered a range of flows intermediate between those proposed by GNP and those sought by the CI and other parties for greater resource enhancement. In this section, we describe only one set of minimum flows for all developments under the Applicant's Proposal, Alternative 1, and the No-action Alternative, but a range of minimum flows in the Back Channel under Alternative 2 to establish the feasibility of those flows. Table 4-1 summarizes the details of these combinations of flows; sections 4.2.1 through 4.2.3 contain our discussion.

4.2.1 Applicant's Proposal

As described in section 3.3, the West Branch of the Penobscot River includes 20 dams and impoundments, 6 of which are included in the proposed relicensing evaluated in this FEIS. Nearly all the flows within the West Branch are controlled by projects operated by GNP, and GNP manages its system to maximize sustained power generation for its mills in Millinocket and East Millinocket (GNP, 1991a, 1991b). Lake levels were never controlled for other purposes, although the dams and impoundments provide coincidental flood control benefits for the entire river basin. The only minimum flows provided were 200 cfs below McKay station, 20 cfs below Millinocket Lake Storage dam, and 2,000 cfs at Millinocket.

During consultation, various agencies and interest groups requested several changes in project operations for environmental enhancements, including flows and lake level management for recreation, wildlife, and fisheries. To determine the feasibility of meeting various, and sometimes conflicting, flow and lake level management requests, GNP developed a water-use model for the major elements of its hydro system. Appendix D provides details of the model, including which elements of the West Branch it can simulate, and the comments of agencies and interest groups on the model itself. GNP used the model to determine which of the various requested flows could be accommodated and based its determination of the cost of replacement power on the model. Based on these results, GNP developed a Water Use Plan (WUP) to meet as many of the flow requests as are hydrologically and economically feasible. Table 4-1 lists the flows and lake levels proposed as GNP's WUP for the Ripogenus and Penobscot Mills projects.

The water-use model can be used to compare Ripogenus and North Twin impoundment levels and outflows under the proposed WUP with historical operations (same as the No-action Alternative). GNP simulated all the years from 1976 to 1990 and selected a wet year, an average year, and a dry year, defined according to total inflow during the simulation period (see Appendix D, figures D-6 through D-8). GNP constructed the worst-case year (Appendix D, figure D-9) by combining data for the least amount of total available water

Table 4-1. Water use under GNP's proposed water-use plan (Applicant's Proposal), Alternative 1, and Alternative 2, for the Ripogenus and Penobscot Mills projects (Source: GNP, 1991a, 1991b, 1993a, 1993b, 1994; staff)

Water Body	Minimum Flow or Lake Level	Purpose	Time Period
Ripogenus Project			
Upper Gorge			
All Alternatives	100 cfs	salmon fishery	Jul 1 - Sep 30
Applicant's Proposal	leakage (12 cfs)	-	Oct 1 - Jun 30
Alternative 1	50 cfs	salmon fishery	Oct 1 - Jun 30
Alternative 2	30 cfs	salmon fishery	Oct 1 - Jun 30
West Branch below McKay station (All alternatives)	1,800 - 2,300[a]	rafting	May 1 - Oct 15 (0830-1700)
	1,000 cfs	salmon habitat	Jun 8 - Sep 15 (1700-0830)
	400[b]	outage	year-round
	1,000 cfs	North Twin draw-down	Sep 16 - Oct 14
	1,300 cfs (A.P.)	salmon spawning	Oct 15 - Nov 15
	1,422 cfs (Alt. 1 & 2)		Oct 15 - Nov 15
	≥ 1,300 cfs (A.P.)	salmon incubation	Nov 16 - Jun 7
	≥ 1,422 cfs (Alt. 1 & 2)		Nov 16 - Jun 7
Penobscot Mills Project			
North Twin and Millinocket Lake impoundments (All alternatives)	"relatively stable" water levels	wildlife, wetlands, recreation, aesthetics	May 1 - Aug 15
	minimum lake level	lake trout spawning (North Twin)	Oct 15 - Nov 5
	> = minimum lake level	lake trout incubation (North Twin)	Nov 6 - May 1
Back Channel			
Applicant's Proposal	leakage (2-5 cfs)	-	year-round
Alternative 1	350 - 500 cfs	fishery habitat	year-round
Alternative 2	leakage - 165 cfs	fishery habitat	year-round
Millinocket Stream			
Applicant's Proposal	60 cfs	fishery habitat	May 1 - Oct 15
	leakage (20 cfs)	fishery habitat	Oct 16 - Apr 30
Alternative 1	60 cfs	fishery habitat	year-round
Alternative 2	60 cfs		May 1 - Oct 15
	60 cfs or inflow		Oct 16 - Apr 30
West Branch downstream of Millinocket (All alternatives)	2,000 cfs instantaneously (required by state law and 401 WQC)	water quality	year-round

[a] Proposed whitewater recreation flows depend on the day of the week and whether the year is wet or dry; see Section 4.8 for a complete description of these flows.

[b] Other scheduled flows would be resumed as quickly and practically as possible using releases from Ripogenus dam, if necessary, but in no event would the outage last more than 3 days.

for each week from the 15-year period of record available; it is not data from a single actual year but represents the least water available for the period of record to meet various flow requirements and enhancements.

Model results show that the enhancements for this alternative can be accommodated in all years (Appendix D, figures D-6 through D-9; table D-3). In comparison with existing conditions (the No-action Alternative), Ripogenus impoundment elevations may be reduced slightly to provide additional downstream flows. Flows from Ripogenus are more regulated to meet summer whitewater recreation needs and salmon spawning and incubation flows in the fall and winter. Outflows may be reduced during early fall to facilitate North Twin draw-down for lake trout spawning. North Twin impoundment elevations are regulated for several purposes, including to stabilize levels during the summer recreation period. The regulated period is followed by rapid draw-down from mid-August through September to reach a minimum level for lake trout spawning in late October. Impoundment levels are maintained at or above this minimum fall elevation to optimize lake trout incubation. North Twin outflows are at least 2000 cfs to maintain the required minimum flow at Millinocket; flows also are adjusted with the inflows from Ripogenus, Millinocket Lake, and other upstream sources to maintain the desired impoundment elevation. Section 4.4 contains specific details about the effects of GNP's flow proposals on fisheries; section 4.8 discusses effects of the proposed flows on recreation.

4.2.2 Alternative 1

Under this alternative, GNP would provide flows in addition to those in the Applicant's Proposal (table 4-1) in Upper Gorge (50 cfs instead of leakage during the non-summer period), Millinocket Stream (60 cfs year-round instead of seasonally), and the Back Channel (350 to 500 cfs year round instead of leakage). To evaluate flow feasibility with the water-use model, we considered only 350 cfs to the Back Channel. Additional flows to Upper Gorge and Millinocket Stream are too small to be evaluated with the water-use model, and we assumed them to be feasible within the context of overall water use. Although we evaluated the feasibility of only 350 cfs in the Back Channel, the merits of flows other than 350 cfs are discussed in the appropriate resource sections (particularly fisheries and socioeconomics).

Under this alternative, GNP would provide a flow of 50 cfs (38 cfs more than GNP's proposed leakage flow) in Upper Gorge from October 1 through June 30. This amount of flow would not affect water use in the basin, if flow from McKay station was reduced by this amount. If this flow were taken out of Ripogenus storage rather than being obtained by reducing discharge from McKay station, the 20,655 acre-feet of water required to produce a 50-cfs flow would reduce the impoundment elevation by approximately 1 foot, assuming no additional inflow. This additional flow could be provided without affecting water use within the basin. The primary consequence of increased flow would be lost generation and cost to GNP (see section 5.3).

This alternative also would provide a flow of 60 cfs to Millinocket Stream year-round, which is 196 more days of increased flow than proposed by GNP. This flow is equivalent to about 23,000 acre-feet and would reduce the water surface elevation in Millinocket Storage Lake by a maximum of 2.2 feet per year, assuming no additional storage from reduced pumping to North Twin. This reduction of elevation would adversely affect fisheries and

recreation, unless withdrawals to North Twin were reduced. Additional flow to Millinocket Stream could be provided within the context of overall water use within the West Branch, although effects on resources within the lake could be significant.

Model results comparing GNP's proposed WUP (only leakage to the Back Channel) with this alternative (350 cfs to the Back Channel) show that impoundment levels during the wet year and the average year with 350 cfs in the Back Channel would not be significantly different than levels under the Applicant's Proposal (Appendix D, figures D-10 and D-11). All other enhancements could be achieved as proposed. During a dry or worst-case year, however, Ripogenus impoundment levels would be reduced by several feet, and outflows from Ripogenus would have to be reduced below desired levels for 4 to 5 weeks to avoid using storage from the following year (Appendix D, figures D-12 and D-13). These lower flows would occur during the salmon incubation period and could adversely affect survival during the winter. Under this alternative, North Twin impoundment levels would be reduced during a dry year and a worst-case year (Appendix D, figures D-12 and D-13). Lake trout spawning and incubation levels could be maintained during the dry year, but during the worst-case year, the incubation level would drop a foot or more below the spawning level for several weeks during late winter. We estimate that insufficient water would be available annually to meet all flow objectives in 13 percent of years, based on the annual water availability from 1976 through 1990.

The model also shows that summer recreation levels for both the dry and the worst-case years would be lower and less stable than levels under the WUP. Outflows from North Twin during the dry and worst-case years could be maintained above the levels required to meet the minimum flow of 2,000 cfs at Millinocket and 350 cfs in the Back Channel, except for 4 weeks during March. During both years, flows from North Twin would have to be reduced, and the Back Channel flows would have to be curtailed to avoid using storage from the following year to provide the required flow. (The water use model as used in this simulation assumes that flow in the Back Channel and the minimum flow at Millinocket would not be reduced until storage was depleted, even if other resource objectives were not being met.) During the worst-case year, flows from North Twin during this 4-week period would be reduced well below the 2,000 cfs minimum flow required at Millinocket. This flow could be provided from storage for the following year because the North Twin impoundment elevation is higher at the end of the year than at the beginning. The modeling results may overestimate the outflow required from North Twin because GNP assumed that 2,610 cfs would be needed to provide 2,000 cfs at Millinocket, 350 cfs to the Back Channel, and an additional buffer of 260 cfs to account for flow regulation, gate setting, and control equipment sensitivities (letter from J. Carson, GNP, April 5, 1994). The amount of this additional buffer has never been quantified in detail. When spread out over the year, the additional flow for the buffer would be within the amount of flow reduction that occurred during the last 4 weeks of the simulation. During a dry year, the average flow available over the year is within 20 cfs of the amount GNP contends is required to meet flow objectives below North Twin, and for the worst-case year, the average flow is within 80 cfs of this value. Only slight reductions in minimum flow from North Twin, therefore, would be required to meet all flow and impoundment level enhancement objectives.

We note, however, that GNP will be required to establish water flows and impoundment levels in advance to meet resource objectives, such as spawning flows in West

Branch and impoundment recreation levels and lake trout spawning levels at North Twin. Requiring GNP to provide flows to the Back Channel in addition to the 2,000 cfs minimum flow through the mill at Millinocket will make it more difficult to meet the other objectives in years when a significant drop in water availability occurs after one or more operational modes have been established. These types of constraints cannot be simulated by the water use model or by other models such as HEC-5, which are based on simulations of historical water availability.

We conclude that the flow-related enhancements proposed by GNP and 350 cfs in the Back Channel are feasible for maintaining water availability, except during a very dry year, when some enhancements would be reduced. The cost to GNP and the reduction in generation, however, would be significant (see sections 2.4 and 5.3). In these dry years, the Back Channel and minimum flows through the mill at Millinocket would have to be reduced, over-year storage would have to be used, or other upstream resource enhancements would not be met.

4.2.3 Alternative 2

Under this alternative, GNP would provide flows of 30 cfs in Upper Gorge and Millinocket Stream instead of leakage during the non-summer period, and flows of up to 165 cfs in the Back Channel year-round. To evaluate flow feasibility with the water-use model, we evaluated only 165 cfs to the Back Channel (Appendix D, figures D-14 through D-17; table D-5); however, habitat improvements and costs associated with flows ranging from 50 to 165 cfs are discussed in the appropriate resource sections (particularly fisheries and socioeconomics).

We evaluated a flow of 30 cfs in Upper Gorge from October 1 through June 30. This flow would not affect water use in the basin, if flow from McKay station was reduced by this amount. If this flow was obtained from Ripogenus storage rather than by reducing discharge from McKay station, the 9,780 acre-feet of water required to produce a 30 cfs flow would reduce the impoundment elevation by approximately 0.5 feet, assuming no additional inflow. This additional flow could be provided without affecting water use within the basin. The primary consequence of increased flow would be lost generation and cost to GNP (see section 5.3).

We evaluated a flow of 30 cfs to Millinocket Stream from October 1 through April 30, which is 10 cfs more than proposed by GNP for 196 days. This flow is equivalent to about 3,900 acre-feet and would reduce the water surface elevation in Millinocket Storage Lake by a maximum of 0.8 feet per year, assuming no additional storage from reduced pumping to North Twin. Fisheries and recreation would be slightly affected by this reduction in elevation, unless withdrawals to North Twin were reduced. This additional flow to Millinocket Stream could be provided within the context of overall water use within the West Branch, and impacts on other resources would be minimal.

Results for simulations with 165 cfs in the Back Channel show little or no difference from the GNP WUP during the wet and average years (Appendix D, figures D-14 and D-15), and all other enhancements could be achieved as proposed. During a dry year or worst case year (Appendix D, figures D-16 and D-17), however, Ripogenus impoundment levels would be reduced by a few feet and outflows from Ripogenus would have to be reduced below desired

levels for 4 to 5 weeks to avoid using storage from the following year. These lower flows would occur during the salmon incubation period and could adversely affect survival during the winter. During dry and worst-case years, North Twin impoundment levels would be lower under this alternative than under GNP's proposed WUP. Lake trout spawning and incubation levels could be maintained during a dry year, but during the worst-case year, the incubation level would drop a foot or more below the spawning level for several weeks during late winter. We estimate that sufficient water would be available to meet all flow objectives, based on the annual water availability from 1976 to 1990.

The model also shows that summer recreation levels for both the dry and the worst-case years would be lower and less stable than levels under the WUP, although not as low as under Alternative 1. Outflows from North Twin during the dry and worst-case years could be maintained above the levels required to meet the 2,000 cfs minimum flow at Millinocket and 165 cfs in the Back Channel at all times. These modeling results probably exaggerate the inability to meet all flow-related enhancements because GNP assumed that 2,420 cfs would be needed to provide 2,000 cfs at Millinocket, 165 cfs to the Back Channel, and an additional buffer of 255 cfs to account for flow regulation, gate setting, and control equipment sensitivities (letter from J. Carson, GNP, April 5, 1994). The amount of this additional buffer has never been quantified in detail.

We conclude that the flow-related enhancements proposed by GNP and flows as great as 165 cfs in the Back Channel are feasible for maintaining water availability, except during a very dry year, when some enhancements should be reduced. The cost to GNP and the reduction in generation, however, would be significant for substantial the Back Channel flow releases (see sections 2.4 and 5.3).

4.2.4 No-action Alternative

Under the No-action Alternative, existing project operations would not change, and existing streamflows or impoundment levels would not be affected. The existing minimum flows would continue at 200 cfs below McKay station, 20 cfs below Millinocket Lake dam, and 2,000 cfs at Millinocket Mills, and no additional flow or lake level enhancements would be provided. The flows and elevations would continue as illustrated in Appendix D, figures D-6 through D-9.

4.2.5 Summary

Because streamflow issues and relevant model output are complex, we provide this summary of our findings.

- Under the Applicant's Proposal, sufficient water would be available to provide all proposed flows and lake level enhancements, even under a worst-case scenario with minimum available water.

- Under Alternative 1, available water would be sufficient to provide most flow enhancements considered, including flows up to 350 cfs in the Back Channel, except during very dry years. During dry years, not all enhancements could be satisfied simultaneously. Some enhancements (e.g., salmon incubation flows in

the West Branch below McKay station, North Twin summer recreation impoundment levels) could be adversely affected, or storage from the following year could be depleted to maintain the Back Channel flow and the required minimum flow at Millinocket. Under a worst-case scenario, it may be necessary to reduce the 350-cfs flow to the Back Channel, the minimum flow through the mill at Millinocket, or the over-year storage from Ripogenus and North Twin to achieve other enhancements.

- Under Alternative 2, available water would be sufficient to provide all proposed flow enhancements, including flows up to 165 cfs in the Back Channel, except during very dry years. During dry years, not all enhancements could be satisfied simultaneously. Some enhancements (e.g., salmon incubation flows in the West Branch below McKay station, North Twin summer recreation impoundment levels) could be adversely affected for a short time, or storage from the following year could be depleted unless the Back Channel flow or the required minimum flow through the mill at Millinocket were curtailed.

- A draw-down limit on Ripogenus would preclude attainment of downstream uses, such as salmon incubation flows in the West Branch of the Penobscot River below McKay station and lake trout incubation levels in North Twin, particularly during dry years. In addition, flood control benefits would be significantly reduced even with a modest draw-down limit on Ripogenus, as is discussed further in Appendix D.

4.3 WATER QUALITY

Water quality throughout all Ripogenus and Penobscot Mills project waters is generally very good; nearly all waters meet state water quality standards for coldwater fisheries (see section 3.4). Only three, site-specific water quality issues were identified during the scoping process: mercury concentrations in the impoundments, DO concentration in Dolby Pond, and water quality in the Back Channel.

4.3.1 Applicant's Proposal

4.3.1.1 Impoundment Mercury Concentrations

Methyl mercury can accumulate in living tissue and cause toxic effects on the nervous systems of people and wildlife that consume contaminated fish. Several intervenors expressed concern about mercury contamination within the projects' reservoirs, the effects of project operations on the cycling of methyl mercury through the food chain, and eventual bioaccumulation of mercury in bald eagles nesting along the banks of the impoundments (FWS, 1992; EPA, 1992; American Rivers et al., 1992).

EPA expressed concern about existing high concentrations of mercury in the sediments of impoundments downstream from the town of Millinocket and the effects of such contamination on aquatic organisms, bald eagles, other wildlife, and humans. American Rivers and its affiliates also suggested that because of the affinity of methyl mercury for clay particles, resuspension of clay particles during reservoir draw-down (through wind and wave

action on exposed sediments during low water levels) could increase the rate of transmission of mercury through the food chain.

FERC requested additional information to determine if fluctuations in impoundment water levels are linked to mercury concentrations in fish and invertebrates. After consulting with FWS, DEP, PIN, and DIFW, GNP developed a study plan that included sampling fish and invertebrates indigenous to the basin for mercury contamination, sampling in reference lakes and impoundments, comparing tissue concentrations with EPA criteria for edible fish tissue, and comparing mercury concentrations in tissues of organisms from other Maine watersheds.

Based on the results of that study, GNP concluded that concentrations of mercury within the study lakes were within the range of concentrations typically found in other Maine watersheds. Mercury concentrations in sediments from Millinocket Lake (0.24 mg/kg) and Dolby Pond (0.69 mg/kg) were slightly higher than concentrations in the other lakes and impoundments (all of which averaged less than 0.19 mg/kg; table 4-2), but these differences were not statistically significant. Mercury concentrations in freshwater mussels were generally below 0.12 mg/kg (except Debsconeage Lake), and concentrations in mussels from the draw-down reservoirs were among the lowest observed in this study (table 4-3). Tissue concentrations in draw-down and reference impoundments were all below EPA criteria.

Table 4-2. Mean concentration of mercury in sediments from selected lakes (adapted from Environmental Science and Engineering, 1992)

Water Body	Number of Samples	Mean Concentration of Mercury (mg/kg)
Millinocket Lake (draw-down)	4	0.24
North Twin Impoundment (draw-down)	8	0.13
Debsconeage Lake (control)	3	0.19
Carr Pond (control)	3	0.15
Schoodic Lake (control)	4	0.09
Dolby Pond	7	0.69
Molunkus Lake (control)	4	0.10
Mattamiscontis Lake (control)	3	0.15

GNP also concluded that mercury concentrations were generally lower in forage and bottom feeding fish than in predatory fish (table 4-3). GNP found no statistically significant differences in the tissue concentrations of mercury in forage and bottom-feeding fish among the sampled lakes; however, lake trout from the North Twin impoundment and Millinocket Lake, both of which have fluctuating water levels, contained high concentrations of mercury.

GNP argues that the higher concentrations of mercury in lake trout do not indicate that periodic draw-down in the reservoirs promotes accumulation. GNP maintains that because lake trout are long lived and on the top of the food chain, they accumulate mercury naturally.

Table 4-3. Average mercury concentrations (mg/kg) found in fish and mussels from reservoirs and reference lakes during the summer of 1992 (adapted from Environmental Science and Engineering, 1992)

Species	Kind of Sample	Trophic Status	Dolby Pond*	Mattamiscontis Lake	Molunkus Lake	North Twin Impoundment*	Millinocket Lake*	Carr Pond	Debsconeage Lake	Schoodic Lake
Lake Trout	Fillet	Predator	-	-	-	1.09	1.20	0.66	0.27	0.28
Smallmouth Bass	Fillet	Predator	0.91	-	0.63	-	-	-	-	-
Chain Pickerel	Fillet	Predator	0.87	0.58	0.68	-	-	-	-	-
Burbot	Whole Fish	Predator	-	-	-	0.59	0.23	-	-	-
Round Whitefish	Whole Fish	Bottom Feeder	-	-	-	-	0.35	-	-	0.18
Lake Whitefish	Whole Fish	Bottom Feeder	-	-	-	0.19	-	0.37	0.40	-
White Sucker	Whole Fish	Bottom Feeder	-	0.22	0.16	0.21	0.18	0.20	0.19	0.16
Rainbow Smelt	Whole Fish	Forage	0.29	-	-	0.21	0.14	0.21	-	-
Brown Bullhead	Whole Fish	Bottom Feeder	0.28	0.08	-	-	-	-	-	-
Freshwater Mussels	Composite	-	0.03	0.08	0.11	0.07	0.03	0.05	0.13	0.09

* Project waters

GNP also states that because tissue concentrations were similar in forage and bottom-feeding fish from draw-down and control reservoirs, the data do not support the conclusion that existing project operations enhance movement of mercury through the food chain.

The most likely sources of mercury in the two impoundments in which water levels fluctuate periodically (North Twin impoundment and Millinocket Lake) are weathering of rock in the watershed and atmospheric inputs. GNP operates two paper mills (which could be point sources of mercury) near the project area, but the effluents of both mills are discharged downstream of the North Twin impoundment and Millinocket Lake. No data are available to document the mercury input to project waters from weathering, but there is no basis for concluding that such inputs to project waters would be different than inputs to control impoundments.

No evidence suggests that long-established impoundments (75 years in the present case) contribute to increased mercury concentrations or increased production of methyl mercury over background concentrations. Research has shown, however, that high concentrations of mercury are commonly found in fish from recently flooded freshwater reservoirs and acidified lakes (Gilmour and Henry, 1991). Stokes and Wren (1987) reviewed literature on mercury levels in new reservoirs in Canada and the United States and found that, 4 years after impoundment, concentrations of monomethyl mercury in fish were two to five times greater than preimpoundment concentrations. Mercury methylation rates may be enhanced during flooding by large additions of nutrients that stimulate the activity of soil bacteria (WHO, 1990; Stokes and Wren, 1987).

GNP's water quality data for project impoundments indicate that most of the water bodies within project boundaries are either neutral or very slightly acidic (GNP, 1991a, 1991b). One of the lowest pH levels (6.6) and the highest water color recorded (which may be indicative of high dissolved organic carbon attributable to humic acid) were found in the deep portion of upper Dolby Pond, the impoundment at which mercury concentrations were high in bald eagles. Although these data suggest that pH and dissolved organic carbon might be contributing to elevated concentrations of mercury in organisms in Dolby Pond (a phenomenon reported in the literature; Wiener et al., 1990), in general, the water quality data do not suggest that acidification or high dissolved organic carbon are likely to be major contributing factors in other project impoundments. The literature, furthermore, does not suggest a mechanism by which project operations could be responsible for low pH and high color that might contribute to mobilizing mercury.

The high mercury levels observed in lake trout are probably a result of the species' top position in the food chain and its longevity, both of which would increase the natural bioaccumulation of mercury. Mercury concentrations were lower in lake trout from control lakes; however, consumption of large amounts of rainbow smelt (the preferred prey for lake trout) in North Twin impoundment and Millinocket Lake may explain the difference. Smelt populations are more abundant in project waters than in other waters in Maine, and smelt is the major prey of lake trout in project waters (Environmental Science and Engineering, 1992). Although mercury concentrations in rainbow smelt were similar in samples collected from Carr Pond and the draw-down impoundments (table 4-3), the higher rate of smelt consumption by lake trout in project impoundments could cause faster and greater accumulation of mercury. Although no definitive explanation for higher mercury levels in some fish species in project

waters is available at this time, all available information leads us to conclude that project operations probably are not the cause of elevated mercury concentrations.

American Rivers and its affiliates suggest that increased resuspension of clay particles complexed with methylated mercury during draw-down could mobilize mercury into the food chain. GNP's measurements of total suspended solids (TSS) revealed that TSS was not higher in draw-down reservoirs than in control reservoirs and lakes (Environmental Science and Engineering, 1992). Existing data, therefore, do not support the hypothesis that resuspension of clay is mobilizing methylated mercury in the draw-down reservoirs.

Based on our review and data presented by GNP, we conclude that current or proposed operation of the projects, including periodic draw-downs of the reservoirs, would not increase mercury levels in the impoundment or the production of methyl mercury.

4.3.1.2 Dolby Pond Dissolved Oxygen Levels

EPA and CI contend that GNP has not adequately investigated the cause(s) of low DO concentrations in bottom waters of Dolby Pond and the possible link to mill discharges (letters from R. Manfredonia EPA, May 21, 1993; D. Sosland, CI, September 3, 1993).

Low DO concentrations during warm months (as low as 0.1 mg/l) have been recorded but not explained (see section 3.4.2.1). Given the abundant accumulation of organic matter within the impoundment, DO deficits probably are natural phenomena caused by biological decomposition of organic matter (possibly aggravated by bark and debris accumulated from historical log drives) in the hypolimnion of the weakly stratified impoundment during warm periods of the year. Mill discharges, however, may enhance biological and chemical oxygen demand and contribute to low DO levels.

EPA renewed GNP's National Pollutant Discharge Elimination System permit in 1992, and DEP issued a WQC for this permit, which stated that "...the discharge described will not lower the quality of the receiving waters below the minimum requirement of their classification."

Although the record contains no evidence to suggest that the mill discharges cause the DO deficits, GNP proposes (in accordance with a DEP WQC condition) to study the relationship between mill discharges and DO concentrations in Dolby Pond and to evaluate possible means of resolving any problems identified. Although EPA suggests delaying licensing pending resolution of this issue, we conclude that a licensing delay is not warranted because the proposed project would continue to operate as it does under existing conditions, and no evidence indicates any current biological effect of what may be natural low DO events. The permitted discharge volume is 55.8 cfs, less than 3 percent of the minimum continuous flow from the Millinocket Development (2,000 cfs), and a much smaller percentage during normal and high flows. The magnitude and frequency of low DO events in Dolby Pond would not be altered under the Applicant's Proposal because GNP proposes no changes in project operation.

4.3.1.3 Back Channel Water Quality

CI, TU, and EPA initially identified their concerns about water quality in the Back Channel in their motions to intervene, dated August 1992. In more recent comments dated from May to September 1993, all parties state that the current flow regime is not adequate to meet the state water quality standards, particularly the designated use standards of navigation and aquatic life criteria (letters from M. Huntington, CI, April 30, 1992; C. Gauvin, TU, May 24, 1993; R. Manfredonia, EPA, May 21, 1993).

Under both existing and proposed operating conditions, the Back Channel would receive flows varying from leakage (2 to 5 cfs) to 29,000 cfs (periodic high-volume spillage). In its WQC for the Penobscot Mills Project, the DEP waived its authority to certify that the Back Channel would meet Class C water quality standards. No data in the record indicate that numerical standards for DO are not being met; however, we agree with various intervenors that water quality in the Back Channel is unlikely to meet the Class C standards for designated uses, which include navigation. We conclude that the proposed flow regime (leakage and spillage) would allow navigation through this 4.5-mile section of river only during spill conditions; however, there is no apparent demand for recreational boating in this river reach at present. (See section 4.4 for discussion of fish habitat as a designated use.)

Using existing conditions as the baseline, we conclude that GNP's proposed projects would not affect water quality in the Back Channel because GNP proposes no changes in the existing flow regime. We also conclude that there is no compelling basis for challenging the state's decision to waive certification for the Back Channel.

4.3.1.4 Cumulative Impacts

Initial construction of all the project developments converted free-flowing river segments into impoundments, which generally have very low flushing rates. Although this original habitat modification changed water quality (e.g., greater diurnal temperature variation and higher oxygen levels in rivers; stratification with lower DO in deep layers in impoundments), the Applicant's Proposal would not alter existing water quality regimes in project waters. We conclude, therefore, that the Applicant's Proposal would result in no new or additional cumulative impacts on or enhancements of water quality.

4.3.2 Alternative 1

4.3.2.1 Impoundment Mercury Concentrations

Under this alternative, flows would be increased to enhance fisheries throughout the project area, which would cause more rapid impoundment draw-down and expose larger areas of impoundment substrate. Our evaluation of the mercury issue indicates that project operations, including impoundment draw-down, probably do not increase mercury concentrations in project waters. This alternative, therefore, would create no potential for further elevating existing mercury concentrations, nor would it reduce existing mercury concentrations.

4.3.2.2 Dolby Pond Dissolved Oxygen

Increased flows in the Back Channel under this alternative (discussed in section 4.4) might enhance dissolved oxygen concentrations in water entering Shad Pond and then passing into Dolby Pond. Given the flow amounts and the large volumes of the impoundments, however, the possible slight increase in DO would not alter existing oxygen conditions in Dolby Pond. Oxygen conditions in Dolby Pond under this alternative, therefore, would be the same as under the Applicant's Proposal.

4.3.2.3 Back Channel Water Quality

This alternative includes proposed flows of 350 cfs in the Back Channel to maximize habitat for fry and juvenile salmon, as discussed in section 4.4. Although no low DO values or elevated temperatures have been documented in the Back Channel under existing conditions, the 350 cfs flow would reduce the potential for degraded water quality, enhancing aeration and flushing rates. Under this alternative, therefore, water quality probably would be enhanced and protected against potential degradation under worst-case summer conditions. Flows as high as 350 cfs still would not provide sufficient water for navigation of the Back Channel (see section 4.8); consequently, this flow regime probably would not be sufficient to meet all Class C water quality criteria, as requested by some intervenors.

4.3.2.4 Cumulative Impacts

Increased flow in the Back Channel is the only measure associated with this alternative that could alter existing cumulative impacts on water quality. We conclude that the potential slight improvement in DO concentrations would not affect oxygen conditions in downstream waters. There are, therefore, no cumulative water quality enhancements or impacts associated with this alternative.

4.3.3 Alternative 2

4.3.3.1 Impoundment Mercury Concentrations

Under this alternative, impoundment draw-downs would be somewhat greater than under the Applicant's Proposal, but less than under Alternative 1. Project operations, including impoundment draw-down, under the Applicant's Proposal probably would not increase mercury levels in project waters. This alternative would neither increase nor reduce existing mercury concentrations.

4.3.3.2 Dolby Pond Oxygen Levels

Under Alternative 2, less flow would be released into the Back Channel than under Alternative 1; therefore, the potential for oxygen enhancement would be less than under Alternative 1. The proposed flows in the Back Channel, therefore, would not affect low DO in Dolby Pond.

4.3.3.3 Back Channel Water Quality

Under Alternative 2, we considered a minimum flow release into the Back Channel that would be higher than leakage but less than the 350 cfs flow proposed in Alternative 1. As discussed under the Applicant's Proposal, any flow higher than leakage would increase flushing rate and aeration in the Back Channel and, thus, protect against water quality degradation during worst-case summer and early fall conditions, when water temperatures are at their seasonal peak. This alternative, therefore, provides greater protection for water quality than the Applicant's Proposal, but less than Alternative 1.

4.3.3.4 Cumulative Impacts

Because flow modifications proposed under this alternative are less than those proposed under Alternative 1, this alternative would result in no cumulative enhancement of or impact on existing water quality conditions in the project area.

4.3.4 No-action Alternative

Under the No-action Alternative, existing project operations would not change, and water quality conditions would not change.

4.4 FISHERIES RESOURCES

Increased flows to benefit fisheries at several locations in the project area is one of the key issues in this licensing process. During scoping, we identified five site-specific fisheries enhancements to be evaluated in this FEIS: minimum continuous flows in the Upper Gorge below Ripogenus dam (Ripogenus Project), minimum continuous flows in Millinocket Stream (Penobscot Mills Project), minimum continuous flows in the Back Channel (Penobscot Mills Project), restrictions on impoundment draw-down to protect impoundment fish stocks (both projects), and provisions for fish passage (both projects).

4.4.1 Applicant's Proposal

4.4.1.1 Upper Gorge Flows

In motions to intervene, PIN, FWS, CI, TU, and EPA stated that flows of 50 to 100 cfs should be provided year-round to enhance habitat for fish and other aquatic life. Since then, FWS commented that the Applicant's Proposal is adequate, given the state's goals of increasing fishing opportunity in this reach (letter from J. Deason, Interior, May 24, 1993). EPA requested provision of flows to meet criteria for aquatic life (letter from R. Manfredonia, EPA, May 21, 1993). PIN deferred to FWS and now accepts the Applicant's Proposal (letter from P. Bisulca, PIN, May 21, 1993). CI, by not changing its request, presumably continues to seek year-round flow enhancements. Other intervenors, however, still recommend higher year-round flows.

The present flow regime in Upper Gorge is leakage (approximately 12 cfs) in addition to spillage, which occurred during 12 of 20 years between 1970 and 1989. Spillage was as high as 11,600 cfs during some events (see section 4.2). Occasional scouring flows of this

magnitude generally occur in unregulated rivers and prevent siltation, which can degrade salmonid habitat by covering the substrate on which macroinvertebrates live and feed and on which salmonids spawn. Such high-volume flows, however, also may prevent early life stages, juveniles, and even adult fish from remaining in the high-gradient, bedrock pool habitat in Upper Gorge.

GNP proposes to increase flows to 100 cfs from July 1 to September 30, with leakage during the remainder of the year to attract adult salmon during the summer fishing season and increase fishing opportunity within this reach (see section 4.8 for further discussion of fishing opportunity). Based on GNP's 1989 habitat-based flow study, this flow enhancement would increase the amount of adult salmon habitat in the reach from 41,869 to 71,707 square feet (71 percent; figure 4-1). GNP did not conduct habitat analyses for any species other than salmon because these waters are managed only for this species.

DIFW, which consulted with GNP during the habitat study, accepts the Applicant's Proposal (LURC, 1993). DIFW has identified no overwintering or spawning habitat in Upper Gorge and, thus, no benefit for salmon from winter and spring flows. The scouring spillage flows during the spring also are likely to displace any fish that may occupy the area during the summer. The IFIM results for juveniles and fry (figure 4-1) show that fry habitat declines to nothing at 100 cfs, and that juvenile habitat declines precipitously at flows above 100 cfs, which supports DIFW's position. LURC adopted the Applicant's Proposal as a condition of its WQC.

The proposed seasonal flow enhancement would improve habitat for adult salmon and may benefit other aquatic organisms. Year-round flows of any magnitude also might enhance habitat for other fish species and other aquatic life seasonally, but any improvements probably would be eliminated by the periodic high-volume spillage. Year-round flows, therefore, would not provide significant long-term benefit to fisheries resources, but GNP's proposed seasonal flow increase probably would draw adult salmon into Upper Gorge and, thus, support additional recreational fisheries.

4.4.1.2 West Branch Flows

CI, TU, FWS, PIN, and EPA all requested an IFIM study of this reach to establish minimum flow requirements. The Commission initially requested such a study but later withdrew this request, stating that the study would provide no new information but would cause GNP considerable expense. The Commission decided against requiring an IFIM study in the West Branch because

- the existing salmon fishery meets or exceeds all of the state's management goals for catch per angler-day and average size per fish caught;
- GNP proposes to create additional nursery habitat along the West Branch (see section 2.1.3.4); and
- GNP's flow proposals were developed from abundant data about the West Branch fisheries resources.

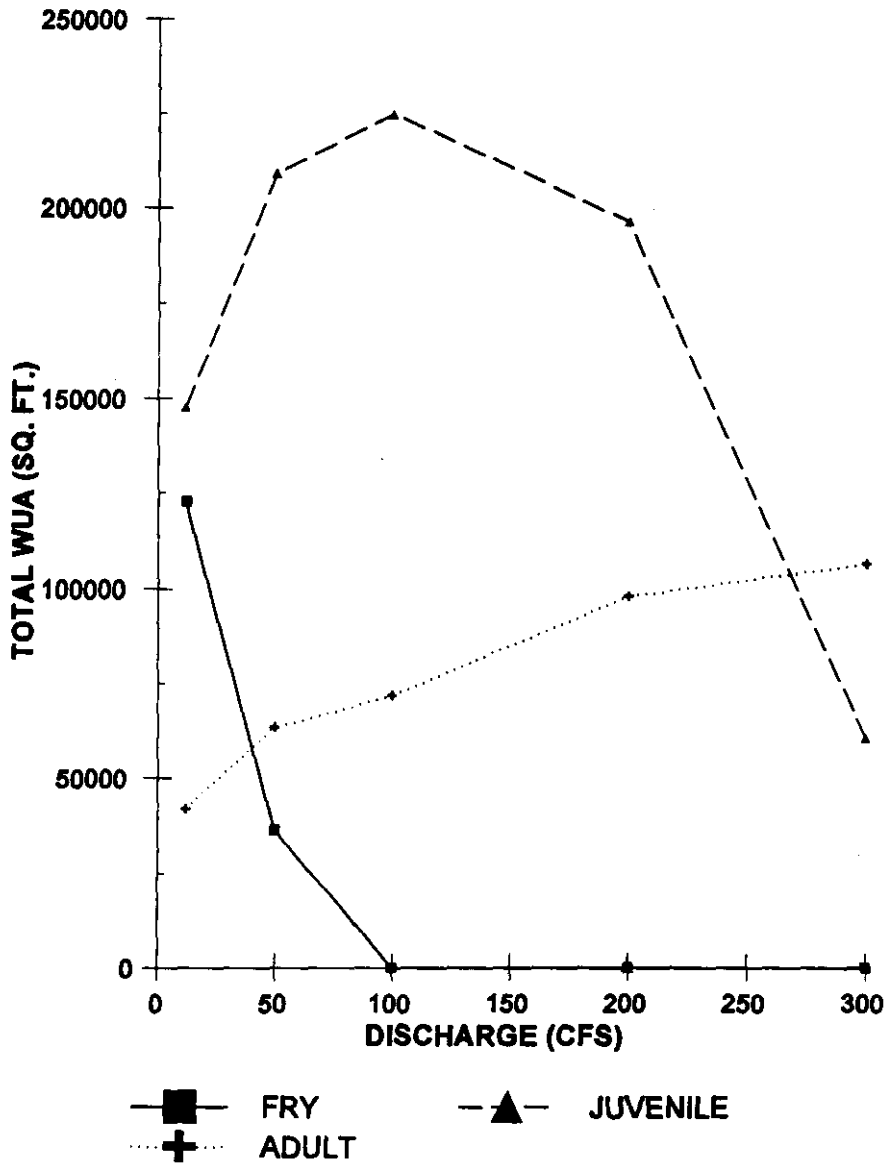

Figure 4-1. Total weighted useable area (WUA) for salmon in Upper Gorge at various flows (Source: GNP, 1991a)

All intervenors continue to request an IFIM study (letters from C. Gauvin, TU, September 10, 1992; P. Bisulca, PIN, May 21, 1993; J. Deason, Interior, May 24, 1993; R. Manfredonia, EPA, May 21, 1993).

The existing minimum flow requirement below McKay station is 200 cfs. GNP proposes an elaborate schedule of flow enhancements related to salmon spawning and incubation and recreational boating. In addition GNP proposes a minimum, short-term (maximum 3 days), emergency outage flow of 400 cfs; flows would be restored to at least 711 cfs (summer aquatic base flow) via spillage from Ripogenus as soon as possible after any emergency shut-down.

GNP delivered its flow enhancement proposals, generally between 1,800 and 2,300 cfs, during consultation with resource agencies and representatives of recreational boating interests (see section 2.1.3.8). Impacts of the proposed flows on recreational resources, including fishing opportunity, are discussed in section 4.8. FWS maintains that fish habitat cannot be assessed accurately until a quantitative, habitat-based flow study (such as IFIM) is conducted (letter from G. Beckett, FWS, September 2, 1993). FWS also contends that the flows in the West Branch below McKay station are artificially high and recommends flows approximately half of those currently being released (letter from G. Beckett, FWS, September 2, 1993). FWS believes that the high flows may be reducing the suitability of salmon nursery habitat.

GNP does not regulate flows during the spawning or incubation periods; however, GNP now proposes to stabilize flows throughout these periods (October 15 to June 7). These flow regulations would increase spawning in the West Branch and survival in the redds, thereby increasing total reproductive success.

According to DIFW, flows of 1,000 cfs maintain a full channel, meaning that the entire channel is wet. GNP estimates that typical flows during the spawning season would range between 1,300 and 2,000 cfs. Based on this information, the proposed spawning and incubation flows would prevent exposure and desiccation of redds. The proposed flows, therefore, would improve reproductive success of salmon in the West Branch.

GNP proposes minimum outage flow enhancements of 400 cfs (automatic, short-term) and 711 cfs (as soon as possible). These flows would be implemented if an emergency required shutting down the turbines. If the outage lasts longer than 3 days, GNP proposes to provide flows of 1,000 cfs. Under historic operating conditions there was a minimum lag time of 20 to 30 minutes between system shut-down at McKay station and restoration of flow in the river while GNP personnel identified the problem at Millinocket and instructed the operator at Ripogenus dam to open the deep gate to restore flows of 200 cfs. The proposed automated system is already in place and enables flows of 400 cfs at McKay station within 10 to 15 minutes of shut-down. Thus, GNP's proposal provides for more immediate, higher flows during plant shut-down.

Impacts associated with outage flows are loss of habitat and degradation of remaining habitat. When flows cease, the only water in the channel is in deep pools. Depending on weather conditions, water temperature can increase, and DO can decrease. These extreme summer conditions can kill fish. Aquatic invertebrates and other aquatic organisms less

mobile than fish also can die from desiccation. Any operational changes that reduce the frequency or duration of outage-related conditions would improve the habitat for aquatic life, including fish, in the West Branch. Because GNP's proposals increase the magnitude of the outage flows and decrease the time necessary to restore flows, we conclude that they would provide a substantial improvement over historic conditions.

Through an agreement with parties interested in recreational boating GNP has generally guaranteed specified seasonal flows during daylight hours. These flows are discussed in sections 4.2 and 4.8. Because the proposed flows are similar to historical flows, they probably would not adversely affect the existing salmon stock.

GNP proposes to develop a salmon nursery area near Holbrook Pool on the West Branch between McKay station and North Twin impoundment. Although plans are not final, resource agencies support the proposal. According to GNP, this enhancement would create approximately 7,000 square yards (70, 100-square yard units) of spawning and nursery habitat (LURC, 1993). Using a production estimate of 5 parr per unit and a survival estimate of 70 percent, this amount of habitat could add 245, 3-year-old fish to the population per year. Although this enhancement is not included as a condition of the WQC, it should be adopted because of the potential benefits of additional nursery and spawning area in the West Branch.

4.4.1.3 Millinocket Stream Flows

CI, EPA, PIN, TU, and FWS all recommend higher year-round minimum flows in this stream despite the Applicant's Proposal to provide flow enhancements during the recreational fishing season (letters from P. Bisulca, PIN, May 21, 1993; D. Sosland, CI, September 3, 1993; R. Manfredonia, EPA, May 21, 1993; C. Gauvin, TU, May 24, 1993; J. Deason, Interior, May 24, 1993).

The existing year-round minimum flow requirement in Millinocket Stream is 20 cfs; however, flows are usually higher because of additional spillage from the dam. The aquatic base flow for this regulated stream is 60 cfs. GNP proposes a flow of 60 cfs from May 1 to October 15, and 20 cfs during the remainder of the year. Several intervenors request a year-round flow of 60 to 80 cfs based on the results of GNP's IFIM study, which was conducted in consultation with DIFW and FWS.

DEP adopted the Applicant's Proposal in the WQC for the project. IFIM studies of flows up to 80 cfs show that habitat for adult smallmouth bass is highest at flows of 30 to 50 cfs; spawning habitat is highest at 50 cfs. As figure 4-2 shows, however, the magnitude of change in habitat quantity is very small over the entire range of flows studied. Spawning smallmouth bass, the only life stage that would benefit from the proposed flow enhancement, would gain 16 percent more habitat. GNP's proposed flows would only slightly enhance smallmouth bass habitat in Millinocket Stream but would have no adverse impact.

WUA for early and late salmon fry declines slightly as flows increase, whereas WUA for juvenile, adult, and spawning salmon increases steadily up to 80 cfs (figure 4-2). Juvenile habitat increases about 15 percent between 20 and 30 cfs, with a lesser rate of increase at additional 10-cfs flow increments. Spawning habitat shows the next greatest increase with increased flow. The amount of spawning and adult habitat that could be created in Millinocket

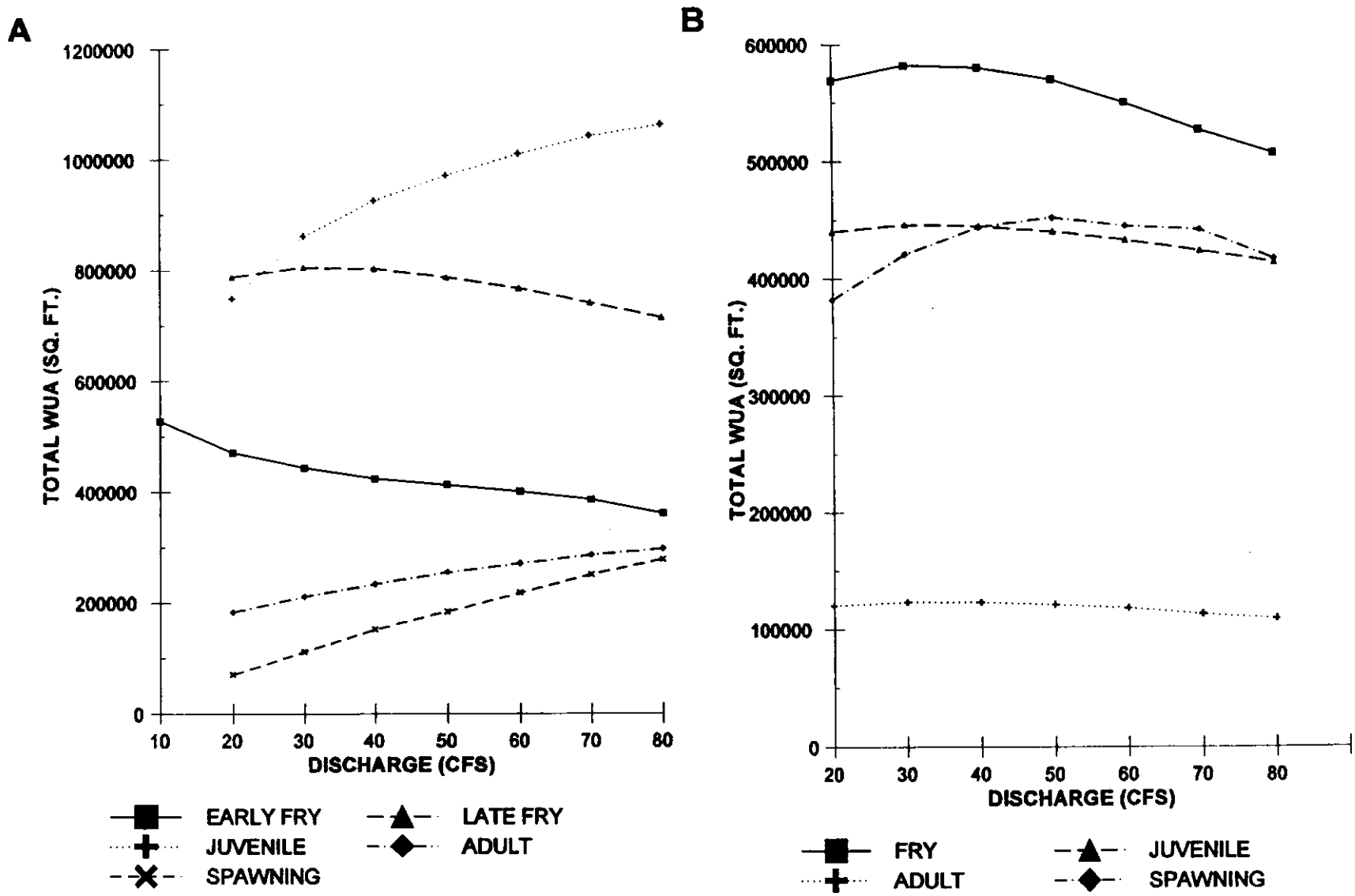

Figure 4-2. Total weighted useable area (WUA) for salmon (panel A) and smallmouth bass (panel B) in Millinocket Stream at various flows (Source: GNP, 1991b)

Stream, however, is limited; IFIM results show that only 200 units of such habitat are present at flows of 80 cfs.

Although these IFIM data suggest that salmon may benefit from flows greater than those proposed by GNP, we conclude that the potential for population growth from increased flows would be small because of the small size of the current salmon population. Redd surveys conducted by GNP identified 21 salmon redds in 1986, 10 in 1987, and 9 in 1988. All redds were found in the upper 2 miles of the 7.9-mile affected stream section that connects Millinocket Lake dam and the Millinocket tailrace.

The presence of small numbers of wild juvenile salmon indicates some degree of successful reproduction; however, adult salmon habitat is not abundant because Millinocket stream has no deep pools (GNP, 1991b). All adult salmon reported in creel surveys of this reach were of hatchery origin and probably entered Millinocket Stream via spillage from Millinocket Lake. There is no indication that existing spawning and nursery habitat contribute to sustaining a wild salmon stock in Millinocket Stream.

GNP's proposed 60-cfs flow from May 1 to October 15 would significantly enhance juvenile and adult salmon habitat (35 percent and 48 percent, respectively). Habitat for early and late fry would be decreased by 15 percent and 3 percent, respectively. GNP's proposed 20-cfs flow during the remainder of the year would maintain existing conditions; however, redds created as a result of the 60-cfs flow provided during the fall spawning period might be desiccated or frozen during the winter because of exposure or decreased water depth when the flow regime returns to 20 cfs after October 15. Winter flows greater than 20 cfs would provide a greater degree of protection and enhancement for salmon redds; however, the salmon stock in Millinocket Stream is small, and a significant increase in the regional abundance of salmon is unlikely, even with enhancements.

GNP proposes to stock brook trout in Millinocket Stream annually. Although such stocking would probably enhance recreational fisheries (see section 4.8), it would not enhance resident fisheries resources. DIFW does not manage Millinocket Stream as brook trout habitat.

4.4.1.4 Back Channel Flows

GNP proposes no minimum flow for the Back Channel. IFIM studies show that the Back Channel encompasses between 200,000 and 400,000 square feet of habitat for juvenile and fry life stages of landlocked salmon under leakage flows, and no adult or spawning habitat (figure 4-3). Although juvenile habitat increases rapidly with increasing flow, only a very limited amount of adult and spawning habitat (about 100,000 square feet) is created at flows as high as 700 cfs. We conclude that GNP's proposed project would not significantly alter existing conditions, nor would it enhance existing fisheries habitat in the Back Channel.

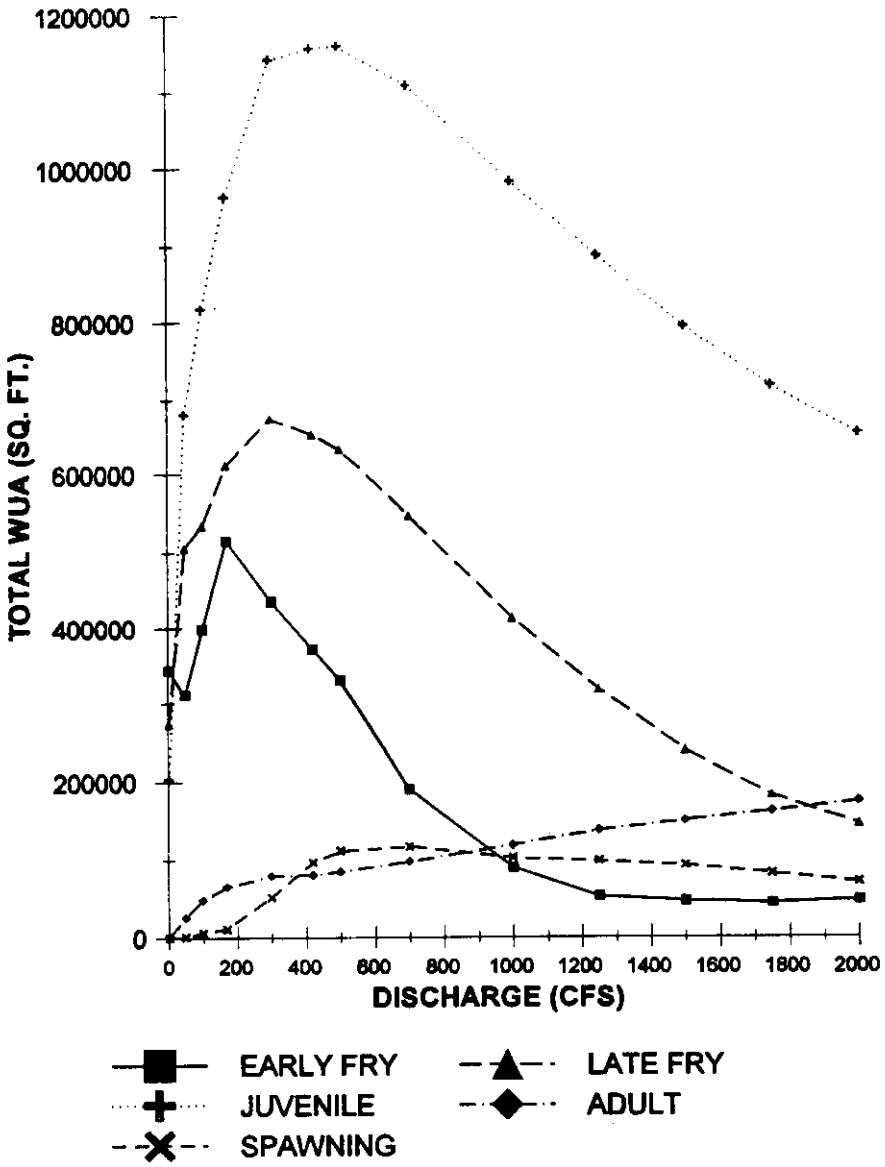

Figure 4-3. Total weighted useable area (WUA) for salmon in Back Channel at various flows (Source: GNP, 1991b)

4.4.1.5 Impoundment Draw-downs

CI, FWS, TU, and PIN request reducing or eliminating draw-downs of project impoundments to protect littoral zone habitat for fish. TU and CI claim that impoundment draw-downs affect the quality and abundance of fish habitat (letters from M. Huntington, CI, April 30, 1992; C. Gauvin, TU, May 24, 1993).

Species that inhabit the littoral zone of the impoundment are displaced when their preferred habitat is dewatered. Other species that normally occupy deep water may spawn in shallow water, and dewatering during draw-down could affect their reproductive success, depending upon the magnitude and timing of the draw-downs. Impoundment draw-downs also can make tributaries inaccessible to species that migrate to habitat to spawn. Table 4-4 summarizes the spawning habitat requirements for various species and the seasons of spawning and incubation during which impoundment levels are critical.

Table 4-4. Spawning habitat for key impoundment species (Source: Smith, 1985)

Species	Spawning Habitat and Season
Lake trout	Lake shoreline at depths of 1 to 15 feet during October and November
Lake whitefish	Lake shoreline at depths of approximately 25 feet and in tributaries during October/November
Burbot	Lake shoreline at depths of 1 to 4 feet and in tributaries during February
Smelt	Lake shoreline at depths of 1 to 5 feet and in tributaries during March

North Twin, Millinocket Lake, and Ripogenus impoundments all experience substantial draw-downs because GNP operates them in annual storage mode. Project impoundments associated with run-of-river developments such as Dolby, Millinocket, and East Millinocket, however, do not experience significant draw-downs.

GNP's proposed project operations would have a minor effect on the timing and magnitude of draw-downs in Millinocket Lake or the Ripogenus impoundment. These impoundments potentially experience draw-downs of up to 6 and 44 feet, respectively. The WQC for the Millinocket Lake Storage dam contains a condition requiring GNP to maintain impoundment levels between 470 and 480 feet elevation; however, fluctuations within this range virtually eliminate any chance of natural reproduction for lake trout and lake whitefish in the impoundment itself by exposing the redds during incubation. Likewise, draw-downs eliminate natural reproduction of these two species within the Ripogenus impoundment (table 4-4). Existing populations are maintained by stocking (lake trout) or tributary spawning (lake whitefish). Reproductive success of burbot and smelt in Ripogenus is not jeopardized because, in most years, water levels are at their minimum during March and rise from April to

June (table 4-5) following spawning, which is generally between February and April for these species.

Table 4-5. Changes in elevation, surface area, and dates of minimum and maximum elevation in Ripogenus and North Twin impoundments for the project alternatives (Source: Staff)

Ripogenus	No-Action	Applicant's Proposal	Alternative 1	Alternative 2
Annual maximum change in elevation (feet)	26.3	26.4	27.0	26.4
Change in surface area, 6/1-12/31 (acres)	13,000	12,500	13,700	13,700
Approximate date of minimum elevation (average year)	March 21	March 21	March 21	March 21
Approximate date of maximum elevation (average year)	May 15	May 15	May 15	May 15
North Twin				
Annual maximum change in elevation (feet)	13.3	13.1	13.2	13.6
Change in surface area, 6/1-12/31 (acres)	2,400	2,200	2,300	2,300
Approximate date of minimum elevation (average year)	April 21	October 15	October 31	October 31
Approximate date of maximum elevation (average year)	May 15	May 15	May 15	May 15

Because this FEIS assesses impacts using the existing conditions as a baseline, we conclude that continued operation of the projects under the Applicant's Proposal would not alter fish habitat in Millinocket Lake or Ripogenus impoundment. DIFW manages this portion of the West Branch for landlocked salmon, and it wishes to prevent the establishment of a self-sustaining population of lake trout in Ripogenus impoundment because such a population could adversely affect the smelt population. (The smelt population is, to a great extent, the basis for the high population of salmon below McKay station.) The Applicant's Proposal is consistent with DIFW management objectives for the project area because impoundment draw-downs would continue to preclude the reproductive success of lake trout in both Millinocket and Ripogenus impoundments.

Annual draw-downs at North Twin impoundment can be as high as 17 feet below normal pool level. Such draw-downs reduce the surface area of the impoundment by 3,200 acres, or 18 percent. Because DIFW is attempting to establish a self-sustaining lake trout population in North Twin, it requests that GNP monitor its draw-down schedule to minimize adverse effects on lake trout reproduction. Lake trout spawn between early October and mid-November. Although GNP does not propose draw-down limits, it would complete fall draw-down by October 15, then maintain the water level at or above this level until May 1, by which time the lake trout eggs will have hatched. DIFW accepted this proposal, and DEP included this enhancement as a condition of the WQC. The proposed schedule also would improve spawning habitat for burbot and lake whitefish. GNP also proposes a study to evaluate the reproductive success of lake trout and its correlation with water level management. We agree that implementing the proposed schedule of impoundment draw-downs would minimize any adverse effects on the lake trout population of North Twin. Table 4-5 illustrates that the magnitude of draw-downs under the Applicant's Proposal would decrease slightly (approximately 0.2 feet); this decrease is probably biologically insignificant. We agree that the proposed study would provide valuable information for managing the fishery to achieve DIFW's goal of a self-sustaining lake trout population. Table 4-5 shows that there is little difference in impoundment elevation and surface area fluctuation among the alternatives.

4.4.1.6 Fish Passage

GNP proposes to repair or modify the North Twin fish passage facility in consultation with DIFW and FWS. TU requests installation of both upstream and downstream fish passage facilities at Millinocket Lake Storage dam and downstream passage at Dolby, Millinocket, and East Millinocket dams (letter from C. Gauvin, TU, May 24, 1993). FWS reserves its authority to prescribe fish passage facilities (letter from J. Deason, Interior, May 24, 1993).

DIFW and GNP contend that construction of passage facilities is unnecessary because no anadromous species inhabit the project areas, and because passage would threaten the state's fisheries management objectives for the project waters. Smallmouth bass and pickerel, both introduced species, provide valuable sportfishing opportunities within the lower Penobscot Mills Project area. Adding passage facilities would increase their distribution, which would almost certainly result in direct competition with native species such as salmon, lake trout, and a variety of other game and nongame species. Although fish passage at dams is generally viewed as beneficial to fisheries resources, we agree with the state that, in this case, creating passage would facilitate the further, undesirable spread of introduced species throughout the West Branch. Limiting fish passage to North Twin would preserve a coldwater fish community that most closely resembles the native assemblage of species.

The North Twin fish passage facility was built in 1934 and repaired in 1984. In monitoring studies conducted during 1979 and 1986, 67 and 38 salmon were trapped after passing up the fishway. Only 1 of 38 salmon captured and tagged below the North Twin dam during 1986 and 1987 was later recaptured above the North Twin dam (GNP, 1991b). These data suggest that some salmon move through the existing passage facility, but that the number is limited.

The primary purpose for providing fish passage at North Twin is to allow salmon that passed over the North Twin dam to move back upstream to spawning areas in the West

Branch below McKay station. Few wild landlocked salmon are found downstream of North Twin dam, and most salmon fisheries below that point are supported almost totally by stocking. The North Twin fishway does not significantly contribute to sustaining existing fish stocks; however, because the facility already exists and is used by some salmon, there is no reason not to continue maintaining and monitoring this facility.

In considering the need for fish passage at Millinocket Lake, Dolby, Millinocket, and East Millinocket Mills dams, we note the absence of anadromous species and the lack of significant production habitat for landlocked salmon in portions of the project area where these dams are located. The project as proposed would not significantly affect passage or require installing passage facilities. Smelt drift, which appears to be the major fish entrainment phenomenon in the West Branch, has not adversely affected the smelt population and is the primary basis for maintenance of the existing salmon stocks throughout the system. We agree with DIFW that expanding the range of smallmouth bass and pickerel throughout the West Branch probably would adversely affect the excellent landlocked salmon fisheries there. Fish passage facilities would not benefit fisheries at these developments, might adversely affect landlocked salmon stocks, and, therefore, should not be constructed. PIN, with their comments on the DEIS, expressed concern regarding the status of the American eel population in the Penobscot River basin and suggested that measures to enhance eel migration be incorporated into licensing alternatives for these projects. As discussed in section 3, there has been an apparent decline in the Penobscot River eel stock in recent decades. However, there have been no alterations of the Ripogenus and Penobscot Mills projects during this time, and thus there is no basis for concluding that the existing operation of these projects has had any impact on eels. Both juvenile and adult eel are robust migrants, capable of passing through very limited amounts of water and even over land during wet conditions (Flagg, undated). This is evident from the fact that eels occur throughout project waters under existing conditions. The existing leakage in the Back Channel is sufficient to ensure eel migration through that portion of the river, and, with no other modifications in project developments, eels will continue to move among project waters as they have during the past license term for the project. We conclude that no specific measures need to be taken to enhance eel passage at these projects.

4.4.1.7 Cumulative Impacts

No anadromous fish stocks occupy the West Branch, and project waters are inhabited by a mix of warmwater and coldwater species, depending on local habitat conditions (see section 3.5). Important populations of smallmouth bass and pickerel inhabit lower project impoundments, but impoundment and river reach populations do not interact (i.e., they do not migrate between waters); therefore, there would be no cumulative impacts on individual stocks of these species.

Landlocked Atlantic salmon is the only species that could experience cumulative impacts because its life history frequently involves residence and growth in impoundments and migration into tributaries or rivers to spawn. This kind of life history behavior, however, is not observed in the Ripogenus Project and Penobscot Mills Project areas. The primary wild and self-sustaining landlocked salmon stock in the project areas is located in the West Branch, downstream of the Ripogenus dam and McKay station. This salmon stock appears to spend its entire life in the riverine environment rather than rearing and maturing in North Twin

impoundment and migrating into the West Branch to spawn (see section 3.5.1.1). Very limited salmon spawning occurs downstream of North Twin dam, and most fish present there are of hatchery origin.

To the extent that a small portion of the West Branch stock may move downstream past the North Twin dam, the fish passage facilities at that dam provide for migration back upstream to principal spawning grounds in the West Branch. We believe, however, that these fish represent an insignificant portion of the total salmon stock. Because no single landlocked salmon stock occupies all project waters, and the West Branch stock appears to be permanently resident in the riverine West Branch, we conclude that the projects as proposed would have no significant cumulative impacts on landlocked salmon stocks.

4.4.2 Alternative 1

4.4.2.1 Upper Gorge Flows

Under Alternative 1, minimum flows in Upper Gorge would be 100 cfs from July 1 to September 30 and 50 cfs during the remainder of the year. As in the Applicant's Proposal, this flow enhancement would increase the adult salmon habitat in Upper Gorge from 41,869 to 71,707 square feet during the summer. With flows of 50 cfs instead of leakage during the winter and spring, however, adult habitat would be 51 percent greater than under the Applicant's Proposal, increasing from 41,869 to 63,298 square feet. Juvenile habitat would increase by about 33 percent, but habitat for fry would decline by about 70 percent (figure 4-3).

Although the IFIM study provides a basis for concluding that physical habitat would increase significantly under this flow regime, Upper Gorge is subject to high-volume, high-velocity spills that negate the benefits of a continuous minimum flow by eliminating suitable habitat. These spillage flows are most likely to occur during winter and spring, and the effect of high-volume spillage would be most harmful for spawning and early life stages of salmon. The flow regime proposed for Alternative 1 probably would not enhance the production of salmon in Upper Gorge, but would simply provide additional overwintering habitat in an area where such habitat is not limiting population size.

The winter/spring flow enhancement in Upper Gorge under this alternative would not significantly enhance landlocked salmon stocks in this segment of the West Branch and would provide no lasting benefits to fisheries resources.

4.4.2.2 West Branch Flows

We identified no flow measures beyond those proposed by GNP for the West Branch that would provide further fisheries enhancement; therefore, for West Branch flows, this alternative would have the same impacts as the Applicant's Proposal.

4.4.2.3 Millinocket Stream Flows

Under Alternative 1, minimum flow in Millinocket Stream would be 60 cfs year- round. IFIM study findings (see figure 4-2) show that flows of this magnitude would double salmon

spawning habitat compared with conditions under the existing 20-cfs flow, increase adult habitat by about 30 percent, cause small declines in fry habitat, and increase juvenile habitat by about 25 percent.

This flow would increase spawning habitat for smallmouth bass by about 10 percent; habitat for all other life stages would decrease (figure 4-2). Increased winter flows under this alternative would protect all species and life stages of fish from ice formation better than the current winter flow of 20 cfs does.

Only juvenile and adult life stages of salmon would be present in Millinocket Stream during the fall and winter. IFIM study results suggest that habitat for those life stages increases by 25 percent to 30 percent between 20 cfs and 60 cfs, suggesting that the 60 cfs flow regime might enhance overwintering populations of those life stages. Also, this winter flow would protect redds from ice formation and, thus, improve the reproductive success of salmon in Millinocket Stream. The very small number of spawning salmon under the existing 20 cfs flow (a maximum of 20 redds counted in the 3 years surveyed), however, leads us to conclude that such modest increases in seasonal habitat would produce only a small, if any, numerical increase in the salmon stock size compared with the GNP flow proposal. Downstream project waters have well-established warmwater fish communities that would compete with the salmon; therefore, we find that salmon production in Millinocket Stream would not increase significantly. We also conclude that this alternative would have no significant benefit for smallmouth bass.

We conclude that this alternative would enhance the existing, small salmon stock in Millinocket Stream but that this enhancement would not substantially increase the number of salmon available to the fishery in the area.

4.4.2.4 Back Channel Flows

Alternative 1 includes a year-round minimum flow of 350 cfs in the Back Channel. This flow was selected based on results of the IFIM study (figure 4-3), which show that this flow would increase the amount of habitat for all life stages of salmon and that the benefits for juveniles would be maximized (approximately 460 percent habitat increase compared with existing conditions with leakage flows).

Although not addressed in the IFIM study, species other than salmon, such as brook trout, eel and a variety of minnow and sucker species, could benefit from the flow increase, as would the macroinvertebrate community. Eel passage may be improved slightly, but we have no data by which to establish the extent of such improvement. Habitat for adult and spawning stages of landlocked salmon, the key gamefish of concern, would be very limited (i.e., about 80,000 square feet of spawning and adult habitat would be present at 350 cfs).

All life stages would have to be supported to establish a permanent self-sustaining salmon stock. Based on the quantity of WUA documented in the IFIM study (figure 4-3), the greatest enhancement possible in the Back Channel is creation of a nursery area for fry and juvenile salmon at 350 cfs. The very small amount of adult habitat available (less than 100,000 square feet) under this enhanced flow regime and the very limited amount of spawning habitat present suggests that reproduction adequate to saturate the increased fry

and nursery habitat would be unlikely. Grand Falls poses a barrier to movement of most fish from the migration of Shad Pond into a major stretch of the Back Channel under low flow conditions, and could hinder adults that matured downstream as they attempted to migrate upstream to the limited spawning habitat that would exist under this flow regime.

Young salmon reared in the Back Channel under the enhanced fisheries flows might contribute to adult populations in Shad Pond, Dolby Pond, or other waters downstream of the Millinocket Development, if they dispersed to those waters and survived. Spawning habitat is limited, however. Full production from the nursery habitat created would probably require stocking hatchery fry, a management action not substantially different than the existing DIFW program of stocking waters downstream of the Back Channel. Young salmon moving into Shad and Dolby ponds from the Back Channel nursery habitat would be exposed to predation by smallmouth bass and pickerel. Any salmon that survived through the juvenile stage would compete with these species for available forage, most likely smelt drift through Millinocket Development. In addition, the shallow, warm waters of the downstream impoundments are not good salmon habitat, as evidenced by the limited salmon fisheries supported by DIFW stocking efforts. Only three salmon were found in GNP's creel surveys conducted in Dolby Pond between 1986 and 1989 (GNP, 1991b). No salmon were found in Shad Pond surveys.

We also conclude that young life stages of a salmon established in the Back Channel in response to enhanced minimum flows probably would be displaced by periodic high-volume spillage (as great as 29,000 cfs). Recolonization by upstream movement of displaced juvenile fish would be constrained by Grand Falls, reinforcing our view that stocking would be required to make full use of the nursery area created by higher minimum flows.

Lack of water for enhancing flow in the Back Channel also could reduce the likelihood of establishing a sustainable salmon population in this reach. In dry years, water may not be available to provide all of the enhancements discussed under Alternative 1 (see section 4.2 and Appendix D for a thorough discussion of the water use model). In this case, enhancements based on WQC conditions, which are mandatory, would receive the highest priority. Other enhancements such as the Back Channel flows, would be provided only if there is enough water remaining after the mandatory conditions are met; therefore, fisheries resources in the Back Channel may be exposed to dewatering in dry years.

Our evaluation of the 350 cfs flow regime suggests that, although habitat availability for some salmon life stages would be significantly increased, this enhancement would not substantially increase the availability of adult landlocked salmon to area fisheries. The aquatic ecosystem, however, generally would be enhanced (e.g., increased benthic invertebrate abundance, increased populations of forage species such as minnows).

4.4.2.5 Impoundment Draw-downs

Under this alternative, flow enhancements in Upper Gorge, Millinocket Stream, and the Back Channel would cause minor changes in the magnitude of draw-downs on North Twin and Ripogenus impoundments (Appendix D, table D-4). Based on hydrological modeling conducted by GNP and reviewed by the staff, the maximum range of the impoundment levels over 12 months would be no more than 1.0 foot greater than historical conditions and no more than 0.5 foot greater than the Applicant's Proposal (Ripogenus), even if flows of 350 cfs were

provided in the Back Channel. In impoundments as large as North Twin and Ripogenus, these changes would be biologically insignificant; therefore, we conclude that this alternative would have no draw-down-related impacts on fisheries resources beyond those that occur under existing conditions or the Applicant's Proposal.

4.4.2.6 Fish Passage

We identified no fish passage measures beyond those proposed by GNP that would provide further fisheries enhancement; therefore, for fish passage, this alternative would have the same impacts as the Applicant's Proposal. To the extent that higher flows in the Back Channel and elsewhere might facilitate eel migration, this alternative may be more beneficial to eels than GNP's proposal.

4.4.2.7 Cumulative Impacts

Enhanced flows in Upper Gorge, Millinocket Stream, and the Back Channel may enhance site-specific fish stocks to some degree and benefit the aquatic ecosystem at those sites. Because single, projectwide stocks of fish species do not exist except for American eel, however, we conclude that these site-specific enhancements would have no cumulative impact on fisheries resources. These enhancements might have a slight beneficial effect on eels.

4.4.3 Alternative 2

4.4.3.1 Upper Gorge Flows

We identified no flow measures beyond those proposed by GNP for Upper Gorge that would provide further fisheries enhancement; therefore, for Upper Gorge flows, this alternative would have the same impacts as the Applicant's Proposal.

4.4.3.2 West Branch Flows

We identified no flow measures beyond those proposed by GNP for the West Branch that would provide further fisheries enhancement; therefore, for West Branch flows, this alternative would have the same impacts as the Applicant's Proposal.

4.4.3.3 Millinocket Stream Flows

We attempted to identify a flow regime for Millinocket Stream that would provide greater fishery benefits than the Applicant's Proposal but would have less economic impact on GNP than the flows proposed under Alternative 1. We noted previously that only juveniles, adults, and spawning redds would be present during winter. The IFIM study findings (figure 4-2) show that adult salmon habitat increases slightly between 20 cfs (GNP's proposed flow) and 30 cfs; juvenile salmon habitat increases by about 15 percent between these two flows, and there is a slight increase in smallmouth bass spawning habitat. This was the basis for our incorporating a 60 cfs/30 cfs flow regime in our DEIS analysis.

During 10(j) discussions with Interior, we modified our recommended flow regime to 60 cfs year round. A spring/summer flow of this magnitude results in a doubling of juvenile habitat that could enhance a resident salmon stock, and the 60-cfs flow during the winter incubation period could increase production by protecting redds and juveniles against the effects of ice formation. Adults would not benefit as much as juveniles would; however, adults probably have a greater range of movement than juveniles and, thus, could overwinter in downstream waters, including impoundments. As discussed for Alternative 1, however, Millinocket Stream has little value as a salmon production area for other project waters or for Millinocket Stream. We conclude that our proposed flow regime would provide some enhancement for salmon beyond that provided by GNP's proposal but would not contribute substantially to regional salmon stocks.

4.4.3.4 Back Channel Flows

Under Alternative 2 we considered releasing a continuous minimum flow in the Back Channel that is significantly greater than the existing leakage/spillage flows. We evaluated if the increased flow might permanently enhance the aquatic environment and the fish community and if such an environment would significantly enhance populations of important gamefish species, particularly landlocked salmon. The enhanced the Back Channel environment might increase salmon stocks in two ways: by creating a self-sustaining resident stock in the Back Channel that would support a fishery there, and by serving as production waters for salmon that would disperse downstream. Although we conclude that the additional flow would definitely increase total available habitat for many elements of the aquatic ecosystem, the landlocked salmon stock would not be substantially increased.

Figure 4-3 presents the changes in habitat quantity for various life stages of salmon at three flows (50 cfs, 100 cfs, and 165 cfs) that are intermediate between leakage and the 350 cfs proposed under Alternative 1. As described earlier, habitat for salmon fry and juveniles increases most (more than 100 percent and 300 percent, respectively) when flow increases from leakage to 50 cfs. Additional increases in flow continue to produce gains in habitat for all life stages, but at a reduced rate.

The value of the Back Channel for fisheries management is limited by lack of adequate spawning and adult habitat, probable high predation from warmwater spills in downstream waters, and spillage flows that would probably displace young life stages fish populations. Flow greater than the leakage/spillage flow regime included in the Applicant's Proposal, therefore, is not warranted because of the minimal benefits for regional fisheries. We did not include any additional flow release in Alternative 2; therefore, the impacts of this alternative would be the same as those of the Applicant's Proposal.

4.4.3.5 Impoundment Draw-downs

Under this alternative, flow enhancements in Upper Gorge, Millinocket Stream, and the Back Channel would cause minor changes in the magnitude of draw-downs in North Twin and Ripogenus impoundments (Appendix D, table D-5). The maximum range of the impoundment levels over a 12-month period would increase by no more than 0.5 feet (North Twin), even if flows of 165 cfs are provided in the Back Channel. These changes would be biologically

insignificant; therefore, this alternative would have no draw-down-related impacts on fisheries resources beyond those under existing conditions or the Applicant's Proposal.

4.4.3.6 Fish Passage

We identified no fish passage measures beyond those proposed by GNP that would provide further fisheries enhancement; therefore, for fish passage, this alternative would have the same impacts as the Applicant's Proposal.

4.4.3.7 Cumulative Impacts

The only different flow measure included in Alternative 2 is enhanced flow in Millinocket Stream. This flow may enhance site-specific fish stocks to some degree and benefit the aquatic ecosystem at the site. Because no single, projectwide stocks of fish species exist except for American eel, however, we conclude that this site-specific enhancement would have no cumulative impact on fisheries resources.

4.4.4 No-action Alternative

Under existing conditions, no change would be expected in the high-quality landlocked salmon fishery in the West Branch, and no fisheries enhancements would be provided elsewhere in the project area.

4.4.5 Summary

Because of the complexity of the proposed changes and other alternatives with regard to fisheries resources, a summary of our findings is provided. Effects of each alternative are contrasted against baseline conditions that would persist under the No-action Alternative.

- Under the Applicant's Proposal, adult salmon habitat in Upper Gorge would increase in summer and fall, but the additional habitat would produce no increase in salmon stock; the landlocked salmon stock in the West Branch below McKay would be enhanced because of additional protection from outage flows and additional spawning and nursery habitat (Holbrook Pool); certain life stages of salmon and smallmouth bass would benefit seasonally from increased flows in Millinocket Stream, but stock size would not change; and lake trout spawning success would probably increase in North Twin because of regulated draw-downs.

- Under Alternative 1, adult salmon habitat in Upper Gorge would increase year-round but would produce no lasting enhancement of salmon stocks; enhancements of West Branch salmon stocks would be the same as under the Applicant's Proposal; certain life stages of salmon and smallmouth bass would benefit year-round from increased minimum flows in Millinocket Stream, resulting in a small increase in regional salmon abundance; habitat for certain life stages of salmon would increase in response to increased minimum flows in the Back Channel, but a substantial self-sustaining resident landlocked salmon stock probably would not be established; lake trout populations in North Twin impoundment would benefit from

protection of redds because of regulated draw-downs; and impoundment fish stocks would not be affected by draw-downs.

- Under Alternative 2, effects on fisheries in Upper Gorge, West Branch, the impoundments and Millinocket Stream would be the same as for Alternative 1.

4.5 WETLANDS

4.5.1 Applicant's Proposal

4.5.1.1 Draw-down and Flow-related Effects

Ripogenus Project. Approximately 80 percent (1,000 acres) of the 1,251 acres of wetlands in the vicinity of the Ripogenus impoundment are at least partially hydrologically independent of the impoundment. GNP's proposed operation of the Ripogenus Project would continue to adversely affect the estimated 20 percent of wetlands that are hydrologically dependent on impoundment levels. Under GNP's proposed operation, these areas would continue to be exposed occasionally to freezing/thawing conditions during winter draw-downs. Summer drawdowns would continue to expose portions of the affected wetlands to occasional desiccation and scouring. Wetlands that are hydrologically associated with the impoundment contain plant species that are somewhat tolerant of fluctuating water regimes and are often not of high value to wildlife. This narrow band of affected wetlands occurs around the periphery of the impoundment and does not possess deep, organic substrates or sources of inflow independent of the impoundment (such as the 437-acre Brandy Pond wetlands).

As part of an agreement with Maine Professional River Outfitters (PRO), GNP agreed to provide seasonal daytime minimum flows of 2,400 cfs below McKay station from May 1 to September 15. Additionally, GNP agreed to provide a minimum flow of 1,800 cfs during wet or dry months, and a temporary flow of 400 cfs during power outages. The 528 acres of wetlands below McKay station on the West Branch are associated primarily with six deadwater areas (see section 3.7.3). GNP studied these deadwater wetlands under both the proposed, managed flow conditions (2,000 to 2,400 cfs) and unmanaged flow (1,000 cfs; GNP, 1992c). The results of the study indicate that flows of 2,000 to 2,400 cfs between Ripogenus dam and the North Twin impoundment in the West Branch are beneficial to these high-quality wetlands, whereas flows that simulate run-of-river conditions (1,000 cfs average) could result in an eventual net loss of about 90 acres of these wetlands.

Our review of GNP's managed/unmanaged study results shows that the proposed flows below McKay station would not adversely affect the six primary areas of deadwater wetlands on the West Branch. Because the proposed flows below McKay station would not be substantially different than existing flows, the proposed flows would not affect the current hydrological regime of deadwater wetlands. Indeed, such flows are likely to help to preserve their current values.

The applicant's proposed summer flows (July 1 to September 30) of 100 cfs and the 12 cfs minimum flow for the remainder of the year could enhance the sparsely vegetated (unquantified) wetlands in the river channel. Upper Gorge is extremely rocky and steep-sided, and these conditions have precluded substantial wetlands development. Under existing

conditions, Upper Gorge receives only leakage flows of about 12 cfs throughout most of the year and brief spillage flows up to 11,600 cfs during spring runoff. Continuous flows of 100 cfs during part of the growing season could enable any existing wetlands vegetation to expand into broader areas within Upper Gorge; however, wetlands vegetation in the vicinity would be further benefitted with a greater extended hydroperiod (see section 4.5.2).

We conclude that although most wetlands in the Ripogenus Project area would not be adversely affected by GNP's proposed operation, the negative effects of draw-downs on the limited amount of affected shoreline wetlands would decrease value to wildlife (see section 4.6.1.2). We estimate that the approximately 250 acres of shoreline wetlands around the periphery of the impoundment that are entirely dependent on impoundment levels would continue to be most affected by the project draw-downs.

Penobscot Mills Project. GNP's proposed operation of the Penobscot Mills Project would not have any additional adverse effects on wetlands resources beyond the effects of existing operations. Current operation of the Penobscot Mills Project negatively affects wetlands areas that are hydrologically dependent on the impoundments (i.e., no independent inflow from tributaries or moisture-retaining substrate), primarily narrow margins along the North Twin impoundment shoreline. These wetlands are affected during impoundment draw-downs, especially when the wetlands vegetation may be exposed to winter freezing/thawing conditions. Summer drawdowns would also continue to expose the affected wetlands to occasional desiccation and scouring. Wetlands around the peripheries of the Quakish, Ferguson, Dolby, and East Millinocket impoundments are not currently affected by project operations because water levels at these impoundments do not fluctuate significantly during run-of-river operation.

We estimate that approximately 75 percent (222 acres) of the 296 acres of the wetlands in the vicinity of the North Twin impoundment are at least partially hydrologically independent of the impoundment. Wetlands hydrologically associated with the North Twin impoundment are generally small and composed of plant species that are somewhat tolerant of fluctuating water regimes. These areas around the impoundment shorelines are characterized by substrates ranging from large boulders to small rocks and coarse sand; they lack the water storage capacity of deep organic substrates and independent sources of inflow. GNP's proposed operation of the Penobscot Mills Project would continue to adversely affect the estimated 25 percent of wetlands that are hydrologically dependent on North Twin impoundment levels.

Around Millinocket Lake, wetlands total 709 acres (see section 3.6). GNP suggests that most of these wetlands are hydrologically independent of the existing impoundment levels (e.g., Grant Brook wetlands). We concur, based partly on our field observations of the deep organic substrates and the independent sources of inflow in these wetlands during a dry period in August 1993.

Continued run-of-river operation at the Quakish Lake, Ferguson Pond, Dolby Pond, East Millinocket, and Millinocket Lake developments, and in the sections of the West Branch from the North Twin impoundment to Quakish Lake and from the Millinocket tailrace to Dolby Pond, would maintain stable, *status quo* wetlands conditions in these areas.

Extensive wetlands are not present around Millinocket Stream because of the flow regulations on Millinocket Stream (currently, leakage flow from Millinocket impoundment, 20 cfs) and its surrounding topography. Several small deadwaters within Millinocket Stream support limited areas of emergent and scrub/shrub wetlands. Wetlands resources would benefit from the proposed 60-cfs flow from May 1 to October 15 (with a minimum flow of 20 cfs the remainder of the year). Extending the hydroperiod of these wetlands during the growing season would enhance the quantity and the quality of the existing wetlands, making these areas more valuable to wildlife; however, such wetlands enhancement could be greater with the permanent extension of the hydroperiod (see section 4.5.2).

Several small wetlands occur along the Back Channel, particularly in areas protected by beaver dams and large boulders. Currently, the main portion of the Back Channel receives only leakage flows from Stone dam (2 to 5 cfs) and inflows from several small tributaries. These flows would be maintained under the Applicant's Proposal. Existing wetlands along the Back Channel probably would remain stable under the proposed leakage flows.

GNP's proposed leakage flows would adequately maintain the existing small quantity of wetlands in the Back Channel. We estimate that wetlands resources probably would not be greatly expanded or enhanced, even with much higher continuous flows (such as proposed by FWS and CI and discussed in section 4.6.2), because of the very rocky substrate over virtually all of the Back Channel. Such increased flows could disrupt the existing beaver population. Losses of the beavers and their dams in certain areas of the Back Channel could adversely affect wetlands that are directly associated with the beaver dams. We conclude, therefore, that existing leakage flows are appropriate for the protection of existing wetlands resources along the Back Channel.

Most of the project wetlands would not be adversely affected by GNP's proposed operation, but the negative impacts on the small amount of affected shoreline wetlands caused by draw-downs should be compensated for (see section 4.5.1.2). Wetlands most affected by the project draw-downs are those areas around the periphery of the impoundment in which hydrology is entirely dependent on impoundment levels.

4.5.1.2 Wetlands Enhancements

Ripogenus Project. GNP offers no enhancements that would benefit wetlands at the Ripogenus impoundment. FWS and CI request that GNP provide both onsite and offsite wetlands mitigation (letters from D. Sosland, CI, September 3, 1993; G. Beckett, FWS, September 2, 1993). GNP identified Quaker Brook and Black Pond on the Ripogenus impoundment as potential candidates for wetlands enhancement but proposes no wetlands enhancement at either site (figure 4-4). GNP identified the two sites as having a total of about 350 acres of low-quality shoreline wetlands; both sites are directly adjacent to wetlands with high existing wildlife values.

GNP indicates that constructing dumped-earth structures to increase water retention during draw-downs is feasible at the Quaker Brook and Black Pond sites. GNP estimates that about 250 acres of wetlands would be enhanced at the Black Pond site, and 100 acres at the Quaker Brook site.

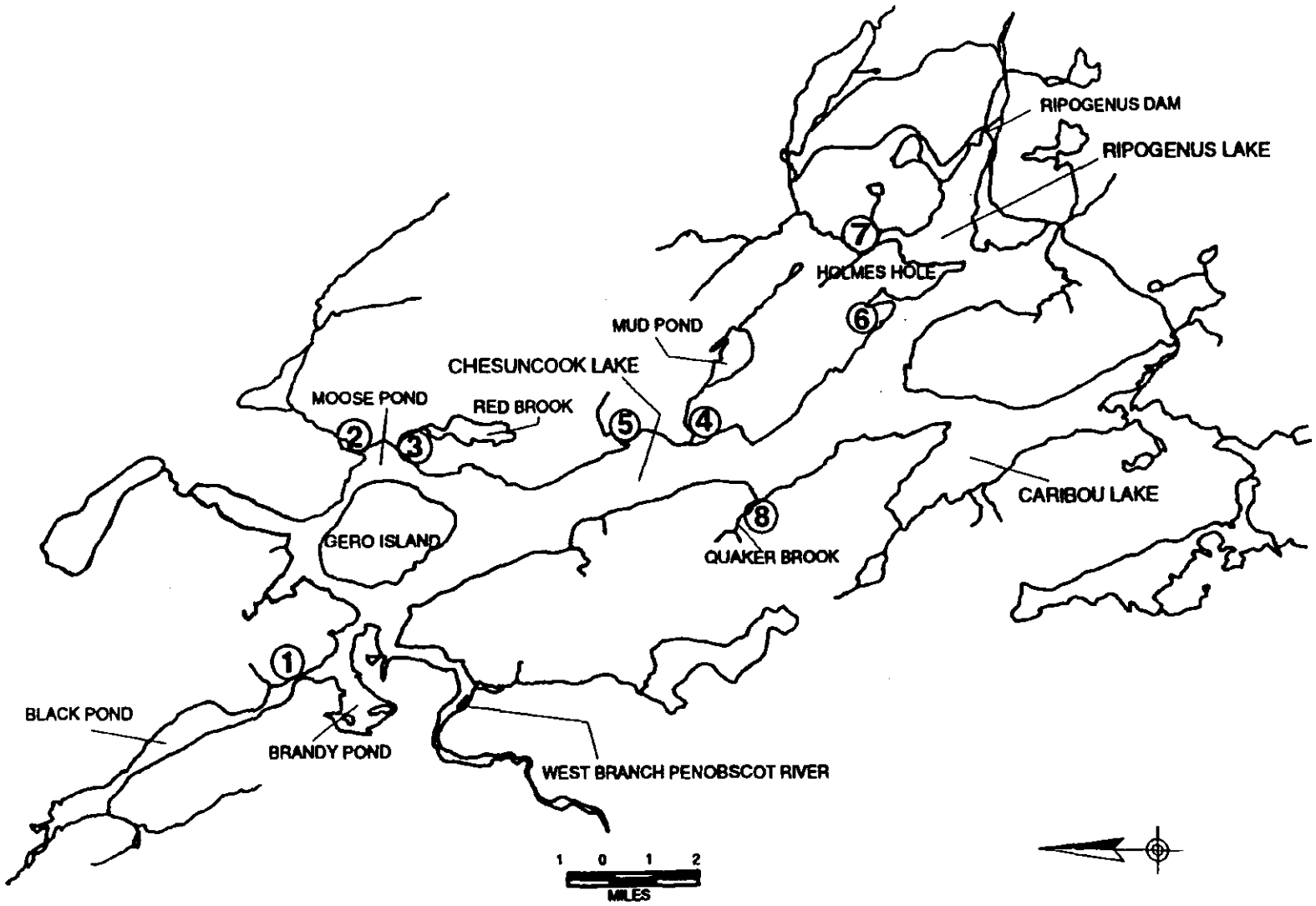

Figure 4-4. Wetlands enhancement sites evaluated for feasibility by GNP at the Ripogenus Project, 4-6 August 1992 (modified after figure 1, GNP, 1992e)

We believe that wetlands enhancements within the project area are appropriate to improve overall habitat conditions, particularly in currently marginal wetlands areas that are adjacent to ecologically valuable areas and presently affected by project operations. As we discuss below, we believe that the on-site candidate locations for wetlands enhancement (both at Ripogenus and Penobscot Mills projects) are of adequate size to compensate for the total wetlands acreage affected by project operations and, thus, we did not investigate potential off-site wetlands enhancement sites.

Penobscot Mills Project. GNP proposes wetland enhancements at the Penobscot Mills Project; the WQC also requires wetlands enhancements. FWS and CI request that GNP provide both onsite and offsite wetlands mitigation (letters from G. Beckett, FWS, September 2, 1993; D. Sosland, CI, September 3, 1993). GNP identified three sites on the North Twin impoundment, Deep Cove East, Deep Cove West, and Wadleigh Brook, as potential candidates for wetlands enhancement (figure 4-5). The three sites are all good candidates for wetlands enhancements because they are currently low-quality wetlands that are adversely affected by impoundment draw-downs and are directly adjacent to higher quality wetlands.

Requiring wetlands enhancements within the project boundaries is appropriate. The Deep Cove East and Deep Cove West sites are good candidates for enhancement because they could increase the total acreage of project wetlands that possess high functional and wildlife values.

GNP proposes to provide increased water retention during project draw-downs by modifying an existing causeway at Deep Cove East and Deep Cove West and by constructing a dumped-earth structure at Wadleigh Brook. GNP estimates that about 30 acres of wetlands at the Deep Cove sites and about 15 acres at the Wadleigh Brook site would be enhanced. None of GNP's proposed enhancements would require complicated water control structures or other devices that would be difficult to operate.

GNP states that the proposed dumped-earth enhancement structure at Wadleigh Brook may not be acceptable to the wetlands regulatory agencies, and that the site also would involve potential access constraints because of existing wetlands; therefore, we conclude that the site is not appropriate for wetlands enhancement (see discussion of Alternative 2, section 4.6.3).

4.5.2 Alternative 1

Ripogenus Project. This alternative would have one potential minor impact on wetlands resources in addition to the impacts of GNP's proposal. Greater than normal draw-downs of the Ripogenus impoundment during dry years, primarily during winter months (to allow for increased flows below McKay station), could increase adverse effects on impoundment wetlands. We conclude, however, that these negative effects would be inconsequential because they would be so infrequent and of such short duration.

Under this alternative, both Quaker Brook and Black Pond would be used for wetlands enhancement. The combined sites would enhance about 350 acres (Quaker Brook, 100 acres; Black Pond, 250 acres) of existing, lesser-quality, shoreline wetlands. Enhancing both

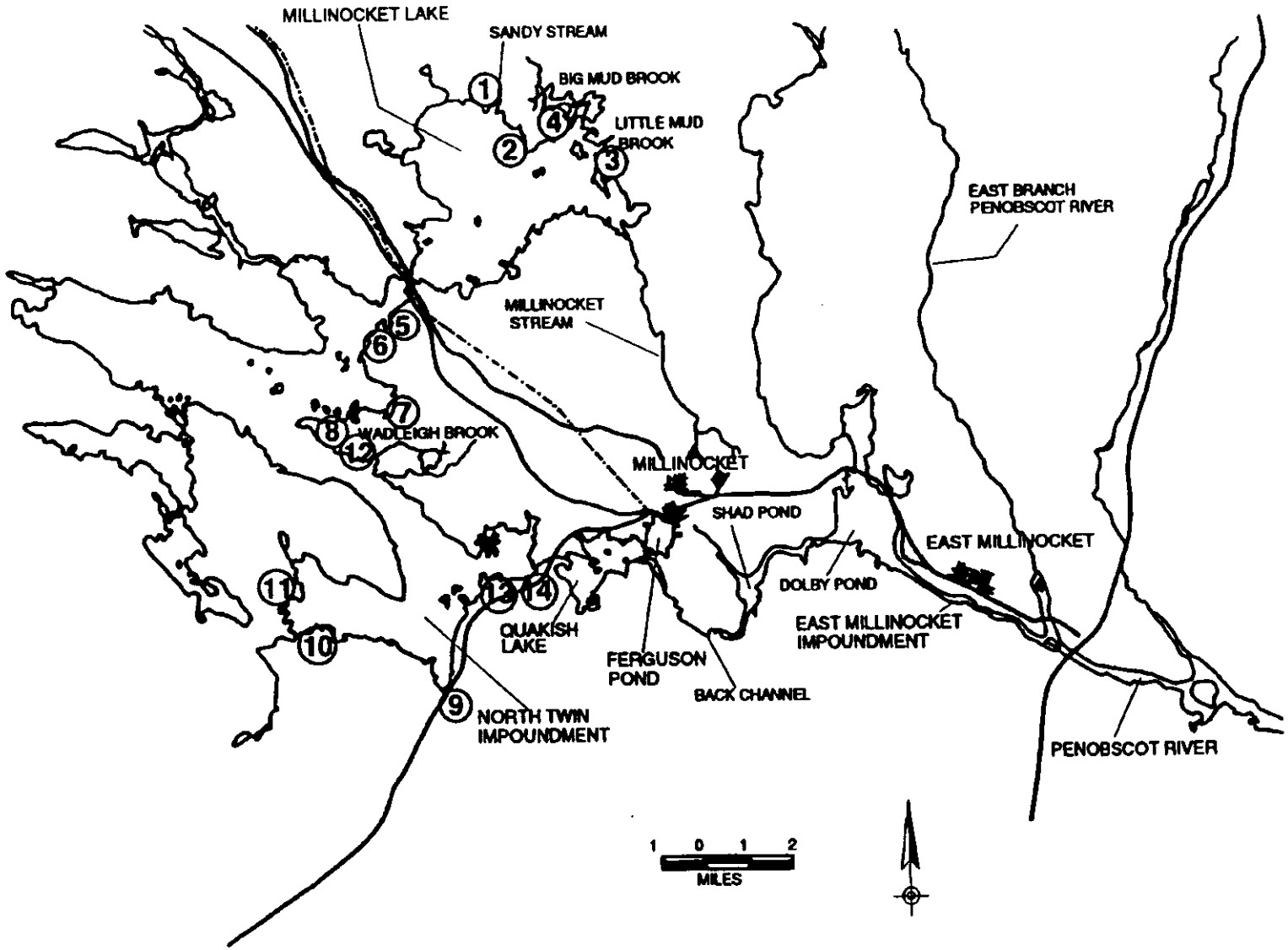

Figure 4-5. Wetlands enhancement sites evaluated for feasibility by GNP at the Penobscot Mills Project, 4-6 August 1992 (modified after figure 1, GNP, 1992e)

Quaker Brook and Black Pond, however, would provide greater mitigation than is reasonable to compensate for the roughly 250 acres of presently affected wetlands (see section 4.6.3).

Upper Gorge flows of 100 cfs from July 1 to September 30 and 50 cfs during the remainder of the year would help to increase wetlands functions and values and the wildlife values of wetlands resources. Wetlands resources are generally lacking throughout Upper Gorge because of its rocky substrate, steep topography, and existing flows (see section 3.6). Additional flow enhancement would benefit Upper Gorge wetlands resources; however, the scope of potential new wetlands created or benefits to existing wetlands would be minimal in the context of wetlands resources throughout the project area.

Penobscot Mills Project. Implementing Alternative 1 would have two beneficial impacts, one potential minor adverse impact, and one adverse impact on wetlands resources in the Penobscot Mills Project area. Year-round flows of 60 cfs would benefit the existing areas of emergent and scrub/shrub wetlands in the several small deadwaters in Millinocket Stream. Permanent extension of the hydroperiod in these wetlands would better protect them from fluctuating (low) water levels, and additional small areas of wetlands could be created where sufficient organic substrate exists. Also, with the enhanced hydrology, plant communities that are more valuable to wildlife could colonize the existing wetlands. This additional flow enhancement would benefit Millinocket Stream wetlands resources.

Under this alternative, wetlands enhancements at the Deep Cove East and Deep Cove West sites would be implemented as proposed by GNP. The Wadleigh Brook site would be rejected because of existing wetlands access constraints. Crossing the existing wetlands with the equipment necessary to enhance the Wadleigh Brook site could damage them.

This alternative also would provide year-round minimum flows of 350 cfs in the Back Channel. Such flows probably would enhance some of the topographically higher existing wetlands along peripheral areas of the Back Channel but would flood others that are directly associated with beaver dams in the channel. These increased continuous flows could disrupt the existing beaver population. Loss of the beavers and their dams would result in at least some short-term loss of wetlands because of inundation along the Back Channel. Conversely, increased flows could create small areas of additional wetlands in peripheral areas and enhance-aquatic vegetation within the channel. These benefits would be relatively small due to the rocky substrate throughout the Back Channel. Additionally, any long-term gains in total wetlands area from such increased year-round flows are uncertain. Year-round minimum flows of 350 cfs in the Back Channel probably would provide only marginal net wetlands benefits.

4.5.3 Alternative 2

Ripogenus Project. Under Alternative 2, there would be one potential minor impact on wetlands resources in addition to those associated with GNP's proposal. Greater than normal Ripogenus impoundment draw-downs, primarily during winter months (to maintain flows below McKay station), could have minor, short-term adverse effects on impoundment wetlands. These negative effects would be so infrequent and of such short duration, however, that they would be inconsequential.

Wetlands enhancements are appropriate at the Ripogenus Project and should be required. The Black Pond site is a good candidate for increasing the total acreage of project wetlands with high functional and wildlife values. The site supports about 250 acres of low-quality, shoreline wetlands that are directly adjacent to wetlands with high wildlife values. The scope of potential enhancement at this site is similar to the scope of existing degraded wetlands within the project area. GNP indicates that constructing a dumped-earth structure at the site could retain more water during project draw-downs. The structure, as described by GNP, would not require complicated water control valves or other devices that would be difficult to operate.

We conclude that GNP's proposed water retaining structures would be appropriate to enhance these wetlands; however, the dumped-earth structures may not be acceptable to the wetlands regulatory agencies.[10] GNP should investigate additional types of enhancement structures for the two potential sites. We recommend that GNP file a detailed wetlands enhancement and monitoring plan that fully describes proposed activities at Black Pond with the Commission for approval. We do not recommend additional enhancements at Quaker Brook because enhancements at Black Pond (250 acres) would be adequate, and the cost of enhancement at Quaker Brook (only 100 acres enhanced for the same order of cost) would be disproportionately high.

Penobscot Mills Project. We believe that the two GNP proposed wetlands enhancements at the Penobscot Mills Project (Deep Cove East and West, totalling 30 acres) are appropriate, as we discussed under Applicant's Proposal. The Wadleigh Brook site is not acceptable for wetlands enhancement because of potential access problems, the potential for rejection of the proposed structure by the wetlands regulatory agencies, and the small potential enhancement, as we discussed above.

Alternative 2 would provide flows of 60 cfs from May 1 to October 15 and 30 cfs in the Millinocket Stream during the remainder of the year. Increased flows would benefit wetlands resources. Although this alternative would provide slightly more stable hydrology in Millinocket Stream wetlands than the GNP proposal would, we estimate that it would not provide the continuous, year-round hydrology of Alternative 1 (section 4.6.2) and, therefore, would not be as beneficial to wetlands.

Although wetlands are not particularly abundant in the Back Channel, they apparently provide relatively high wildlife values at year-round leakage flows. Our analysis indicates that neither the total area nor the quality of the wetlands for wildlife would be greatly increased. Wetlands resources, therefore, would be best served under the current leakage flows, in conjunction with GNP's the Back Channel Wildlife Habitat Management Plan.

4.5.4 No-action Alternative

The No-action Alternative would have no adverse effects on wetlands, but existing wetlands at the Ripogenus and the Penobscot Mills projects would not be enhanced.

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[10] GNP indicates that Maine DEP could require detailed analysis of alternatives and that "the acceptability [to Maine DEP] of utilizing a dumped-earth structure is presently unknown."

4.6 TERRESTRIAL RESOURCES

4.6.1 Applicant's Proposal

4.6.1.1 Site-specific Impacts

Ripogenus Project. Both CI and FWS are concerned about the use of herbicides along the existing 30.2-mile transmission line corridor between McKay station and Millinocket (letters from D. Sosland, CI, September 3, 1993; G. Beckett, FWS, September 2, 1993). CI maintains that the herbicide spray program degrades water quality and wildlife habitat within the corridor. The transmission corridor (which is all upland and is not influenced by the impoundment) is maintained by herbicides and selective cutting (80 percent of the right-of-way is maintained by herbicides, 20 percent by cutting; GNP, 1993c).

GNP specified areas of the corridor that have been and will be hand-cut and those that have been and will be sprayed between 1991 and 1998. GNP also provided information about environmental, timing, and safety requirements of its contractual agreement for aerial application of herbicides and data about the kinds of herbicides used. The agreement specifies that herbicides will continue to be applied annually by helicopter. GNP uses two herbicides: Banvel® 720 and Roundup®. The agreement also clearly states that all contractors must meet all federal and state application and disposal requirements, and that all herbicides used shall be approved for use by EPA and the Maine Department of Agriculture. GNP's contractual agreement also stipulates that herbicide contractors must maintain unsprayed buffers of 100 feet along all streams.

As described by GNP, the use of herbicides to control vegetation along the corridor would not adversely affect water quality or wildlife habitat. Alternatives to herbicides, such as increasing the proportion of cutting, could increase disturbance of wildlife by increasing the frequency of noise and direct human presence. Continued operation of the Ripogenus Project as proposed by GNP would not adversely affect or result in the loss of additional terrestrial resources. We do not object to GNP's use of herbicides in the corridor, provided that GNP remains in compliance with all applicable federal and state rules and regulations.

Penobscot Mills Project. The Back Channel Wildlife Habitat Management Plan, as presented by GNP, provides for the placement of duck boxes (exact number not specified) in appropriate locations in the overflow channel of the Back Channel. GNP indicates that the duck boxes would be cleaned and maintained annually in March, just before the nesting season. GNP's plan, however, does not name the party that would provide such annual maintenance or replace the duck boxes as needed. GNP also proposes to manage snags in the overflow channel of the Back Channel. Such management would maintain an optimal number of snags for use as perches by waterfowl and other avifauna.

GNP would manage approximately 2,300 acres of forest directly adjacent to the overflow channel of the Back Channel to enhance wildlife habitat under its plan. This would be accomplished by uneven-aged management of most of the forest to increase vertical stratification. Trees that produce hard mast (e.g., oaks, hickories) and trees that produce soft mast (e.g., maples, conifers) would be allowed to predominate in separate areas to maximize benefits to wildlife. Even-aged management would be used in areas along the tributaries that

flow into the main channel and in the southern part of the main channel, where beaver and grouse habitat could be created. The large white pines near the southern end also would be retained as perches and nesting trees for bald eagles.

Continued operation of the Penobscot Mills Project as proposed by GNP would not adversely affect or result in loss of additional terrestrial resources. We conclude that the Back Channel Wildlife Habitat Management Plan would be beneficial to terrestrial resources in the project area.

4.6.1.2 Cumulative Impacts

Operation of the Ripogenus and Penobscot Mills projects as proposed by GNP would have no adverse cumulative impacts on regional terrestrial resources because GNP proposes no significant alterations of terrestrial habitats.

4.6.2 Alternative 1

Operating the Ripogenus Project under Alternative 1 would cause no adverse effects on terrestrial resources. As indicated in section 2.3 and discussed in more detail in section 4.9, Alternative 1 includes establishing a 500-foot building setback with a 250-foot vegetative buffer around all project shorelines. Such measures would protect against future degradation of existing riparian habitat and habitats adjacent to the impoundment.

Operating the Penobscot Mills Project under Alternative 1 could have minor adverse effects on the existing beaver population in the Back Channel. The higher flows proposed under this alternative could force the beavers to move off the Back Channel to some of the smaller tributaries that flow into it. This could, in turn, adversely affect wetlands resources in the Back Channel (see section 4.5.2). Operating the Penobscot Mills Project under Alternative 1 would have no other adverse effects on terrestrial resources.

4.6.3 Alternative 2

Under Alternative 2, no adverse terrestrial impacts other than those due to the Applicant's Proposal would occur at the Ripogenus and Penobscot Mills projects. Under this alternative, however, we would require GNP to provide at least annual maintenance of the duck boxes specified in the Back Channel Wildlife Habitat Management Plan and to replace them as needed. Reports (to DIFW) of such maintenance and replacement would be required annually. As explained further in section 4.9, Alternative 2 includes establishing a 250-foot easement for 73 shoreline miles or a 200-foot boundary expansion on GNP-owned lands at the Ripogenus Project and a 200-foot boundary expansion on GNP-owned land around the impoundments at the Penobscot Mills Project. These increases would protect existing riparian habitat but less terrestrial habitat in the immediate vicinity of the impoundment than the larger zone proposed in Alternative 1.

4.6.4 No-action Alternative

The No-action Alternative would have no additional adverse effects on terrestrial resources.

4.7 THREATENED AND ENDANGERED SPECIES

4.7.1 Applicant's Proposal

Ripogenus Project. The bald eagle (*Haliaeetus leucocephalus*), a federally and state-listed endangered bird, breeds in several areas of the Ripogenus Project (see section 3.8.2). EPA, FWS, and other intervenors assert that impoundment level fluctuations are directly linked to elevated mercury levels in impoundment fish, and that this could adversely affect eagles.

GNP conducted a mercury study, which showed that project operations are not related to elevated mercury levels in fish within the project impoundment (see section 4.3). GNP believes that the bioaccumulation of mercury in the fish on which bald eagles feed is unrelated to project operation. The study showed that similar levels of mercury are found in fish from both unmanaged lakes (i.e., lakes without dams) and managed lakes throughout the region.

GNP asserts that the additional bioaccumulation studies proposed by several agencies and other intervenors are unjustified and that no further measures are necessary because no additional changes in operation are proposed. During the LURC hearings for the Ripogenus Project, GNP's wildlife experts and toxicologists testified that elevated mercury levels in the project impoundments are not related to impoundment fluctuations and that, although elevated levels of mercury in fish have been documented, no current evidence indicates that bald eagles are being adversely affected by exposure to mercury (LURC, 1993).

Other data show that although heavy metals such as mercury may be correlated with lower reproduction rates in raptors, these lower rates are also strongly linked to the simultaneous presence of other pollutants, such as DDE (metabolite of DDT), which has been found in most egg samples (Wiemeyer et al., 1984). Another study indicates that bald eagle nests along the West Branch of the Penobscot River and its associated lakes have an average production rate of 0.94 young per occupied nest, compared with the production level of 1.00 young per occupied nest regularly attained by other major breeding populations of eagles (Welch, 1991). Such differences in fecundity of hypothetically healthy populations and the existing West Branch population are probably statistically insignificant.

The newest research by Welch (1994) provides no new evidence that would indicate a positive correlation between mercury contamination and eagle productivity. The same is true for PCBs, but a positive correlation was found for DDE. Neither of these contaminants are associated with project operations. Further, this research provides no evidence that elevated levels of mercury in Maine's eagles are linked to impoundment fluctuations. The data show that mercury levels in the blood and feathers of eaglets is significantly higher in lacustrine situations than in marine, estuarine, or riverine situations in Maine; however, data from only a few fluctuating impoundments among a variety of lakes were apparently considered in the Welch (1994) data set. The research also points out that mercury concentrations recorded in the blood of Maine eaglets throughout the state are similar to levels observed throughout Florida, where very few hydroelectric impoundments exist, and that eaglets sampled in Oregon had blood mercury levels approximately five times higher than concentrations measured eaglets in Maine.

We conclude that nothing in the current literature directly or indirectly links impoundment draw-downs with elevated levels of mercury in bald eagles. Further, no evidence suggests that the fecundity of the eagle population at the Ripogenus Project is affected by current draw-down operations. We conclude that operation of the Ripogenus Project as proposed by GNP would have no demonstrable adverse effects on the bald eagle population in the project area.

The common loon (*Gavia immer*), a bird species of concern in Maine (described in section 3.8.2), breeds within the Chesuncook Lake portion of the Ripogenus impoundment. GNP indicated that operation of the impoundment may affect nesting success slightly; however, GNP stressed that nest site selection takes place early (late May to late June). In mid-May, water levels are typically within 1 foot of their highest annual level at the impoundment; therefore, most of the loon nesting cycle occurs after the danger of flooding has passed (GNP, 1991a). Also, according to GNP, receding water levels of more than 2 feet typically do not occur until the latter part of the nesting cycle, which minimizes some effects on the broods (because of timing) but increases other effects, such as predation. Impoundment fluctuations similarly affect common tern (*Sterna hirundo*) and ring-billed gull (*Larus delawarensis*), both uncommon breeding birds in Maine.

We conclude that detrimental effects on the common loon, common tern, and ring-billed gull may be occurring at the Ripogenus Project, and that enhancement measures may be appropriate (see Alternative 2, section 4.7.3).

FWS indicated that the long-tailed shrew (*Sorex dispar*), listed as a C3 species (more abundant than previously believed), and the North American lynx (*Felis lynx*), a C2 species for future federal listing, have ranges that overlap the project area (letter from G. Beckett, FWS, to J. Carson, GNP, February 12, 1990; see section 3.8.2). GNP did not identify either of these species during wildlife surveys; however, even if either or both of these species exists at the project, it is unlikely that proposed operations would have any adverse impacts on them because of their relative mobility. Because of its current listing status, we did not consider the long-tailed shrew an important species in terms of our review.

FWS also indicated in its letter of February 21, 1995, that several species whose ranges potentially overlap the project boundaries should be added to the list of potential species of concern for the projects. These species, all federal C2 candidates, include yellow lampmussel (*Lampsilis cariosa*), brook floater (*Alasmidonta varicosa*), extra striped snaketail dragonfly (*Ophiogomphus anomalus*), and midget snaketail dragonfly (*Ophiogomphus howeii*). The extra striped snaketail dragonfly and the midget snaketail dragonfly have also been proposed as state listed threatened and endangered species, respectively. FWS stated that information pertaining to the distribution of all these species is severely limited. These species have never been identified within the project boundaries, and it is not likely that proposed operations would affect them adversely.

Penobscot Mills Project. Bald eagles breed in several areas of the Penobscot Mills Project (see Ripogenus Project discussion).

Common loon, a bird species of concern in Maine (described in section 3.8.3), breeds on the North Twin impoundment, Millinocket Lake, and Quakish Lake (see discussion of

impoundment level effects on common loon breeding for the Ripogenus Project). GNP's proposal to stabilize the North Twin impoundment levels from May 1 to September 15 should help to ameliorate possible impacts (i.e., loss of eggs and chicks) of flooding of nest sites during the early portion of the nesting cycle (mid-May to late June). Additional wildlife enhancements are necessary at the Penobscot Mills Project to compensate for these detrimental effects on the common loon (see Alternative 2, section 4.7.3).

The sedge *Carex oronensis*, a Category 2 species, was observed a considerable distance from the North Twin impoundment shoreline during a botanical survey conducted by GNP but was never found within the limits of the Penobscot Mills Project (see section 3.8.3). GNP's proposed operation of the project probably would not affect this plant adversely.

4.7.2 Alternative 1

This alternative, which reflects the concerns and requests of the CI, would have no adverse effects on threatened and endangered species in either project area, other than those that would occur under GNP's proposal. Several groups, including CI, however, suggest that artificial nesting platforms would help to alleviate some of the effects of impoundment fluctuations on nesting common loons and other aquatic birds (see discussion in section 4.7.3).

4.7.3 Alternative 2

Alternative 2 would produce no additional adverse impacts on threatened and endangered species. We recommend, however, that GNP confer with DIFW and FWS to preserve existing eagle perching areas and to investigate the appropriateness of creating new perching areas around the periphery of the impoundments.

Several groups, including CI, suggest that artificial nesting platforms would help to alleviate some of the impacts on nesting common loon due to impoundment fluctuation. Common tern and ring-billed gull, both uncommon breeding birds in Maine, also experience similar nesting impacts due to impoundment fluctuations. Providing artificial nesting platforms would be an effective and relatively inexpensive means to improve the nesting success of common loon and other aquatic birds.

We agree that GNP should use artificial, floating nest structures to help increase survival of nesting loons and other aquatic birds at impoundments at both the Ripogenus and the Penobscot Mills projects. GNP should develop plans for design and implementation of these structures in conjunction with DIFW.

4.7.4 No-action Alternative

The No-action Alternative would not affect threatened and endangered species.

4.8 RECREATION RESOURCES

Potential recreation impacts associated with the proposed projects relate to flows, water level fluctuations, fisheries, access, facilities, and cumulative impacts. In the following section, we discuss each of these impact areas under each alternative.

4.8.1 Applicant's Proposal

4.8.1.1 Recreation Flows

Proper river flows are critical to support recreational boating in both the impoundments and the river system affected by project operations.

Ripogenus Project. GNP voluntarily provides flows of at least 2,000 cfs during normal months and at least 1,800 cfs during wet or dry months throughout the primary recreation season (May 1 to September 15). As part of a settlement agreement with MEPRO, GNP would increase minimum daytime flows according to the schedule presented in table 4-6 and would establish a telephone message system to provide information about flow conditions along the West Branch and scheduled releases from Ripogenus Dam, notify a designated representative of MEPRO of any unscheduled releases from Ripogenus dam, and provide readily visible staff gauges calibrated to river flow levels at McKay station, Abol Bridge, and Telos Bridge (GNP, 1993b). Following an emergency outage, GNP would restore these flows as quickly as possible, but in no more than 3 days.

Table 4-6. Minimum flow schedule (cfs; Source: MEPRO, 1993)

	May 1 to September 15			September 16 to October 1
	Sat & Sun	**Mon & Fri**	**Tues to Thurs**	**Sat & Sun**
Normal Year	2,300	2,200	2,000	2,300
Wet/Dry Year	2,200	2,000	1,800	2,200

Several agencies and interest groups recommend alternative minimum flows for the West Branch of the Penobscot River below McKay station, which is the principal whitewater boating segment in the project area. The American Whitewater Affiliation (AWA) and the National Park Service (NPS) both request a 2,400 cfs minimum flow for whitewater boating (letters from AWA, September 27, 1989; D. Haas, NPS, March 2, 1992), which was MEPRO's original recommendation (letter from MEPRO, October 18, 1989). FWS recommends reducing the flow below 2000 cfs to allow additional water storage to meet downstream fish and wildlife needs (letter from G. Beckett, FWS, to J. Carson, GNP, December 16, 1991).

Flow is one of the most important variables affecting the whitewater boating experience. Research indicates an inverted-U relation between recreation quality and flow (Brown et al., 1991); flows below a certain level are unusable. Above that minimum, recreation quality rises with flow, plateaus at an intermediate range, and then drops as flows reach unsafe levels. Figure 4-6 estimates this relationship for the West Branch based on the staff's evaluation of a video showing whitewater rafting at flows ranging from 1,400 cfs to 3,600 cfs (GNP, 1992c) and the results of the 1990 whitewater boating survey (GNP, 1991b). Although flow ranging from 1,700 to 3,000 cfs did not statistically affect the satisfaction of rafters, the survey did not address first-time rafters who may have had no basis for comparing alternative flow levels. Private boaters responding to the survey preferred higher (above 3,000 cfs) and lower flows (below 2,000 cfs); they found intermediate flows (2,000 to 2,600 cfs) less satisfying. Many of these paddlers had extensive experience on the West Branch, averaging 43 trips, and were more familiar with the river at various flows. MEPRO indicates that 1,800 cfs is the minimum flow necessary for a reasonable rafting experience, and approximately 2,400 cfs is necessary for a quality rafting experience that would encourage repeat business (letter from J. Connelly, MEPRO, to J. Carson, GNP, April 13, 1991).

Increasing the minimum flow at McKay station from 2,000 cfs to 2,300 cfs on weekends during years with normal rainfall would significantly improve the quality of whitewater rafting while at least maintaining the quality of paddling (figure 4-6). The West Branch already is recognized as one of the premier whitewater rafting rivers in New England, especially during the summer, when regulated flows enable sustained high-quality rafting. Given this existing reputation, increased minimum flows for recreation are not likely to attract significant numbers of new customers. Improving the recreational experience, however, probably would increase the number of repeat rafting customers, which both MEPRO and DOC contend is critical for the continued success of the commercial boating outfitters.

Although the proposed flows would be less than the 2,400 cfs recommended by AWA and NPS, these flows would be minimums, not averages. GNP reports that during 1992, when it voluntarily implemented major components of the WUP, daily flows during the boating season exceeded 2,400 cfs during daylight hours 64 percent of the time (GNP, 1993b). According to the WUP, GNP also would be able to maintain weekly average flows at McKay station above 2,400 cfs from May 1 to September 12 during an average rainfall year.

Upper Gorge. DOC recommended studying the potential for whitewater boating in Upper Gorge below Ripogenus dam (letter from DOC to GNP, April 28, 1987). Upper Gorge has been rafted successfully at flows as low as 1,100 cfs (GNP, 1991b). Currently, no commercial rafting occurs through Upper Gorge, and whitewater boating is generally limited to private boaters during occasional spillage events.

GNP does not propose flows for recreational boating in Upper Gorge. Under the Applicant's Proposal, whitewater boating in Upper Gorge would occur during occasional spillage events, as it does now.

Millinocket Stream and Back Channel. CI and NPS requested studies of the potential for whitewater boating on the Back Channel and Millinocket Stream (letters from D. Sosland, CI, February 29, 1992; D. Haas, NPS, March 2, 1992). FERC decided not to evaluate the potential for whitewater boating in these two streams in this FEIS because the

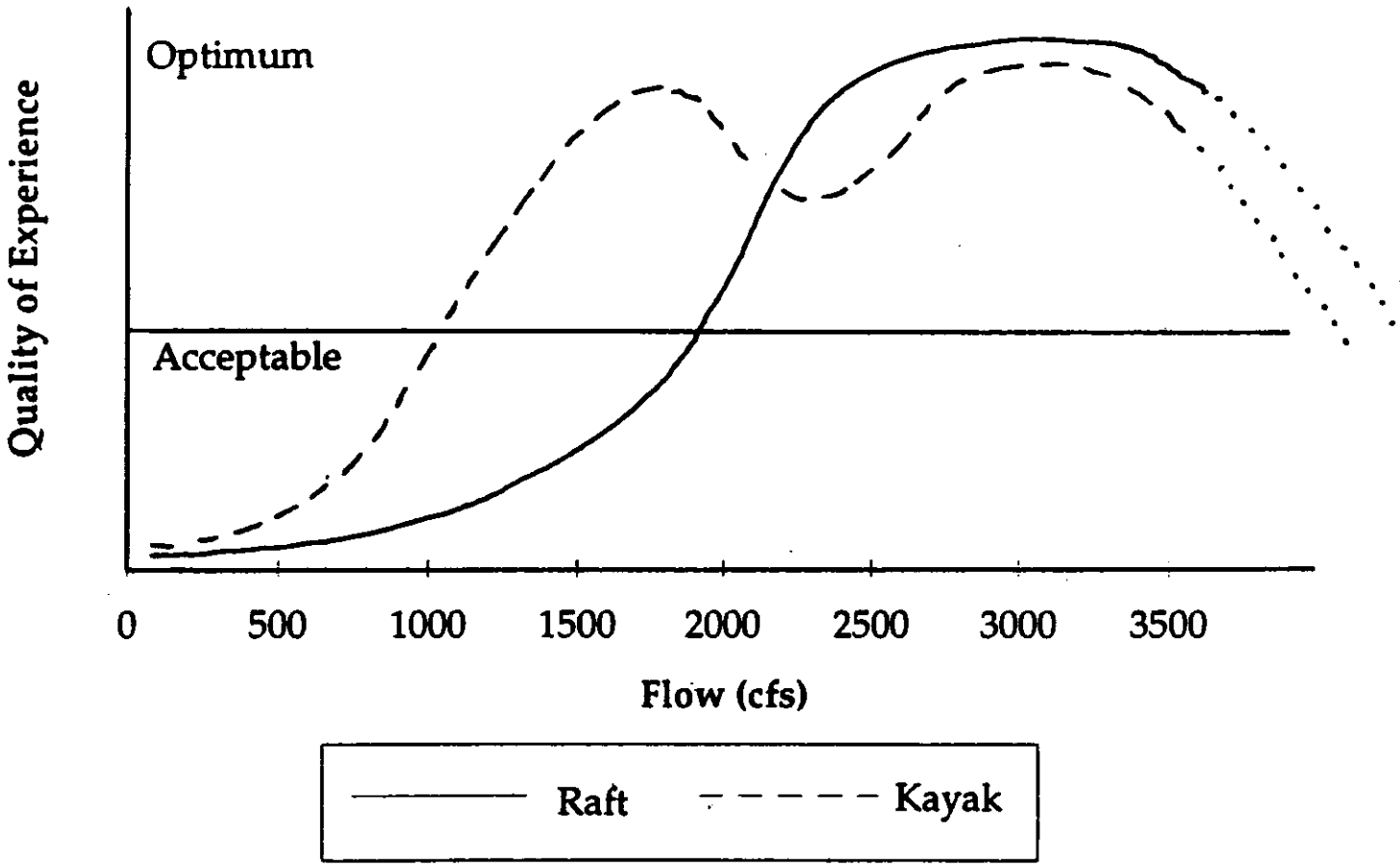

Figure 4-6. Whitewater boating experience versus flow for the West Branch (Source: Staff)

significant flows that would be required to provide recreational boating opportunities would jeopardize other environmental enhancements (FERC, 1993c).

Multiday Canoe Trips. The West Branch of the Penobscot River offers one of only a few remaining opportunities in the eastern United States for multiday canoe trips in a wilderness setting. GNP does not propose any construction activities that would interfere with such trips or would require additional portage. Loss of wilderness character because of shoreline development, forestry practices, and water level fluctuations is the major potential adverse effect on multiday canoe trips in this area (see sections 4.9 and 4.10).

4.8.1.2 Water Level Fluctuations

Water levels in Ripogenus, North Twin, and Millinocket Lake impoundments fluctuate seasonally. GNP proposes to maintain relatively stable water levels in North Twin impoundment from May 1 through mid-August, unless it is unable to maintain the required 2000 cfs minimum flow below Millinocket. GNP proposes to pump water from Millinocket Lake to maintain stable water levels in North Twin; this, combined with increased releases to Millinocket Stream, would increase water level fluctuations in Millinocket Lake during the summer recreation season.

Although several agencies and organizations recommend limiting draw-down of the Ripogenus, North Twin, and Millinocket Lake impoundments for various environmental reasons, only Save Our Scenic Lakes Association (SOSLA) specifically cites recreation. SOSLA contends that rapid draw-downs during the recreation season (May 1 to September 1) make boating, swimming, and general recreation hazardous, stressful, and expensive. SOSLA's concern focuses on the North Twin impoundment and Millinocket Lake, and it requests that the start of draw-down on North Twin be delayed until at least August 22 (SOSLA, 1993). Other owners of waterfront property on North Twin testified during scoping meetings that fluctuating water levels are not a problem (FERC, 1993b).

Ripogenus Project. The proposed WUP would increase water level fluctuations in the Ripogenus impoundment during dry years to satisfy other downstream demands for water. During a dry year, draw-downs allowed under the plan would not exceed the historical maximum draw-down (approximately 27 feet since 1976), which typically occurred during late winter. The annual average lake elevation, however, would be approximately 1 foot lower, and the average elevation during the summer recreation period would be approximately 0.5 feet lower. During average rainfall years, neither annual nor summer draw-down would increase. In general, lake elevations are highest in early summer because the impoundment stores high spring flows.

GNP identified 43 seasonal camps along the Ripogenus shoreline, only 7 of which have boat docks (GNP, 1992d). All seven boat docks are either on floats or fastened to wheels so that they can be adjusted to changing water levels. The two commercial operations on the impoundment both have floating docks.

The staff concludes that the proposed average reduction of 1 foot in water levels would not significantly affect boat access or recreational use at the Ripogenus impoundment.

North Twin. Although the WUP does not establish firm limits on draw-down during the summer, it would dampen water level fluctuations. From 1976 to 1990, draw-down between May 15 and August 15 averaged 2.2 feet. Under the WUP, draw-down during this same period would have averaged 1.3 feet. During a dry year, the North Twin impoundment elevation historically averaged approximately 483 feet. Under the WUP, GNP would maintain water levels at an elevation of approximately 488 feet.

GNP proposes to maintain a relatively stable water level only until August 15 and then to initiate a relatively rapid draw-down of up to 2.0 feet per week to reach a minimum pool elevation before lake trout spawning season begins (October 15). This rapid draw-down would begin during the height of the summer recreation season, including the Labor Day holiday weekend.

GNP found that 50 percent of seasonal camps along the North Twin impoundment do not have boat docks, 40 percent have floating docks, and 10 percent have fixed docks. Water depths at the fixed docks ranged from 4.4 to 7.0 feet at normal pool elevation. All three commercial operations on North Twin have floating docks. Maximum summer draw-down at North Twin since 1972 is 9.7 feet, which renders all the fixed docks unusable. The average summer draw-down since 1972, however, is only 1.5 feet, leaving fixed docks largely unaffected. Under the proposed WUP, maximum draw-down would be approximately 4.5 feet during a dry year and 1.5 feet during a year with normal rainfall. The staff concludes that the proposed WUP would improve recreational use at the North Twin impoundment by reducing water level fluctuations and maintaining higher average pool elevations during the summer. This would be particularly beneficial for the North Twin impoundment because it is the most heavily used recreation area in the project area. Rapid draw-down after August 15, however, would conflict with recreational use and could create some safety concerns. A study of navigation hazards would be appropriate to ensure recreational boating safety.

Millinocket Lake. GNP proposes to pump water from Millinocket Lake to maintain relatively stable water levels in the North Twin impoundment. Combined with increased minimum flow releases to Millinocket Stream, this would result in increased draw-down of Millinocket Lake during the summer. GNP did not model water surface elevations on Millinocket Lake; therefore, although the exact extent of potential draw-down is unknown, it would be greater than the historic average.

GNP sampled seasonal camps on Millinocket Lake and found that 33 percent do not have docks, 19 percent have floating or movable docks, and 48 percent have fixed docks. Water depths at the fixed docks ranged from 1.8 to 7.6 feet at normal pool elevation. The two commercial operations on Millinocket Lake have a total of eight floating docks and one fixed dock with a water depth of 9 feet at normal pool elevation. Maximum summer draw-down at Millinocket Lake since 1972 is 3.4 feet, which would render some of the fixed docks unusable. The average summer draw-down since 1972, however, has been only 0.6 feet, which would not affect fixed docks. Under the proposed WUP, maximum draw-down would increase. The staff concludes that the WUP would adversely affect recreation on Millinocket Lake, but that a study of potential navigation hazards may be appropriate.

4.8.1.3 Recreational Fisheries

Upper Gorge. GNP proposes to increase flows to 100 cfs from July 1 to September 30; flows would remain at leakage (12 cfs) during the rest of the year. This flow enhancement is designed to attract adult salmon into Upper Gorge during the summer fishing season to increase fishing opportunity within this reach. This flow enhancement would increase the amount of adult salmon habitat in the reach by 71 percent. DIFW and FWS accept this proposal as adequate (letter from J. Deason, Interior, May 24, 1993). The proposed seasonal flow enhancement would improve habitat for salmon in Upper Gorge, especially habitat for the adult salmon desired by anglers. Although this enhancement would increase the number of river miles of landlocked salmon habitat in the West Branch watershed by less than 1 percent, the new habitat would be located in an area of high use and would offer additional habitat for a world-renowned salmon fishery.

West Branch. GNP proposes to enhance flows for salmon spawning and incubation in the West Branch below McKay station and to develop a salmon nursery area near Holbrook Pool. The staff estimates the salmon nursery could add 245, 3-year-old fish per year to the population (see section 4.4). The staff concludes that GNP's proposal would improve the reproductive success of salmon and enhance the recreational fishery in this area.

Millinocket Stream. GNP proposes to increase minimum flows to 60 cfs from May 1 to October 15 and to maintain 20 cfs during the remainder of the year. This flow enhancement would increase smallmouth bass spawning habitat by 16 percent but would not significantly affect salmon stocks (see section 4.4). The staff concludes that GNP's proposal would improve the bass fisheries in Millinocket Stream.

GNP also proposes to establish a put-and-take trout stocking program with 500 trout per year at 3 trout per pound. Most out-of-town anglers are attracted to the natural, high-quality salmon and trout fishing opportunities in the area. DIFW estimates that there are more than 3,000 miles of native brook trout streams just in the Ripogenus/Moosehead Lake area (Region E); therefore, we conclude that the stocking program would benefit primarily local residents and would attract few out-of-town anglers.

Back Channel. GNP proposes to provide only leakage (2 to 5 cfs) in the Back Channel. This flow would not support any sport fishery in this reach. The staff concludes that existing conditions in the Back Channel would not change.

4.8.1.4 Recreation Access and Facilities

GNP maintains that existing recreation access to the impoundments is adequate and does not propose any additional access points. GNP contends that the number of water access points, campsites, and other recreation facilities adequately meets current demand at the Ripogenus Project (letter from C.W. Ten Broeck, DOC, to J. Carson, GNP, November 5, 1990).

The North Twin impoundment and Millinocket Lake, which are the impoundments used most heavily for recreation, have five and four access points for boats, respectively. These access points are located conveniently along the major roads in the area. There is no

evidence of overuse or capacity limitation, except for parking at several water access points. GNP's proposed recreational enhancements would address parking concerns and provide amenities for whitewater boaters, which would improve the overall recreational experience within the project area. We conclude, therefore, that the numbers and locations of existing recreation facilities at both Ripogenus and Penobscot Mills are adequate. GNP agreed to assess the adequacy of existing recreation facilities within the project area every 10 years in consultation with the Maine Bureau of Parks and Recreation.

GNP did not receive comments from the public or from agencies about access for people with disabilities at the Ripogenus or Penobscot Mills projects. GNP must, however, comply with the Americans with Disabilities Act of 1990 (ADA). GNP intends to meet applicable accessibility standards at its recreation sites to the maximum extent possible. GNP proposes to provide marked handicapped-accessible parking spaces with proper surface compaction for wheelchair access at the Caribou Lake, McKay station, Green Bridge, Dead Man's Curve, and Route 157 boat launch facilities. The proposed privies at McKay station and the changing facilities at Never's Corner would meet ADA guidelines. This access would provide recreational boating and fishing opportunities for wheelchair users.

4.8.1.5 Cumulative Impacts

This alternative would enhance whitewater boating, fishing, and other water-based recreational activities along project impoundments and the West Branch.

4.8.2 Alternative 1

4.8.2.1 Recreation Flows

Regarding the proposed flow regime at McKay station, this alternative and its associated impacts would be the same as the Applicant's Proposal.

4.8.2.2 Water Level Fluctuations

Under this alternative, draw-downs of Ripogenus impoundment and Millinocket Lake would increase slightly because water stored in these impoundments would help to provide the 350 cfs flow to the Back Channel and to maintain relatively stable water levels in the North Twin impoundment.

At Ripogenus, this alternative would increase average draw-down by about 2 feet during the summer of a dry year as compared with historical conditions; effects would be negligible during a year with normal rainfall. The staff concludes that this increase in draw-down would not significantly affect boat access or recreational use at the impoundment because nearly all docks can adjust to water level fluctuations, and most boat launches are usable even during periods of low water.

At the North Twin impoundment, this alternative would reduce average draw-down during dry and normal years by approximately 3 feet and 1 foot, respectively, thereby improving recreational access and use.

GNP would use water stored in Millinocket Lake to provide increased minimum flows in Millinocket Stream and help maintain stable water levels in the North Twin impoundment. This alternative, therefore, would result in increased draw-down in Millinocket Lake relative to historic conditions. The staff predicts that draw-down at Millinocket Lake under this alternative would be greater than under the Applicant's Proposal because the Back Channel flows would be increased, resulting in greater recreational effects.

4.8.2.3 Recreational Fisheries

Alternative 1 proposes additional fishery enhancements in Upper Gorge, Millinocket Stream, and the Back Channel.

We conclude that increasing minimum flows from 12 cfs to 50 cfs from October 1 to June 30 would not provide any lasting benefit to fishery resources in Upper Gorge and would not improve recreational fishing (see section 4.4). Providing minimum flows of 60 cfs in Millinocket Stream also would result in a small, if any, numerical increase in salmon stocks and would not provide any significant benefit to smallmouth bass. The proposed flow regime, therefore, would not significantly improve recreational fishing in Millinocket Stream.

This alternative would provide a minimum flow of 350 cfs in the Back Channel, producing approximately 245, 3-year-old fish per year over the 4.5-mile reach. The estimated 245 adult salmon in the Back Channel represent only 61 fish per mile per year, well below the state standard of 83 fish per mile per year required for moderate quality fisheries (DIFW, 1991). The staff predicts that providing a 350-cfs minimum flow would improve fishing in the Back Channel, but not enough to attract a significant number of anglers because better, more accessible fishing opportunities are available along the West Branch. As discussed in section 4.4, other factors limit the value of a fishery in the Back Channel.

4.8.2.4 Recreation Access and Facilities

Interior recommends that the applicant conduct recreation monitoring studies to assess the adequacy of existing recreational facilities within the project areas once every six years for the term of the new licenses in consultation with FWS, NPS, DIFW, DOC, and PIN. The monitoring studies would include at a minimum the collection of annual recreation use data and would begin within 6 years of receiving a license. GNP would submit to the Commission a report to include (1) annual recreation use figures; (2) a discussion of the adequacy of its recreation facilities at the project site to meet recreation demand; (3) a description of the methodology used to collect all study data; (4) if there is a need for additional facilities, a recreation plan to accommodate recreation needs in the project area; (5) documentation of agency/tribal consultation and agency /tribal comments on the report after it has been prepared and provided to the agencies and PIN; and (6) specific descriptions of how the agency/PIN comments are accommodated by the report. GNP would allow a minimum of 30 days for the agencies and the PIN to comment and to make recommendations before filing the report with the Commission.

The recreational facilities within the project area are varied and managed by numerous agencies. Assessing recreational use and demand and coordinating the overall management of recreational resources is crucial to ensure adequate public recreational resources over the

term of the license. The staff finds the specified details for recreational monitoring to be appropriate to ensure adequate monitoring of recreational use and resources within the project area.

The effects of this alternative would be similar to those of the Applicant's Proposal (see section 4.8.1.4). Recreational access would be more difficult during dry years because of lower lake water levels.

4.8.2.5 Cumulative Impacts

The effects of this alternative would be the same as those of the Applicant's Proposal (see section 4.8.1.6), with the additional benefits of the proposed recreation monitoring every 6 years to ensure facilities are meeting recreational demand.

4.8.3 Alternative 2

4.8.3.1 Recreation Flows

Regarding the proposed flow regime at McKay station, this alternative and its associated impacts would be the same as the Applicant's Proposal. This alternative also would provide scheduled whitewater flow releases in Upper Gorge for expert daylight kayaking on two weekends during May. GNP would notify AWA and local whitewater boating interests at least 7 days before scheduled releases.

No estimates of the number of paddlers in the region who are sufficiently skilled to paddle this reach are readily available, but the carrying capacity of Upper Gorge would probably determine the number of users. The staff estimates that the per-day whitewater boating capacity of Upper Gorge is approximately 54 paddlers. This assumes 3 boaters per group (per AWA safety code), 9 hours available for access each day, and 30 minutes between group departures to preserve a wilderness experience. Flow releases would be limited to May to avoid conflicting with fishery goals. Releases during June or October could attract salmon into Upper Gorge; however, these fish would be stranded when flows are reduced on weekdays. From July 1 to September 30, GNP proposes flows of 100 cfs for fishery enhancement. Higher flows for whitewater boating during this period could flush salmon out of the reach. In addition, GNP often spills water during May. Under this alternative, GNP would simply notify whitewater interests of planned spillage. The cost to GNP in terms of lost power would be negligible because these flows usually would be spillage.

The staff concludes that two weekend releases during May would not conflict with fishery goals; would have negligible cost to GNP; and would provide whitewater boating opportunities for more than 200 paddlers, which should be adequate to satisfy the demand of expert boaters to paddle this reach. The staff recommends that GNP consult with whitewater interest groups regarding appropriate flows for the weekend releases during May.

4.8.3.2 Water Level Fluctuations

Under this alternative, draw-downs at Ripogenus impoundment and Millinocket Lake would increase slightly because water stored in these impoundments would help maintain relatively stable water levels in the North Twin impoundment.

At Ripogenus, this alternative would increase average draw-down by 1.5 feet during the summer of a dry year as compared with historical conditions; effects would be negligible during a year with normal rainfall. The staff concludes that an increase in draw-down of 1.5 feet during a dry year would not significantly affect boat access or recreational use at the impoundment because nearly all docks can adjust to water level fluctuations, and most boat launches are usable even during periods of low water.

At the North Twin impoundment, this alternative would reduce average draw-down by approximately 4 feet during dry years and 1 foot during normal years. This alternative also would extend the period during which GNP maintains relatively stable water levels in the North Twin impoundment from August 15 to August 22. This additional week would enhance recreation and provide more predictable water levels for boaters during the height of the summer recreation period at the most actively used impoundment in the project area.

Extending the period of stable water levels would reduce the time available to draw down the reservoir to its lowest elevation (approximately elevation 479 feet) by October 15 (for lake trout spawning) from 8.5 to 7.5 weeks. Reducing this draw-down period would not jeopardize GNP's draw-down requirements or exceed GNP's maximum draw-down rate of 2.0 feet per week. Maximum draw-down currently occurs when the impoundment is at maximum pool elevation (491.9), and water levels would need to be drawn down 12.9 feet over 8.5 weeks, or 1.5 feet per week. Under the worst-case scenario, Alternative 1 would decrease the impoundment level by 12.9 feet over 7.5 weeks, or 1.7 feet per week; this rate is still below GNP's recommended maximum. A 1-week extension would increase outflow by less than 5 percent (from 3,900 cfs to 4,100 cfs) during a year with normal rainfall. As long as inflow to North Twin does not exceed approximately 2,800 cfs, GNP would not have to spill water to achieve this draw-down. These proposed actions would improve recreational access and use. Extending the period of stable water levels by 2 weeks until August 29 would result in an average draw-down of 2.0 feet per week and probably would exceed GNP's maximum draw-down ratio.

GNP would use water stored in Millinocket Lake to provide increased minimum flows in Millinocket Stream and help maintain stable water levels in North Twin; consequently, this alternative would result in increased draw-down relative to historic conditions. The staff estimates that draw-down under this alternative would be slightly greater than under the Applicant's Proposal because of increased the Back Channel flows and extended stable water levels in North Twin; however, draw-down under this alternative would be less than under Alternative 1 because of reduced the Back Channel flows.

4.8.3.3 Recreational Fisheries

Proposed flows and effects on recreational opportunities in the Upper Gorge and West Branch would be the same as for the Applicant's proposal (see section 4.8.1.3). This

alternative proposes a 60-cfs minimum flow year-round in Millinocket Stream. The proposed flow regime would provide only a small, if any, numerical increase in adult salmon (see section 4.4). This alternative, therefore, would provide similar effects on recreational fishing opportunities as described in section 4.8.1.3.

4.8.3.4 Recreation Access and Facilities

Under this alternative, GNP would conduct recreation monitoring studies every 6 years for the term of the licenses in consultation with various resource agencies. The monitoring studies would include at a minimum the collection of annual recreation use data and would begin within 6 years of license. GNP would submit to the Commission a report to include (1) annual recreation use figures; (2) a discussion of the adequacy of its recreation facilities at the project site to meet recreation demand; (3) a description of the methodology used to collect all study data; (4) if there is a need for additional facilities, a recreation plan proposed to accommodate recreation needs in the project area; (5) if there is need for additional facilities, design of recreational facilities would conform to the national standards established by the Architectural and Transportation Barriers Compliance Board pursuant to the Americans with Disabilities Act of 1990; (6) documentation of agency consultation and agency comments on the report after it has been prepared and provided to the agencies; and (7) specific descriptions of how the agency comments are accommodated by the report. GNP would allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the report with the Commission.

Staff believes that assessing recreational use and demand and coordinating the overall management of recreational resources are crucial to ensure adequate public recreational resources over the term of the license. The proposed monitoring of recreational use and resources within the project area would provide incremental assessment and allow for potential improvements of recreational resources as recreational demand warrants.

The effects of this alternative would be similar to those of the Applicant's Proposal (see section 4.8.1.4). Recreational access would be more difficult during dry years because of lower lake water levels.

4.8.3.5 Cumulative Impacts

The effects of this alternative would be the same as those of the Applicant's Proposal (see section 4.8.1.6), with the additional benefits of the proposed recreation monitoring every 6 years to ensure that facilities are meeting recreational demand.

4.8.4 No-action Alternative

Under the No-action Alternative, the projects would continue to operate under the terms and conditions of the existing licenses, with no change in existing environmental conditions.

4.9 LAND USE

During scoping, resource agencies and intervenors noted the need for a comprehensive watershed management plan. GNP proposes no such plan. A watershed

protection plan is beyond the scope of FERC's EIS process because changing land use patterns throughout the watershed outside project boundaries is not a project activity.

4.9.1 Applicant's Proposal

Land use issues include shoreline development, timber harvesting, and expansion of project boundaries. Primary concerns are the potential negative impacts of future development and the need to establish more protective land use regulations.

During the DEIS comment period, GNP proposed additional measures for managing the shoreline in the Ripogenus Project. GNP proposes to adopt a Memorandum of Understanding (MOU) with the state of Maine to convey a renewable conservation easement within the Ripogenus Project area including approximately 73 miles of shorefront land within 250 feet of the normal high water mark in certain areas of Chesuncook and Ripogenus lakes and Brandy and Black ponds for the term of any FERC license. GNP also proposes a perpetual conservation easement outside the project area on approximately 5 miles of shorefront land within 500 feet of the normal high water mark of portions of Lobster Lake and the West Branch of the Penobscot River (letter from Angus King, Jr., Governor of Maine, and Donald McNeil, GNP, February 16, 1995). GNP proposes no conservation easements for the Penobscot Mills Project area.

The proposed conservation easements would be consistent with and become an addendum to the 1981 Resource Protection Plan and Recreation Management Plan for the Penobscot Waterway (see section 3.11.2.1). Under the proposed MOU, the state would manage recreational activity within the easements, and no additional commercial or residential development would be allowed. GNP and the state reserve the right to withdraw from the obligations put forth in the MOU if FERC imposes conditions or requirements for shoreline protection within the Ripogenus or Penobscot Mills Project areas which differ materially from the GNP-proposed easements (letter from Angus King, Jr., Governor of Maine, and Donald McNeil, GNP, February 16, 1995).

4.9.1.1 Shoreline Development

Under the Applicant's Proposal, the proposed 250-foot easements would guide shoreline development in a significant portion of the GNP-owned property within the Ripogenus Project area. GNP proposes no easements for the Penobscot Mills Project area, where LURC's existing regulations would guide shoreline development. GNP contends that LURC's current land use regulations adequately control the kind and amount of development within the project boundaries and area (GNP, 1993b).

The CI are concerned about the amount of waterfront development allowed under LURC's regulations and note that LURC's standards are not necessarily permanent. They contend that LURC is an independent state commission that can alter its regulations, approve rezonings, or even be abolished on its own, or pursuant to an act of the legislature (letter from Daniel Sosland, CLF et al., April 30, 1992).

LURC's regulations establish frontage restrictions along project shorelines. In the Penobscot Mills Project area, roughly 72 percent of the impoundment shorelines are zoned as

P-GP, which restricts residential development to one dwelling unit per 200 linear feet of shoreline. Within the Ripogenus Project area, roughly 60 percent of the impoundment shoreline is zoned as P-AL, which limits development to one dwelling unit per linear mile of shoreline. The conservation easement along the West Branch of the Penobscot River established in 1981 encompasses roughly 14 percent of the Ripogenus Project and restricts development within 500 feet of the river.

The proposed conservation easements along 73 shoreline miles around Chesuncook and Ripogenus lakes and Brandy and Black ponds would limit development of commercial and residential structures within 250 feet of the shoreline. Both existing and proposed easements would allow structures related to generation of hydroelectric power, timber harvesting, mineral extraction, and the development, in accordance with LURC requirements, of camps and campgrounds on existing lease lots within the easement areas (LURC, 1981).

GNP owns approximately 50 percent of the Ripogenus Project shoreline and 70 percent of the Penobscot Mills Project shoreline. GNP awarded approximately 900 leases to current and retired employees for use as private camps. GNP terminated leasing during the early 1970's; however, GNP has not guaranteed that the leasing moratorium would remain in effect for the new license period. GNP could resume granting leases, and related development could occur within the project area. Presently, there are approximately 430 dwelling units along the Penobscot Mills Project shoreline and 70 units along the Ripogenus Project shoreline. Over the term of the license, the staff estimates residential development could increase by approximately 40 percent in the Penobscot Mills Project area, and by approximately 70 percent in the Ripogenus Project area. These estimates are based on LURC's current regulations, including subdivision regulations, and do not account for development limitations such as steep slopes, poor soils, wetlands, or access.

According to the Forest Service, forested lands with high recreation value, particularly on lakeshore and riverfront lands, are most vulnerable to changes in land use and potential development (FS, 1992). A LURC study of building permits granted between 1971 and 1991 showed that 53 percent of all residential development occurred along shorelines of lakes with high scenic value (lakes of statewide significance; see section 3.11.1). Approximately 70 percent of the lakes within the project areas are classified as having statewide significance and are particularly subject to the effects of future development.

For the Ripogenus Project, the proposed easements would not be incorporated into the project boundaries but would be donated to the state of Maine and maintained for the duration of the license period as put forth in the terms of the MOU. The staff concludes that the proposed easements for the Ripogenus Project area and the shoreline protection afforded by these easements would be adequate for the term of the license.

For the Penobscot Mills project, GNP proposes no easements and LURC's current regulations would apply. LURC's regulations are subject to change independently of project operations and license conditions. For example, between 1985 and 1992, LURC granted 17 of 23 petitions to rezone lands within P-GP districts (letter from Daniel Sosland, CI, September 3, 1993). The staff finds that although LURC's current regulations adequately manage shoreline development, these regulations are not directly tied to the license and long term

protection of the aesthetic and natural recreational experience would not be guaranteed for the term of the license.

4.9.1.2 Timber Harvesting Practices

The CI contend that GNP's forestry practices affect water quality, water quantity, recreation, fisheries, and wildlife habitat in the watershed (letter from Daniel Sosland, CI, September 3, 1993). GNP contends that current regulations provide adequate measures to ensure proper management of forest resources (GNP, 1993c). Timber harvesting practices within the project region are regulated by the MFPA and LURC regulations. The MFPA regulations include performance standards for clear-cutting, regeneration standards, notification before harvest, annual reports, and regularly updated forest management and harvest plans prepared by a licensed forester (State of Maine, 1989). Within the Ripogenus and Penobscot Mills Project areas, LURC timber harvesting regulations control the extent of vegetative clearing and provide vegetative filter strips related to the slope of the land (see section 3.11.1.1).

The most commonly recommended minimum buffer to protect water quality is 50 feet (Nieswand et al., 1990). Several other factors, most notably slope, also affect the necessary width of buffer strips (Nieswand et al., 1990; Budd et al., 1987; Joubert, 1985). The FS recommends a 75-foot buffer (15-foot undisturbed forest and 60-foot managed forest) for protection of water quality (FS, 1992). LURC's and MFPA's buffer requirements are generally consistent with recommended guidelines for protecting water resources. The staff concludes, therefore, that the existing timber harvesting practices and regulations adequately protect water quality.

4.9.1.3 Expansion of Project Boundaries

The CI and Interior recommend that GNP establish protection zones and shoreline conservation easements for all lands surrounding the project impoundments to provide long-term protection and enhancement of water quality, aesthetics, riparian wildlife habitat, and backcountry recreation opportunities (letter from Daniel Sosland, CLF et al., November 2, 1993; and letter from J. Deason, Interior, May 24, 1993).

During the DEIS comment period, GNP proposed conservation easements along approximately 73 shoreline miles for the Ripogenus Project area (see section 4.9.1). These easements would not be included within the project boundary but would be conveyed to the state of Maine for the term of the license. We conclude that the proposed easements would provide adequate protection of the natural and aesthetic qualities of the shoreland areas within the Ripogenus Project area for the term of the license.

GNP proposes no project boundary expansion or protection zones within the Penobscot Mills Project area, relying on LURC's regulations to control land use throughout the project area. The existing project boundaries generally extend to the high water marks of the project impoundments and streams; therefore, shorelands adjacent to project waters and affected by potential development lie outside the designated project boundaries. LURC's current regulations provide means to control the amount and location of shoreline development; however, for the Penobscot Mills Project area, these provisions are not directly

tied to the project license and could change over the term of the license. Potential shoreland development could adversely affect recreational and aesthetic resources within the project area. We conclude that the proposed boundaries for the Penobscot Mills Project area are inadequate.

4.9.1.4 Cumulative Impacts

Potential shoreline development within the Penobscot Mills Project area would contribute to the loss of the natural character and could adversely affect recreational and aesthetic resources.

4.9.2 Alternative 1

This alternative proposes expanding project boundaries to allow for building setbacks and vegetative buffers, which would protect aesthetics, water quality, riparian wildlife habitat, and related backcountry recreational opportunities. Proposed setback areas would extend 500 feet from the highwater marks of the impoundments and would prohibit residential or commercial development. The recommended width is consistent with the guidelines established for river and lake protection on the adjacent Allagash River wilderness waterway and with the existing GNP conservation easement along the West Branch of the Penobscot River. The designated areas for vegetative buffers would extend 250 feet from the high water marks of the impoundments and permit no clear-cutting or other removal of vegetation. Other regulations would include standards established in the Resource Protection Plan for the Penobscot Waterway (LURC, 1981).

4.9.2.1 Shoreline Development

The proposed building setback would restrict future development within 500 feet along the impoundments' shorelines and prohibit development of piers, boat docks, and ramps. The setbacks would not prohibit the creation of waterfront lots or significantly reduce the amount of development, but they would require all buildings to be set back 500 feet from the shoreline. A 500-foot building setback exceeds nearly all recommended minimum setbacks for protecting water quality. We conclude that a 500-foot building setback would protect the natural and aesthetic resources within the project areas.

4.9.2.2 Timber Harvesting Practices

The proposed vegetative buffer would prohibit clear-cutting within 250 feet of the impoundment and stream shorelines, which is an additional 150 to 200 feet of buffer beyond LURC's current requirements (see section 3.11.1.1). The staff concludes that the additional buffer requirement would provide increased protection against nutrients, sediment, animal-derived organic matter, and some pesticides reaching water bodies, thereby reducing pollution and providing further protection of surface water quality.

4.9.2.3 Expansion of Project Boundary

This alternative proposes a 500-foot horizontal expansion of the project boundary from all impoundment shorelines. GNP would need to acquire fee simple interest in this land or

secure conservation easements. We estimate that GNP would need to secure easements on approximately 3,500 acres within the Ripogenus Project and approximately 3,000 acres within the Penobscot Mills Project. The proposed expansion would increase setbacks along the shoreline areas up to 400 feet, limiting potential negative impacts on the natural environment and preserving the aesthetic resources of the project area.

4.9.2.4 Cumulative Impacts

The CI's proposed conservation easements would provide cumulative environmental benefits through further regulation and mitigation of development and timber harvesting in critical areas, such as wetlands and shorelines, within the project areas.

4.9.3 Alternative 2

In the DEIS this alternative recommended a 200-foot boundary expansion for the Ripogenus Project and a 200-foot boundary expansion on GNP-owned lands for the Penobscot Mills Project. We revised this recommendation based on comments received during the DEIS comment period, including GNP's proposed conservation easements for the Ripogenus Project area, updated land valuation information (see section 4.12.2.2), and revised estimates of development potential (see section 4.9.1.1).

As a result of this assessment, we revised this alternative and propose two options for protecting the Ripogenus Project shoreline area. Option One would be adoption of the proposed 250-foot conservation easements as defined by the MOU (see section 4.9.1). Option two would incorporate a 200-foot boundary expansion on GNP-owned lands for the Ripogenus Project. Under both options, this alternative proposes expanding project boundaries for the Penobscot Mills Project to generally extend 200 feet from the high water mark of the impoundments within the project area, only on land currently owned by GNP. For both projects, the proposed boundary expansion would incorporate a 200-foot building setback and a 100-foot vegetative buffer.

4.9.3.1 Shoreline Development

The proposed easements or boundary expansion along approximately 73 shoreline miles of the Ripogenus Project area would limit development of commercial and residential structures within 200 feet (boundary expansion) to 250 feet (MOU) of the shoreline. The staff concludes that the proposed easements or boundary expansion would provide adequate shoreline protection for the Ripogenus Project area (See section 4.9.1.1).

For the Penobscot Mills Project area, no development would be allowed within the proposed 200-foot boundary expansion. This proposed boundary expansion would limit potential negative effects of development on the aesthetics and recreational resources of the shoreline areas. See section 4.9.3.3 for further discussion of the proposed boundary expansion.

4.9.3.2 Timber Harvesting Practices

This alternative proposes that timber harvesting practices within the proposed 250-foot easement (MOU), or 200-foot boundary expansion for the Ripogenus Project area and the

200-foot boundary expansion for the Penobscot Mills Project area would continue to follow existing state of Maine regulations (MOU) or incorporate a 100-foot vegetative buffer and those stipulations as established under the Shoreline Management Plan (boundary expansion). The effects of this alternative would be similar to Alternative 1 (see section 4.9.2.2).

4.9.3.3 Expansion of Project Boundary

Option One

Under this option the proposed easements for the Ripogenus Project area would not be included within the project boundaries. The proposed 250-foot wide easements for 73 shoreline miles of Chesuncook and Ripogenus Lakes and Brandy and Black Ponds would be conveyed to the State of Maine for the duration of the license under the terms of the MOU (letter from Angus King, Jr., Governor of Maine, and Donald McNeil, GNP, February 16, 1995). The existing project boundaries would not be altered except in the event that the recreation monitoring plan would warrant additional recreational facilities within the project area. In this event, the recreational enhancements, (i.e., a boat launch area) would be incorporated into the project boundaries. Under this proposed alternative, GNP would remain responsible for recreational enhancements or mitigation associated with project operations or license conditions as required by the Commission for the term of the license.

For the Penobscot Mills Project area, this option proposes expansion of the project boundary generally 200 feet from the high water mark of project impoundments to include a 200-foot building setback and a 100-foot vegetative buffer. The Commission can require an applicant to acquire and include within the project boundary enough land for project purposes, such as public recreation, shoreline control, or protection of environmental resources [18 CFR § 4.51 (8) (2) (B)]. The proposed 200-foot boundary expansion would establish buffer zones for such purposes along the GNP-owned portions of the project impoundments and waterways.

The Commission can require the applicant to include an analysis of costs and constraints in developing a protection zone around the impoundments.[11,12] We recognize that the most practical and cost-effective way to establish a protection zone is to develop criteria for selecting shoreline widths according to land use and resources and not by indiscriminately selecting a baseline width (FERC, 1993a). Under this option, GNP would

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11 18 CFR § 4.51 (f) (6) (iv) - which requires the applicant to provide a statement "including an analysis of costs and other constraints, of the applicant's ability to provide a buffer zone around all or any part of the impoundment, for the purpose of ensuring public access to project lands and waters and protecting the recreational and aesthetic values of the impoundment and its shoreline."

12 18 CFR § 2.7 (a) - the Commission expects the licensee: "to acquire in fee and include within the project boundary enough land to assure optimum development of the recreational resources afforded by the project. To the extent consistent with the other objectives of the license, such lands to be acquired in fee for recreational purposes shall include the lands adjacent to the exterior margin of any project reservoir plus all other project lands specified in any approved recreational use plan for the project."

establish a Shoreline Management Plan (SMP) in consultation with LURC, CI, Interior, the town of Millinocket, and the town of East Millinocket for the proposed 200-foot boundary expansion on GNP-owned lands at the Penobscot Mills Project area that would establish guidelines and define policies and regulations concerning the management of shoreline lands. The goals and objective of the SMP would focus on protecting and maintaining aesthetic, natural, and cultural resources of the impoundment area and balancing the protection of these resources with permitted private and public use of the area.

The SMP would include maps delineating the shoreline protection zone on GNP, criteria used for selecting widths, and incorporate the following provisions to:

- develop a management plan for the shoreline protection zone areas under LURC guidelines for Resource Protection Plan;
- maintain the prescribed minimum width protection zones around the project impoundments and waterways, public roads, and private property;
- identify and substantiate determinations for designating widths less than the prescribed recommended protection zone width;
- plan timber harvesting activities within and adjacent to the protection zones to follow guidelines established by LURC before timber harvesting;
- minimize openings in shoreline vegetation and provide additional vegetative screening as needed where future recreational facilities and project operation development requires construction closer to the shoreline than the prescribed minimum-width protection zone;
- maintain project transmission line rights-of-way in a manner that minimizes adverse aesthetic effects caused by clearing vegetation;
- screen adverse visual features (i.e., storage buildings, parking areas), particularly prominent features visible from the shoreline impoundment, or other adjacent critical viewpoints;
- conduct periodic inspections of project lands to identify and mitigate changes in land use that adversely affect the provisions stated in this management plan; and
- review and update the plan every 10 years to meet aforementioned provisions.

Option Two

For the Ripogenus Project area, this option proposes a 200-foot boundary expansion on all GNP-owned lands, and would also propose the same 200-foot boundary expansion for the Penobscot Mills Project area as Option One. The proposed boundary expansion would include a 200-ft building setback and a 100-foot vegetative buffer. Under Option Two, GNP would establish a Shoreline Management Plan (SMP) in consultation with LURC, and Interior for the proposed 200-foot boundary expansion on GNP-owned lands at the Ripogenus Project area and in consultation with LURC, Interior, the town of Millinocket, and the town of East

Millinocket for the 200-foot boundary expansion on GNP-owned lands at the Penobscot Mills Project area. The SMP would establish guidelines and define policies and regulations concerning the management of shoreline lands, as described under Option One.

Within the proposed boundary expansion areas, existing structures would be grandfathered, and the Commission would authorize GNP to review and approve proposed actions as established under the Standard Land Use Article and in the SMP. Such authority would be for proposed actions consistent with LURC's regulations and would incorporate LURC's review and approval. Any proposed variances to LURC's regulations would warrant FERC's review and approval. The project boundary expansion would enhance aesthetic and recreational resources and mitigate potential negative effects of development along shoreline areas.

4.9.4 No Action

The No-action Alternative would maintain current project operations and land use regulations. No project-specific protection zones would be established to mitigate potential negative effects of future development within the project region. These potential negative impacts would occur primarily along the projects' shoreline areas and would affect the water quality, aesthetic, and recreation resources in the respective project region.

4.10 AESTHETIC RESOURCES

Potential aesthetic impacts of the proposed projects could be caused by fluctuations in impoundment elevations, shoreline development, and forestry practices. These potential impacts stem from project operations, not from new project construction.

4.10.1 Applicant's Proposal

4.10.1.1 Water Level Fluctuations

GNP proposes measures to reduce impoundment draw-downs in North Twin Lake to enhance recreational use. Reduced draw-downs also would enhance aesthetics, although GNP proposes no specific measures to enhance aesthetics. GNP contends that additional flows for aesthetic purposes would be incompatible with its WUP and would jeopardize flows required at other locations throughout the project areas (GNP, 1993b, 1993c).

FWS, SOSLA, CI, and others are concerned about impacts of impoundment fluctuations and draw-downs on aesthetics at Ripogenus, Millinocket, and North Twin impoundments (letter from D. Sosland, CI, September 3, 1993).

Under the Applicant's Proposal, the amount of exposed shoreline at the Ripogenus impoundment would remain an average of 1,400 acres based on average pool elevation. An additional 300 acres would be exposed during dry years. The areas of exposed shoreline at the North Twin impoundment would decrease by 300 acres from the 750 acres currently exposed during average years, and by 700 acres from the 2,050 acres currently exposed during dry years. Millinocket Lake fluctuations would increase slightly from existing conditions, but the increase cannot be quantified based on available information.

Visual elements of the project area contribute to the quality of the recreational experience. Exposed rocky shorelines and streambeds can detract from the overall visual experience, particularly when associated with recreational use of the area. We find that the proposed draw-downs would have minimal effects on the aesthetic environment during average years, resulting from minor changes in the amount of exposed shoreline. Significantly reducing the amount of exposed shoreline during dry years would positively affect the North Twin impoundment. The additional 300 acres of exposed shoreline at the Ripogenus impoundment would have minimal negative effect on visual elements of the environment.

4.10.1.2 Development Along Shorelines

GNP contends that current LURC regulations provide adequate means to control the kinds and amount of development along the impoundment shorelines within the project boundaries (GNP, 1993b). LURC regulations restrict shoreline development to one structure per 100 feet to 1 mile, setbacks range from 75 feet to 150 feet, and vegetative buffers from 75 to 100 feet. Permanent piers require a review process and permit by LURC based on the applicable zoning district. Temporary piers and docks require no review or approval by LURC (1991).

NPS and CI are concerned about the aesthetic impacts of development along impoundment shorelines (letter from D. Sosland, CI, February 29, 1992). Development along the impoundment shorelines can significantly affect the aesthetic environment. A recent study on northern forestlands conducted by the Forest Service stated: "The existing qualities of the northern forest will not persist if the forces driving change are allowed to run their course . . . Unplanned growth, commercial sprawl and development incompatible with the surroundings will erode the visual quality of the community" (FS, 1990).

For the Ripogenus Project area, the proposed 250-foot easement would protect the aesthetic resources of the shoreline areas for the term of the license. For the Penobscot Mills Project area, GNP proposes no easements, and LURC's existing regulations would apply. LURC's regulations, however, are not directly tied to the project license and are subject to change separately from license requirements and project operations. For the Penobscot Mills Project, over the long term, future development could affect the aesthetics of the project shoreline areas.

4.10.1.3 Influence of Forestry Practices

GNP proposes no additional restrictive or regulatory measures to control existing forestry practices beyond the control exercised under LURC. During scoping meetings, SOSLA indicated that any clear-cutting visible from the lakes would affect the aesthetic environment. LURC land use regulations restrict the size and location of clear-cutting operations along lake and stream shorelines (see section 3.11.1.1). Clear-cut harvesting is prohibited in vegetative buffers ranging from 50 to 100 feet from the high-water mark. Clear-cut openings beyond these vegetative buffers also are regulated to minimize negative effects on water quality and forest resources.

LURC regulations provide measures to limit the extent of clear-cut openings along lake and stream shorelines, which would negatively affect the aesthetic environment. These

regulations are subject to change separately from license requirements and project operations. The staff maintains that forestry practices have been a part of the landscape in northern Maine for more than 100 years and, assuming that proper buffers and regeneration are provided, do not represent a significant aesthetic impact.

4.10.1.4 Cumulative Impacts

The proposed relative stabilization of impoundment shoreline elevations would have minor, short-term cumulative visual benefits. Potential development along the shoreline areas, however, would have negative cumulative impacts on aesthetic resources in the project areas.

4.10.2 Alternative 1

Modifications proposed in Alternative 1 that would influence aesthetic qualities of the project area include decreased shoreline fluctuations and the creation of conservation easements to restrict future development.

4.10.2.1 Shoreline Fluctuations

Under this alternative, the amount of exposed shoreline at the Ripogenus impoundment would not change during an average year but would increase by 1,600 acres during a dry year compared with existing conditions. The amount of exposed shoreline at North Twin impoundment would be reduced by 300 acres from the 2,500 acres currently exposed during both dry and normal years. Fluctuations of Millinocket Lake would increase more under Alternative 1 than under other alternatives, but cannot be quantified.

The proposed stabilization of shoreline fluctuations would result in minimal reduction of exposed shoreline acres during average years, and the effects of the exposed shorelines would remain virtually unchanged. During dry years, the proposed stabilization measures would cause significant negative aesthetic impacts at the Ripogenus impoundment because the amount of exposed shoreline would be substantially increased.

4.10.2.2 Development Along Shorelines

This alternative would include establishing conservation easements 500 feet from the high water mark to prevent development along the shorelines. This would have beneficial effects because it would limit the kinds and extent of development along the shorelines and promote and protect the visual quality of the natural environment.

4.10.2.3 Influence of Forestry Practices

Alternative 1 proposes a 250-foot vegetative buffer, which would prohibit timber harvesting within this buffer area. This alternative would have beneficial aesthetic effects because of larger vegetative barriers between the viewer and forestry practices and protect the visual quality of the natural environment.

4.10.2.4 Cumulative Impacts

This alternative would have minor, short-term visual effects and relatively few long-term visual effects.

4.10.3 Alternative 2

Alternative 2 would delay and modify fall draw-down at storage impoundments and restrict excessive shoreline development.

4.10.3.1 Shoreline Fluctuations

Draw-downs proposed in Alternative 2 would maintain the existing amount of exposed shoreline in the Ripogenus impoundment during average years (1,400 acres) and would expose an additional 800 acres during dry years. The number of exposed acres at the North Twin impoundment would decrease by 300 acres during average years and by 400 acres during dry years. Millinocket Lake fluctuations would increase slightly.

We find that the proposed actions would have minor effects on the visual environment during average years. During dry years, the increased amount of exposed shoreline at the Ripogenus impoundment would negatively affect the aesthetic qualities of the natural landscape.

4.10.3.2 Development Along Shorelines

The proposed 250-foot easement or 200-foot boundary expansion in GNP-owned lands for the Ripogenus Project area would provide protection of aesthetic resources from potential negative effects of shoreline development within the project area. For the Penobscot Mills Project area, the proposed 200-foot boundary expansion would provide additional protection of the aesthetic resources for the term of the license along the shoreline areas of GNP-owned property.

4.10.3.3 Influence of Forestry Practices

The effects of this alternative would be the same as those of the Applicant's Proposal (see section 4.10.1.3).

4.10.3.4 Cumulative Impacts

Regarding potential for cumulative impacts from proposed actions, this alternative would have the same impacts as Alternative 1 (see section 4.10.2.4).

4.10.4 No-action Alternative

The No-action Alternative would not enhance the existing project areas or protect against potential future negative impacts of shoreline fluctuations and development along the shorelines.

4.11 CULTURAL RESOURCES

The primary cultural resource issues within the Ripogenus Project and Penobscot Mills Project areas are potential effects on archeological and historical sites caused by erosion of shorelines; potential cultural effects on the PIN, including claims to the West Branch islands; and potential cumulative effects on PIN tribal, riverine traditions.

4.11.1 Applicant's Proposal

4.11.1.1 Archeological and Historical Sites

Archeological surveys and consultation with the SHPO identified 7 archeological sites within the Penobscot Mills Project and 15 sites within the Ripogenus Project potentially eligible for inclusion in the National Register of Historic Places (NRHP). GNP developed Cultural Resource Management Plans (CRMPs) to mitigate potential effects on the eligible archeological and historical sites within the Ripogenus and Penobscot Mills projects. The CRMPs include descriptions of significant sites, alternatives for avoiding effects, data recovery plans for designated sites, preliminary recommendations for site access and conservation easements, and provisional data recovery schedules (GNP, 1992a, 1992b).

The SHPO found that the proposed project construction and operations would not adversely affect the archeological and historic resources in the area (letters from E. Shettleworth, Jr., SHPO, to J. Carson, GNP, November 2 and November 3, 1992). For the Penobscot Mills Project, these findings assumed full implementation of the CRMP, proper maintenance of the Ambajejus Boom House, and no alteration of the present level of the impoundments. The SHPO found that relicensing the Ripogenus Project would not adversely affect archeological site significance, Chesuncook Village, or Ripogenus dam if the CRMP was fully implemented (letter from E. Shettleworth, Jr., SHPO, to J. Carson, November 3, 1993).

The staff recommends that GNP revise the CRMPs to include measures to address the protection of previously unidentified archeological properties within the project area, and updated schedules and costs for implementation of the CRMPs. Previously undiscovered properties within the project areas could be adversely affected by project construction or operation. The existing CRMPs do not provide sufficient measures to protect such properties. The revised CRMPs would be developed in consultation with the SHPO and PIN (see section 4.11.1.2), and submitted to the Commission and the Advisory Council on Historic Preservation (ACHP) as outlined in the Programmatic Agreement (PA).

The staff prepared a PA that provides stipulations for necessary elements of the CRMPs, measures for implementing the CRMPs; measures for interim treatment of historic properties; and measures for resolving disputes and amending and terminating the PA. The PA was executed on July 1, 1996 with FERC, the ACHP, and SHPO as signatory parties and GNP as a concurring party.

4.11.1.2 PIN Claims to Islands in the West Branch

PIN claims islands and traditional fishing rights in the West Branch of the Penobscot pursuant to terms of the 1980 Maine Indian Claims Settlement Act (letter from B. Ott, Director,

Eastern Area Office, Bureau of Indian Affairs, September 8, 1993). GNP refutes PIN's claim to the islands within the Penobscot tributaries and proposes no actions related to this claim (GNP, 1993c, 1993d).

The Maine Indian Claims Settlement Act of 1980 attempted to resolve outstanding claims to land in the Maine, including claims of the PIN (letter from C. Wilson, Associate Solicitor, Bureau of Indian Affairs, to B. Ott, Eastern Area Director, Bureau of Indian Affairs, June 5, 1992). PIN bases its claim on the Act to Implement the Maine Indian Claims Settlement, 30 Maine Revised Statutes Annotated, 6201 et seq. (25 U.S.C. § 1722 (i), citing 30 M.R.S.A. § 6203.8), which describes the Penobscot Reservation as:

> "the islands within the Penobscot River reserved to the Penobscot Nation by agreement with the States of Massachusetts and Maine consisting solely of Indian (or Old Town) Island and all islands in said river northward thereof that existed on June 29, 1818, excepting any island transferred to a person or entity other than a member of the Penobscot Nation subsequent to June 29, 1818."

Upon review of the PIN's claim to islands in the West Branch, the Maine State Department of the General Attorney found: "The 1818 Treaty reserved to the Penobscots only the islands in the Penobscot River. Nothing in the Treaty even remotely suggests that any land or islands in any branches or tributaries of the Penobscot River were being reserved. Indeed, exactly the opposite is true, since, the Tribe, by the Treaty, was unequivocally ceding any claim to land in the branches of the Penobscot River" (letter from Michael Carpenter, Attorney General, State of Maine, December 16, 1993). Furthermore, the Maine State Department of the Attorney General concluded, " It is the opinion of this Office that the definition of 'Penobscot Indian Reservation' in 30 M.R.S.A. § 6203(8) does not include islands in the Branches of the Penobscot River and the Implementing and Settlement Acts did not expand the Penobscot Indian Reservation from what is was in 1980 " (letter from Michael Carpenter, Attorney General, State of Maine, December 16, 1993).

The Department of Interior has examined the 1980 Maine Indian Claims Settlement Act (25 U.S.C. 1721, et. seq.) and the Maine Implementing Act (30 M. R. S. 6201, et seq.) to determine if islands in the West Branch are included within the Penobscot Indian Reservation. Interior determined the conditioning authority of Section 4(e) would not be pursued for the Ripogenus or Penobscot Mills projects (letter from Kerry O'Hara, Department of Interior, Office of the Solicitor, March 3, 1994). Interior states that the Commission has neglected to consider tribal interests in issues such as water quality, toxics, stream flows, fishery resources, and cultural significance of the project area (letter from Andrew Raddant, Interior, to Lois Cashell, FERC, February 21, 1995).

The staff reviewed available information regarding the PIN's claims to lands and rights within the branches of the Penobscot River and concurs with the decision of the Maine State Department of the Attorney General (see section 4.11.1.2). The staff, therefore, finds that the consideration of the Penobscot Indian Nation's traditional practices within the project area are outside the scope of Section 106 review.

Based on these findings, the staff does not recommend including PIN as a concurring party to the PA associated with the Ripogenus and Penobscot Mills projects. The staff

acknowledges, however, the interest of PIN in the management of historic properties potentially eligible for listing in the National Register of Historic Places within the project areas. Accordingly, the staff recommends that GNP consult PIN during the development of the revised Cultural Resource Management Plans for the Penobscot Mills and Ripogenus Projects.

4.11.1.3 Cumulative Impacts

Potential cumulative impacts involve effects on religious and social aspects of the PIN and cumulative impacts of cultural resource mitigation efforts. The potential impact of project operations on the religious and social beliefs and values of PIN are best described by a statement issued by the PIN Governor (Sappier, 1990):

> "It is our belief that the Penobscot, is a living, breathing being, yielding and sustaining life in all forms. In our thousands of years of existence, we have lived in harmony with the earth, the air, and the waters. The river is the life-blood of our tribal existence. All of our families use the river and islands for gathering food, hunting, fishing, trapping, collecting medicines, in fasting, prayer lodges, vision quests, and to meditate alone or with others. Any project that disrupts the spiritual and natural balance of the river and the people of the Penobscot Nation is considered an attempt to harm the people of Penobscot Nation."

Past studies have focused on coastal Maine locations, resulting in limited information on aboriginal riverine and lacustrine zones and populations. Data recovery proposed in the CRMPs can provide information to formulate models of interior aboriginal adaptations over time, making the mitigation measures significant beyond local applications and contributing to regional studies throughout Maine (GNP, 1991b). We find that the proposed cultural resource mitigation measures would provide data recovery and potentially important information about the aboriginal riverine tribes of central Maine.

4.11.2 Alternative 1

The effects of this alternative would be the same as those of the Applicant's Proposal (see section 4.11.1).

4.11.3 Alternative 2

The effects of this alternative would be the same as those of the Applicant's Proposal (see section 4.11.1).

4.11.4 No-action Alternative

The No-action Alternative would require no protection of cultural sites within the Ripogenus and Penobscot Mills project areas. Impoundment fluctuations would continue to erode potentially significant cultural resource sites.

4.12 SOCIOECONOMIC RESOURCES

Potential effects of GNP's proposed actions include changes in employment, fiscal conditions, and GNP's manufacturing and maintenance operations. Each of these impacts and potential cumulative impacts are discussed below.

4.12.1 Applicant's Proposal

4.12.1.1 Employment and Fiscal Impact

The proposed projects would not affect population or economic conditions in the project areas, nor would they affect the demand for local government services or government revenues.

The proposed minimum flows through Upper Gorge and McKay station would increase recreational use of the West Branch of the Penobscot River between Ripogenus dam and Ambajejus Lake. Commercial whitewater boating is the principal recreational use of this river reach. Rafting participation has declined in recent years from a peak of nearly 19,000 customers per season (1985) to 16,441 commercial rafters in 1990 (see section 3.10.4.1). According to a survey by GNP, the average rafter spends $400 (1,990 dollars) per trip in Maine (GNP, 1991a). Assuming that increased minimum flows in the West Branch would attract repeat rafting customers sufficient to maintain the average 18,600 yearly participants, this would contribute approximately $863,000 annually to the local economy in terms of purchase of goods and services.

GNP also proposes to construct facilities to support recreation (privies, changing rooms, etc.). GNP did not quantify the construction costs and labor requirements for these enhancements, but they are minor in scale and would contribute little to the local economy in terms of construction expenditures.

Fishing in the West Branch is extremely popular, averaging about 27 percent of visitor-days within the West Branch district (see section 3.10.4.1). Most of the anglers surveyed traveled 100 to 400 miles primarily from locations in Massachusetts and Maine. Average spending by anglers in Maine was $421 (1990 dollars) per trip. At current participation levels, approximately 30,000 users per season would contribute approximately $1.26 million annually to the local economy. We conclude that the proposed fishing enhancements would not attract significantly more anglers to the area, which is already widely recognized as a world-class salmon fishery (see section 4.8).

4.12.1.2 Effect on GNP Operations

GNP contends that the flows proposed in its WUP would sustain current operations and would not cause further layoffs; however, the company could not rule out additional layoffs from other causes. The annual cost to GNP of this alternative would be $877,600; the company's operations would not be adversely affected by this minimal increase in the cost of doing business.

4.12.1.3 Cumulative Impacts

The proposed actions would have no significant cumulative impacts. The project area would maintain current levels of tourism and employment.

4.12.2 Alternative 1

4.12.2.1 Employment and Fiscal Impact

Required flows to the Back Channel could affect GNP operations and indirectly jeopardize population and employment within the project area. Approximately one-third of workers in the project area are associated with mill operations; therefore, any decrease in mill productivity or employment would significantly affect workers and residents. Between 1985 and 1992, GNP reduced its paper and allied products work force by approximately 980 jobs in the Millinocket/East Millinocket labor market area (letter from J. Haskell, Town Planner, town of Millinocket, to J. Kotredes, Town Manager, town of Millinocket, August 28, 1993). Applying the 1.61 employment multiplier used by the Maine Department of Labor, this resulted in a total loss of 1,578 jobs in the area. The annual payroll decline due to those lost jobs could total $65.7 million (average wage $800.19 per week). The town of Millinocket concludes that "any additional losses as a result of the FERC relicensing process clearly would generate catastrophic results in the local economy given the downsizing of GNP that we have already experienced" (letter from J. Haskell, Town Planner, town of Millinocket, to J. Kotredes, Town Manager, town of Millinocket, August 28, 1993).

GNP contends that flows in excess of 50 cfs in the Back Channel would result in the loss of approximately 238 mill jobs (GNP, 1991b). We have no way to independently evaluate this estimate, but we assume that it is a high-end estimate. Using the Maine Department of Labor employment multiplier, the indirect effect of these lost jobs is 383 jobs, representing a lost payroll of more than $15 million.

Any decline in productivity or employment at these sites because of increased minimum flows in the Back Channel would significantly adversely affect local fiscal revenues and service levels. Also, during dry and worst-case years, reduced flows and reservoir elevations could adversely affect recreation and fisheries resources. Both the towns of Millinocket and East Millinocket rely heavily on GNP for operating revenues. Millinocket receives 72 percent of its property tax revenues from GNP, and the company contributes 88 percent of East Millinocket's property tax revenues. The assessed value of GNP's facilities, including real and personal property, within the town of Millinocket is approximately $228 million. Approximately 17 percent of this amount is the value of real property and generates $1.004 million annually in revenue to Millinocket. The greatest proportion of assessed value ($4.902 million in revenues, or 83 percent) is personal property, which includes equipment, furnishings, and vehicles. During 1993, East Millinocket received $3,690,295 from GNP; $520,331 for real property and improvements and $3,140,441 in personal property. FERC received comments from various Chambers of Commerce, labor unions, and the local delegation of the Maine Assembly that supported granting a new license that would not exacerbate declining economic conditions for GNP or the project area.

The proposed 500-foot conservation easements could affect property tax revenues of local governments. The proposed conservation easements within the watershed would restrict future development within a 500-foot setback of the high water mark. In areas where the conservation easement is applied, lot owners still would be able to sell their property or to assemble sufficient acreage to build one residence set back 500-feet from the shoreline. This would result in the same number of shoreline lots as with other project alternatives.

We expect that lot values would adjust to the revised setbacks and that county valuations and property tax revenues would not be adversely affected.

4.12.2.2 Effect on GNP Operations

GNP has operated its hydropower system according to the WUP recommendations since May 1991. GNP determined that further flow requirements would result in system instabilities, tightly constrained maintenance schedules, and unacceptable constraints on GNP's generating reserves. These restraints would directly affect the transmission system and paper-making machinery. Increased Upper Gorge flows under this alternative would add an estimated $233,300 to GNP's internal generation costs and $315,200 in purchased power costs. Increased the Back Channel flows would add an estimated $906,000 (1991 dollars) to GNP's internal generation costs and $1.73 million (1991 dollars) to purchase supplemental power. Increased minimum flows in Millinocket Stream would result in $31,000 (1991 dollars) in lost power costs.

GNP contends that providing flows of 350 cfs in the Back Channel would require retiring machines 7 and 8 and the blade coater (lightweight coated paper complex) at Millinocket. GNP estimates that these losses would total 93,700 tons of paper production annually, approximately 238 mill jobs, and $100 million in annual state output. GNP maintains that continued economic viability of the lightweight coated paper complex is critical to future capital investments planned through 1997. The staff estimates this alternative would cost GNP $4,487,600 annually (1996 dollars).

To estimate the potential effect of GNP acquiring shoreline conservation easements, we reviewed various cost estimates and appraisals (Bangor Real Estate, 1995; Thompson Appraisal Company, Inc., 1995; the testimony of Robert Fiske, January 25, 1995; and LURC, 1990a). Based on this review, the staff estimated costs (per waterfront footage) for obtaining easements for the non-GNP owned shorelines in the Ripogenus and Penobscot Mills Project areas. The staff estimated the approximate costs to be $8.316 million (1996 dollars) for the Ripogenus Project area and $16.35 million for the Penobscot Mills Project area.

4.12.2.3 Cumulative Impacts

Alternative 1 would have cumulative economic impacts in addition to the significant, project-specific adverse effects. The project area is heavily dependent on GNP, directly and indirectly, for employment and retirement income, purchases, and tax revenue to support local government services. Economic conditions outside the Commission's licensing proceeding have caused mill layoffs, a higher local unemployment rate, a reduction of production and corresponding reduction in the purchase of goods and services, and a decline in population

from limited employment opportunities. This project alternative would create significant cumulative adverse effects on the socioeconomic resources of the region.

4.12.3 Alternative 2

4.12.3.1 Employment and Fiscal Impact

Alternative 2 considered increased minimum flows in Upper Gorge, Millinocket Stream, and the Back Channel and other enhancements in addition to the measures proposed by GNP. GNP asserts that providing minimum flows in excess of 50 cfs in the Back Channel would jeopardize 238 mill jobs.

This alternative also would restrict excessive shoreline development in the Ripogenus Project area through the 250-foot conservation easement or the 200-foot boundary expansion on GNP-owned lands and in the Penobscot Mills Project area through a 200-foot boundary expansion and through forestation and buffering requirements along the project impoundments and rivers. The buffer requirements would maintain the same number of shoreline lots and would not affect the maximum residential development of the area. The buffer requirements affect site development standards, not the development potential or indirectly assessed and market values of the lots; therefore, no adverse impact on the tax valuation or property tax revenues would accrue.

4.12.3.2 Effect on GNP Operations

Flows considered in Alternative 2 would affect mill operations by increasing flows in Millinocket Stream and the Back Channel. GNP estimates that average annual losses of GNP's internal generation would be $16,000 and an additional $32,510 in purchased power (1991 dollars). For the Back Channel flows of 150 to 165 cfs, the range of internal generation costs to GNP would be $392,000 to $431,200. Purchased power needed to account for these increased flows would cost between $749,000 and $823,900 (1991 dollars; GNP, 1994). The total cost to GNP for increased minimum flows under Alternative 2, therefore, would range from $408,000 to $447,200 in internal generation costs and from $781,510 to $856,410 in purchased power costs.

Under this alternative, the proposed conservation easement and boundary expansion would be on GNP-owned properties and would require no direct acquisition costs to GNP. The staff estimates the annual cost to GNP of this alternative would range from $959,500 to $1,465,500 (1996 dollars).

4.12.3.3 Cumulative Impacts

With increased minimum flows to Millinocket Stream and the Back Channel, GNP would incur an estimated $408,000 to $823,900 in average annual costs. GNP states that any minimum the Back Channel flows greater than 50 cfs would directly jeopardize 238 mill jobs (GNP, 1991a) in addition to the estimated 980 jobs lost to the Millinocket/East Millinocket Labor Market Area between 1985 and 1992 (letter from J. Haskell, Town Planner, town of Millinocket, to J. Kotredes, Town Manager, town of Millinocket, August 28, 1993). This is a

potentially significant cumulative impact on employment and socioeconomic resources of the region.

4.12.4 No-action Alternative

Potential impacts of the No-action Alternative, which are similar to the Applicant's Proposal, include minor impacts on employment, population, fiscal conditions, and tax revenues.

4.13 UNAVOIDABLE ADVERSE IMPACTS

Construction associated with the proposed recreation facilities, wetlands enhancements, and the Holbrook Stream nursery area would create some short-term, unavoidable adverse impacts from increased dust, noise, heavy equipment traffic, and increased water turbidity.

4.14 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Continued operation of the Ripogenus and Penobscot Mills projects would perpetuate the commitment of lands and waters previously developed for energy production.

4.15 RELATIONSHIP BETWEEN SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

The projects are expected to continue to provide an average of 108 MW of energy production capacity for GNP's paper mills. This long-term productivity would extend at least as long as the duration of the licenses (30 years). The recommended alternative is designed to provide significant long-term enhancement of biological and recreational resources of the system, while meeting energy and economic needs of GNP and the local population.

If the projects were to operate solely to maximize hydroelectric generation, long-term productivity of the impoundment and river fisheries would decrease because increased draw-downs during spawning and incubation periods and reduced minimum flows in reaches such as Millinocket Stream and Upper Gorge would reduce habitat suitability. With the recommended alternative and appropriate enhancement at each site, however, there should be significant, long-term enhancement of existing aquatic resources.

5.0 STAFF'S CONCLUSIONS

5.1 INTRODUCTION

GNP proposes no major new construction or modifications of the Ripogenus or Penobscot Mills projects but seeks to operate them essentially as it has over the past 50 years, except for several resource enhancements. Several intervenors and agencies seek additional enhancements to further improve existing fisheries, recreational opportunities, and other environmental conditions. Negotiations between GNP and some intervenors preceding preparation of this FEIS resolved several issues, including access fees and flow releases for whitewater recreation. Other parties expressed concerns that measures proposed for resource enhancement would have adverse socioeconomic consequences on the local region.

One primary issue in this licensing process is whether GNP should be required to release flows substantially higher than it proposes into the west branch of the Penobscot River downstream of Ripogenus Dam, in Millinocket Stream, and in the Back Channel to enhance fisheries resources and recreational opportunities. GNP contends that any increase in nongenerating flows that would increase its hydropower costs might force the company to reduce paper production at local mills or to purchase more expensive power from regional suppliers. GNP also contends that this would put the company at a disadvantage in the paper market and cause workforce reductions and a decline in GNP's economic activity. Such declines could affect the local economy severely because GNP is the primary local industry, accounting for one-third of all jobs and a wage and benefit input of $121 million annually, all concentrated in the Millinocket area. We evaluated the validity of these positions in section 4 and summarize our findings in our balancing discussion presented in this section.

GNP also claims that it cannot provide flow releases of the magnitude sought by intervenors because of constraints on impoundment water level management (i.e., draw-down limits to protect lake trout in North Twin, preserve recreational opportunity on the project impoundments, and maintain storage capacity for flood control). Intervenors question the validity of the model that GNP used to support its position and suggest that additional, upstream storage impoundments should be considered in this FEIS because they might provide water needed to meet all enhancement goals simultaneously. We analyzed the feasibility of various flow regimes in section 4.2 and summarize our conclusions here.

A second major issue addressed is the extent to which protection from development around project impoundments is necessary to preserve existing aesthetics, recreation and habitat. In this FEIS we evaluated two enhancement measures that GNP did not propose or adopt and that would impose significant additional cost on GNP: enhancing wetlands and expanding the boundaries of the projects around the impoundment shorelines to preserve regional aesthetics and protect water quality and the terrestrial ecosystem. We balanced the cost of the enhancements against the benefits in the same way that we addressed flow releases to determine the appropriate level of enhancement.

5.2 PROJECT ALTERNATIVES

We evaluated three alternatives, using the No-action Alternative as a baseline for comparison. The Applicant's Proposal includes minimum flows, recreational facilities, further studies, and strict schedules for impoundment draw-downs. Alternative 1 includes reasonable flow enhancements to benefit fisheries and other measures approaching those sought by conservation intervenors and some agencies. In defining Alternative 2, we considered several enhancement measures intermediate between those proposed by GNP and those included in Alternative 1 that would achieve some of the enhancement and mitigation benefits sought by conservation intervenors and some agencies but would provide a better balance among developmental and nondevelopmental values, eventually selecting only a few measures beyond those proposed by GNP. Table 5-1 summarizes the enhancement measures included in each alternative.

5.3 ENVIRONMENTAL COMPARISON OF ALTERNATIVES

The key issues in relicensing the Ripogenus and Penobscot Mills projects are the extent to which greater flow releases would enhance fisheries and the degree to which such releases would affect the economic status of GNP's paper production facilities. Adverse economic effects on GNP could result in loss of jobs and economic activity in communities in the project areas. Greater achievement of fisheries objectives would have a greater economic effect on GNP. The alternatives we defined allowed us to identify the maximum range of possibilities for balancing these conflicting objectives and to establish a basis for identifying an equitable licensing solution. We also evaluated if flow regimes described in the Applicant's Proposal and alternatives could be sustained in the context of overall water management within the project area; therefore, we first determined the feasibility of providing all flows defined in the various alternatives while operating within existing and future constraints on impoundment draw-downs and mandatory flow releases.

During scoping, we indicated our intent to evaluate the need for additional flows to enhance opportunities for whitewater recreation. Because of agreements negotiated between GNP and whitewater recreation intervenors and our own analysis of the potential benefits of additional flow enhancements for recreation, we concluded that no flow enhancements beyond those proposed by GNP are necessary for whitewater recreation. We did not include additional recreational flows in alternatives 1 or 2, and we do not view flows for recreation as a major issue.

Two other major issues relate to the benefits and costs of enhancing wetlands and expanding the projects' boundaries. Table 5-2 summarizes the effects or costs of each alternative for each resource. Below we summarize our comparison of alternatives for each of the five major licensing issues: (1) streamflow (i.e., the feasibility of providing flows proposed in all alternatives), (2) fisheries enhancement, (3) wetlands mitigation, (4) land use (i.e., habitat preservation), and (5) economic and socioeconomic effects.

Table 5-1. Summary of enhancement measures in the Applicant's Proposal and alternatives for the Ripogenus and Penobscot Mills projects. Measures listed under the No-action Alternative describe existing conditions; only measures that differ among at least some of the alternatives are included (Source: Staff).

Enhancements	Applicant's Proposal	Alternative 1	Alternative 2	No-action Alternative
Upper Gorge Flows	100 cfs summer; leakage (12 cfs) and spillage rest of year	100 cfs summer; 50 cfs (and spillage) rest of year	100 cfs summer; leakage (12 cfs) and spillage rest of year	Leakage and spillage year round
West Branch Flows	Increased flows for rafting, during outages, and for enhancement of salmon spawning and incubation			200 cfs minimum flow
North Twin Water Level	"Relatively stable" water levels for wildlife, wetlands, recreation, and aesthetics; minimum lake level for lake trout spawning, and greater than minimum lake level for lake trout incubation			Less stable reservoir levels
Back Channel Flows	Leakage and spillage	350 cfs	leakage and spillage	Leakage and spillage
Millinocket Stream Flows	60 cfs spring-fall 20 cfs fall-spring	60 to 80 cfs year round	60 cfs year round	20 cfs year round
Conservation Easement/ Vegetative Buffer	250-foot conservation easement for 73 shore-line miles at the Ripo-genus Project area. None at Penobscot Mills Project.	500-foot building setback 250-foot vegetative buffer	250-foot conservation easement or a 200-foot boundary expansion on GNP-owned lands (Ripogenus) and 200-foot boundary expansion (Penobscot Mills)	None
Wetlands Enhancement	3 sites at North Twin impoundment	2 sites at Ripogenus 2 sites at North Twin	1 site at Ripogenus 2 sites at North Twin	None
Terrestrial Enhancement	Back Channel wildlife habitat management	None	Back Channel wildlife habitat management and maintenance	None
Threatened and Endangered Species	None	Aquatic bird nesting platforms	Aquatic bird nesting platforms	None
Fish Passage	Repair/modify North Twin ladder			No improvement of North Twin ladder
Recreational Fisheries	Stocking brook trout in Millinocket Stream	None	Stocking brook trout in Millinocket Stream	None
Recreation Facilities	Enhance vehicle parking areas and boat access			None

Table 5-2. Summary comparison of environmental and economic consequences of the Applicant's Proposal and alternatives for the Ripogenus and Penobscot Mills projects (Source: Staff)

Resource Area	Applicant's Proposal	Alternative 1	Alternative 2
Annual Net Benefit (1996 dollars)	-$877,600	-$4,487,600	-$959,500
Streamflow (both projects)	Water available for all enhancements even during very dry years	Water available for all enhancements except for several weeks during very dry years	Water available for all enhancements even during very dry years
Fisheries			
Ripogenus Project	Salmon stock enhanced below McKay station; angling opportunity increased in Upper Gorge (1 percent increase in stream length), but no increase in salmon stock.	Additional salmon habitat in Upper Gorge, but no sustained population increases.	Salmon stock enhanced below McKay station; angling opportunity increased in Upper Gorge (1 percent increase in stream length), but no increase in salmon stock.
Penobscot Mills Project	Modest increase in salmon spawning and nursery habitat in Millinocket Stream and a small increase in regional salmon abundance. Enhancement of lake trout spawning in North Twin. No change in Back Channel fisheries habitat.	Potential doubling of adult and spawning habitat in Millinocket Stream and a small increase in the regional salmon stock (larger than under the Applicant's Proposal). North Twin lake trout spawning habitat jeopardized in dry years. Establishment of self-sustaining Back Channel salmon stock unlikely; if established, optimistic maximum population approximately several hundred legal-sized salmon.	Potential doubling of adult and spawning habitat in Millinocket Stream than under the Applicant's Proposal and a small increase in regional salmon abundance (approximately equal to that under the Applicant's Proposal). Enhancement of lake trout spawning in North Twin. No change in Back Channel fisheries habitat.

Table 5-2. (Continued)

Resource Area	Applicant's Proposal	Alternative 1	Alternative 2
Wetlands (acreage of enhancements)			
Ripogenus Project	None	Quaker Brook: 100 acres Black Pond: 250 acres	Black Pond: 250 acres
Penobscot Mills Project	Deep Cove West: 15 acres Deep Cove East: 15 acres Wadleigh Brook: 15 acres	Deep Cove West: 15 acres Deep Cove East: 15 acres	Deep Cove West: 15 acres Deep Cove East: 15 acres
Total	45 acres	380 acres	280 acres
Land Use	Protection against land use changes and potential aesthetic and terrestrial effects within the 250-foot conservation easement for 73 shoreline miles at the Ripogenus Project area. No change at Penobscot Mills Project.	Protection against land use changes and potential aesthetic, water quality and terrestrial impacts within 500 feet of all project impoundments.	Protection against land use changes and potential aesthetic, and terrestrial effects within the 250-foot conservation easement along 73 shoreline miles or the 200-foot boundary expansion on GNP-owned lands of the Ripogenus Project area and within the 200-foot boundary expansion along GNP-owned lands of the Penobscot Mills Project area.
Socioeconomics (job losses)	No change	Potential loss of 238 mill jobs (383 jobs total including multiplier effects)	No change
Cultural Resources	Protection of cultural resources through CRMP & PA	Protection of cultural resources through CRMP & PA	Protection of cultural resources through CRMP & PA

Table 5-2. (Continued)

Resource Area	Applicant's Proposal	Alternative 1	Alternative 2
Terrestrial			
Ripogenus Project	No significant impact (NSI) for terrestrial resources. Protection of terrestrial resources within the 250-foot easement at the Ripogenus Project area.	Future protection of all impoundments with 500-foot building setback	Future protection at Ripogenus impoundment with 250-foot conservation easement or 200-foot boundary expansion
Penobscot Mills Project	Slight enhancement of wildlife in Back Channel	Minor negative effects on wildlife (beaver) in Back Channel because of increased flows	Future protection on GNP-owned land around impoundments with 200-foot project boundary expansion; slight enhancement of wildlife in Back Channel
Threatened and Endangered Species (both projects)	NSI for bald eagles or other rare species	500-foot building setback could provide enhanced habitat protection for bald eagle	Proposed conservation easement and boundary expansion provide enhanced habitat protection for bald eagle
Recreation (both projects)	Improved fishing (Upper Gorge in summer and Millinocket Stream in summer and fall, with brook trout stocking) and whitewater boating	Improved fishing and whitewater boating (both slightly greater than Applicant's Proposal, including opportunities in Back Channel)	Same as Applicant's Proposal except slightly greater increase in salmon angling opportunity in Millinocket Stream

5.3.1 Streamflow

GNP contends that availability of water is a significant constraint on releasing the higher flows sought by the CI (Alternative 1). Using documentation provided by GNP we determined that the model is a suitable tool for evaluating the feasibility and consequences of implementing the various flow regimes. (Appendix D contains responses to all concerns raised by the CI about the model and our detailed evaluation of the model.)

We conclude that flows and impoundment-level constraints proposed in all alternatives could be met simultaneously during average and wet years without additional releases from storage impoundments upstream of the Ripogenus Project. All flow and impoundment-level objectives could not be met simultaneously under Alternatives 1 and 2 during dry years unless flows through the mill were reduced. Even then, however, those objectives would have to be compromised only slightly and for only a brief portion of the year to attain the desired flow releases.

We disagree with GNP's contention, therefore, and conclude that sufficient water is available to attain flow releases within other water management constraints (with some slight modification) under all alternatives.

5.3.2 Fisheries Enhancement

The Ripogenus and Penobscot Mills projects encompass several interconnected impoundments and segments of riverine waters. Although some fish species inhabit most or all bodies of water within the project area (see section 3.5), in nearly all cases those populations do not interbreed or depend on each other to sustain their abundance. For example, the status of the landlocked salmon stock below McKay station on the West Branch is not affected by the status of landlocked salmon in Millinocket Stream or the Back Channel. Project waters, therefore, do not support a single stock of any fish species that could be affected by the cumulative operations of all developments. The status of the recreational fishery for some species (e.g., landlocked salmon and smallmouth bass) within the project region of Maine, however, would be affected by the collective abundance of those species in all waters in the area. For this reason, our comparison of the effects of the three project alternatives on fisheries focuses on the degree to which enhancement measures in all project waters would affect the overall abundance of key fish species, in particular Atlantic salmon, in the project areas. Only the migratory eel population supports what may be considered a single stock throughout project waters. We conclude that the differences among the alternatives in impact to eels are minor.

Under the Applicant's Proposal, the presently abundant landlocked salmon stock below McKay station would be further enhanced by eliminating emergency termination of flow, stabilizing flows during the spawning season, and creating a small amount of new spawning and nursery habitat. Providing a summer flow of 100 cfs in Upper Gorge would increase potential recreational fishing opportunity (about 1 percent increase in the length of stream supporting landlocked salmon in the upper West Branch) but would not contribute to an increase in salmon abundance. Providing a 60-cfs flow in Millinocket Stream between May 1 and October 15 would create only a modest amount of additional spawning and nursery habitat for salmon (25 to 30 percent increase for juveniles and adults). The existing

population in Millinocket Stream is small and supported primarily by hatchery fish passing downstream over Millinocket dam; therefore, the enhancement would contribute little to regional landlocked salmon abundance and recreational fisheries. GNP proposes no additional flow in the Back Channel; therefore, that area would not contribute to enhancement of existing regional fisheries resources. Because water use objectives would not conflict during dry years under the Applicant's Proposal, North Twin impoundment levels could be managed to benefit lake trout.

Although the higher flows in Upper Gorge, Millinocket Stream, and the Back Channel proposed in Alternative 1 probably would enhance the aquatic ecosystems of those reaches significantly (e.g., enhancing benthic invertebrate populations by increasing available aquatic habitat), those flows would cause only a very limited increase in regional landlocked salmon stocks or other gamefish. There may also be slight benefit to American eel.

Even though year-round minimum flows in Upper Gorge would create a small amount of additional winter habitat for landlocked salmon, sustained population increases would be unlikely because high spillage flows during spring would continue to adversely affect the production value of fisheries habitat in that river reach.

The salmon population in Millinocket Stream is small (number of spawners ranged between 9 and 20 fish over 3 years, probably of hatchery origin), and the enhanced flows proposed in Alternative 1 would only double the small amount of available adult and spawning habitat (with potential doubling of the existing small population).

Even though a 350-cfs flow in the Back Channel would provide maximum habitat for nursery and fry life stages of landlocked salmon, a larger, self-sustaining salmon stock probably would not be established under this flow regime because the 2.7-mile reach in which those fish would have to remain throughout their life cycle probably could not support significant numbers of all life stages of salmon year-round. High-volume spillage during spring would displace early life stages and juveniles downstream significantly. Juveniles dropping downstream into Shad and Dolby ponds would encounter predation and competition from smallmouth bass and pickerel in those waters. Fish that survived to adulthood could be delayed at Grand Falls when attempting to return to their upstream natal spawning area under some flow conditions. With no production above Stone Dam, no juveniles would be recruited into the Back Channel from upstream. For these reasons, the Back Channel probably could not be established as a production area that would enhance salmon abundance downstream.

Even if the Back Channel could sustain a population, it probably would not be of substantial size. Population studies have documented approximately 200 legal-sized (16 inches) salmon per mile in the 21-mile-long reach of the West Branch below McKay station, one of the premier landlocked salmon areas in the country. The Back Channel from Stone dam to Grand Falls is 2.7 miles long and would provide less adult habitat per mile than the West Branch, even with the 350 cfs flow. At best the Back Channel might support several hundred legal-sized landlocked salmon.

As discussed in section 5.3.1, the flow regimes associated with Alternative 1 also may preclude simultaneous attainment of all water use objectives during dry years. Although minor modifications of some water use objectives would allow all to be met, we accounted for the

benefits of some of those objectives for fisheries in our evaluation of the alternatives. Under Alternative 1, maintaining 350-cfs flows in the Back Channel (in addition to 2,000 cfs through the mill at Millinocket) and the North Twin draw-down limits specified to protect lake trout spawning habitat may not be possible during a low-flow year. Although establishing a reproductively viable lake trout population in North Twin seems feasible, a self-sustaining landlocked salmon stock probably could not be established in the Back Channel, even with the 350-cfs flow. Implementing Alternative 1, therefore, could jeopardize an attainable fisheries goal (i.e., establishing a lake trout population in North Twin) in an attempt to achieve a less attainable and less valuable goal (i.e., establishing a self-sustaining landlocked salmon stock in the Back Channel).

Several minimum flows less than 350 cfs in the Back Channel would provide more salmon habitat than the flows proposed by GNP, but those increases would not result in significant increases in the regional availability of landlocked salmon to recreational fisheries. Based on those evaluations and accounting for the cost of flow releases (as discussed below), we included only the leakage flow in the Back Channel proposed by GNP in Alternative 2. The enhanced fall/winter flows in Millinocket Stream included in Alternative 2 would be the same as under Alternative 1 and would provide some enhancement of landlocked salmon (a substantial increase in juvenile habitat and protection of redds from freezing), but the benefit to regional fisheries resources would be small because of the small size of the salmon stock in that stream. Water use objectives would not conflict during dry years under Alternative 2.

In summary, the flow releases in the Applicant's Proposal would enhance regional fisheries resources compared with the baseline condition, particularly landlocked salmon in the West Branch downstream of McKay station and lake trout in the North Twin impoundment. Increased flows considered in Alternative 1 would provide greater enhancement of the aquatic ecosystems of Upper Gorge, Millinocket Stream, and the Back Channel but only small increases in regional availability of landlocked salmon, the most important and valuable regional fish species. Flows under this alternative also could have a slight negative effect on lake trout in North Twin during dry years. Fisheries benefits under Alternative 2 would be the same as under the Applicant's Proposal, except for a somewhat greater enhancement of salmon habitat and populations in Millinocket Stream.

5.3.3 Wetlands

Under the No-action Alternative, fluctuating water-levels would continue to adversely affect dispersed areas of wetlands (totaling about 325 acres) along the shorelines of project impoundments that experience significant water level fluctuations, particularly Ripogenus and North Twin lakes. These habitats would continue to provide only minimal wetlands functions and values compared with other project wetlands that are not affected by fluctuating water levels.

Under the Applicant's Proposal, wetlands enhancement would be implemented at two sites along North Twin impoundment and one site along Ripogenus impoundment, totaling 45

acres.[13] Increased seasonal flows in Upper Gorge and Millinocket Stream would provide some mitigation of functions and values for the small amount of wetlands along the main course of those stream segments.

Alternative 1 includes developing four of the five potential areas for wetlands enhancement identified by GNP: Deep Cove East and Deep Cove West at North Twin, and Quaker Brook and Black Pond at Ripogenus, which comprise about 380 acres. These enhancements would maintain permanent hydroperiods within these degraded shoreline areas. Enhancement at the Wadleigh Brook site at North Twin could significantly degrade adjacent existing wetlands; therefore, we conclude that enhancement activities should be avoided there.

The minimal wetlands vegetation in Millinocket Stream and Upper Gorge would benefit from the increased hydroperiod provided by the year-round flows proposed under Alternative 1. High flows in the Back Channel would alter existing wetlands but could create additional wetlands. Alternative 1 offers the greatest benefit to wetlands within the project areas.

Alternative 2 includes wetlands enhancement at Black Pond at the Ripogenus impoundment, where the functions and values of about 250 acres of degraded shoreline wetlands would be enhanced by increasing water retention time during draw-downs. Alternative 2 also would provide wetlands enhancement at the Deep Cove East and Deep Cove West sites at North Twin. The enhancements would significantly improve the functions and values of about 30 acres of degraded shoreline wetlands. This alternative would not affect wetlands along the Back Channel but would enhance hydrology in Millinocket Stream slightly.

In summary, Alternative 1 provides wetlands enhancement of an acreage substantially greater than the estimated affected acreage without action, whereas Alternative 2 includes enhancement acreage almost equal to the existing affected acreage. Alternative 2 would provide greater flows in Millinocket Stream wetlands than would the Applicant's Proposal (60 cfs from October 16 to May 1 instead of 20 cfs). The Back Channel wetlands would retain their current status under Alternative 2 and the Applicant's Proposal but could experience some changes (both losses and gains) under Alternative 1.

5.3.4 Land Use

The Applicant's Proposal includes a 250-foot conservation easement for approximately 73 shoreline miles of GNP-owned lands for the Ripogenus Project area. The land would be conveyed to the state of Maine and maintained for the duration of the license period as put forth in the terms of the MOU (see section 4.9). These easements would provide adequate shoreline protection for the term of the license. The Applicant's Proposal includes no easements or project boundary expansion for the Penobscot Mills Project and LURC's current regulations would apply (see section 4.9). Although LURC's current regulations adequately manage shoreline development, these regulations are not directly tied to the license and

[13] Although GNP's application does not include proposed wetlands enhancement, Maine's WQC Summary of Findings indicates that GNP agreed to implement this enhancement.

would not guarantee long term protection of the aesthetic and natural recreational experience for the term of the license.

Alternative 1 includes a 500-foot expansion of the project boundaries (including a 500-foot building setback, and a 250-foot vegetative buffer zone) around all impoundments of both projects, as recommended by CI (letters from Daniel Sosland, CI, September 3, 1993 and November 2, 1993). The building setback would protect aesthetic and recreational resources within the project area. The 250-foot vegetative buffer would provide further protection of water quality from the effects of logging operations and exceed buffer widths recommended by the Forest Service (FS, 1992) and the state of Maine (DOC, 1992; see section 4.9). The buffer zone also would protect existing riparian terrestrial habitat and benefit bald eagles in the project area (see section 4.7).

Alternative 2 includes a 250-foot conservation easement along approximately 73 shoreline miles of GNP-owned lands or a 200-foot boundary expansion on GNP-owned lands within the Ripogenus Project area and a 200-foot boundary expansion for all GNP-owned lands within the Penobscot Mills Project area. This alternative would protect the aesthetics, water quality and recreational use of the project area nearly as well as the larger 500-foot project boundary expansion and would provide further protection of the Penobscot Mills Project area than the Applicant's Alternative.

The No-action Alternative would not change current project boundaries or create vegetative buffers along impoundment shorelines. Current regulations would allow for development along the shoreline areas (see section 4.9.1). Although little development has occurred along the project impoundment shorelines to date, this is primarily because of GNP's moratorium on granting new leases. A recent LURC study found that more than 53 percent of all recent residential development in the project area occurred along shorelines of lakes with high scenic value, such as the Ripogenus impoundment. GNP does not guarantee that it will continue its current leasing moratorium. Potential development under either alternative could adversely affect aesthetics and recreational use of the project area (see sections 4.3, 4.8 and 4.10).

For the Ripogenus Project area, the conservation easements proposed under the Applicant's Proposal and Alternative 2 and the boundary expansions proposed under Alternative 1 would protect the natural character of the project areas for the 130,000 people who visit the West Branch region each year for recreation or sightseeing for the term of the license. Under the Applicant's Proposal, no conservation easement or boundary expansion is proposed for the Penobscot Mills Project area, and long term protection of the aesthetic and natural recreational experience would not be guaranteed for the term of the license.

Alternative 1 and Alternative 2 provide protection of the aesthetic, recreational, and terrestrial resources within both the Ripogenus and Penobscot Mills Project areas. The difference in the degree of protection provided by the two alternatives cannot be quantified rigorously; however, our qualitative evaluation of benefits suggests that the additional protection of the 500-foot expansion does not merit the much higher cost of that alternative.

5.3.5 Economic and Socioeconomic Effects

The pulp and paper products industry is highly competitive and energy-intensive. GNP's competitive position depends on the availability of a reliable source of inexpensive electric power. Imposing additional production costs for company-generated power could adversely affect the economic viability of the Millinocket and East Millinocket paper mills. GNP indicated that any changes of its proposed water management plan (including flow releases and impoundment water level management) that would add incremental costs beyond those associated with the plan would threaten the long-term viability of the Millinocket and East Millinocket mills. The confidentiality of GNP's financial status prevents an independent assessment, but the company suggests that environmental enhancements that would reduce generation more than reductions associated with its proposal would require it to curtail paper production rather than purchase replacement power to maintain existing production levels.

Section 2.4 defines the assumptions we used to analyze the economic effects of each of the proposed alternatives. Each alternative includes a distinct combination of average annual changes in generation, power values, annual project costs, and annual net benefits. Because none of the alternatives involves new construction for power generation, the annual net benefit (ANB) is the sum of the costs of replacement power and environmental enhancements.

Table 5-3 shows the incremental ANBs associated with the Applicant's Proposal and the three alternatives. The table includes the incremental ANBs associated with two different Back Channel flows (leakage and 165 cfs) that we considered in the process of defining Alternative 2. The ANB of the Applicant's Proposal is negative at a cost of $877,600; the incremental ANB of Alternative 1 is five times more negative, at a cost of $4.487 million. To define Alternative 2, we considered several minimum flows in the Back Channel for the Penobscot Mills Project, ranging between leakage (proposed by GNP) and the 350 cfs included in Alternative 1. A 165-cfs flow makes the ANB more negative by $436,100 and would provide only a minor enhancement of fisheries resources in the project. The 350-cfs the Back Channel flow would make the ANB more negative by $916,300. Based on project economics and fisheries benefits, we concluded that no intermediate flow is warranted; therefore, Alternative 2, our final recommendation, includes only leakage in the Back Channel. The incremental ANB of Alternative 2 is -$959,500, about nine percent more costly than the ANB with the Applicant's Proposal.

Hydroelectric power from the Ripogenus and Penobscot Mills projects is an important component of GNP's electricity supply. The combined capacity of the Ripogenus and Penobscot Mills projects constitutes 34.1 percent of GNP's sustainable generation capacity. Based upon historic generation trends, hydroelectric power from the two projects is expected to provide 620,400 megawatt hours, or nearly one-half of the company's 1996 energy needs.

Except for the No-action Alternative, all alternatives would reduce annual power generation from the Ripogenus and Penobscot Mills projects by diverting flows to improve aquatic habitats, enhance wetland areas, and enhance recreation and lake aesthetics. Alternatives that would release more than leakage flows through the Back Channel would

Table 5-3. Incremental annual net benefits by alternative (Source: Staff; 1995 dollars)				
Project and Component[a]	Applicant's Proposal[b]	Alternative 1[c]	Alternative 2:[d] Final Recommendation	Alternative 2: [e] Intermediate Recommendation
Ripogenus Project				
Maintain stable flows in west branch of Penobscot River below McKay Station	$-145,300	-$145,300	-$145,300	-$145,300
Min. flow in upper gorge	-$96,900	-$235,900	-$96,900	-$166,800
Wetlands enhancements	$0	$-105,600	-$57,700	-$57,700
Holbrook stream fisheries enhancement	$0	-$1,700	-$1,700	-$1,700
Conservation easement		-$817,500	$0	$0
Subtotal Ripogenus	-$242,200	-$1,306,000	-$301,600	-$371,500
Penobscot Mills Project				
Main. rel. stable water levels in the North Twin impound. during summer season	-$224,700	-$224,700	-$224,700	-$224,700
Wetlands enhancements	$0	-$3,900	-$3,900	-$3,900
Conservation easement	$0	-$1,607,400	$0	$0
Min. flow in Millinocket Stream	-$15,400	-$34,000	-$34,000	-$34,000
Min. flow in Back Channel	$0	-$916,300	$0	-$436,100
Subtotal Penobscot	-$240,100	-$2,786,300	-$262,600	-$698,700
Operating Impacts				
Hydro operating efficiency losses	-$200,100	-$200,100	-$200,100	-$200,100
Steam Generation Losses	-$195,200	-$195,200	-$195,200	-$195,200
Subtotal Operating	-$395,300	-$395,300	-$395,300	-$395,300
Total ANB	-$877,600	-$4,487,600	-$959,500	-$1,465,500

[a] All ANBs shown relative to the No-action Alternative.

[b] Includes Upper Gorge minimum flow of 100 cfs 7/1-9/30; leakage (~ 12 cfs) flow 10/1-6/30; Millinocket Stream flow of 60 cfs 5/1-10/15 and leakage (~ 20 cfs) 10/16-4/30.

[c] Includes 350 cfs in Back Channel; Upper Gorge minimum flow of 100 cfs 7/1-9/30 and 50 cfs from 10/1-6/30; Millinocket Stream minimum flow of 60 cfs year round.

[d] Includes Upper Gorge minimum flow of 100 cfs 7/1-9/30 and leakage (~ 12 cfs) 10/1-6/30; Millinocket Stream minimum flow of 60 cfs year round; leakage in Back Channel.

[e] Includes Upper Gorge minimum flow of 100 cfs 7/1-9/30 and 30 cfs 10/1-6/30; Millinocket Stream minimum flow of 60 cfs year round; 165 cfs in Back Channel.

result in the greatest reduction in power generation, reducing it from 5.0 to 7.0 percent below the anticipated 1996 power production from the two projects. Alternative 2 (Final Recommendation), which releases only leakage flows through the Back Channel, would reduce power production from its level under the No-action Alternative by about 3 percent.

Hydroelectric power is GNP's least expensive source of electricity; it can be produced at about half the cost of the least-cost alternative of $73.92/MWh. Any reduction of power production for environmental enhancement, therefore, would impose additional power costs upon GNP. The staff has estimated that GNP's power production costs would increase by between 0.5 percent (Applicant's Proposal) and 13.4 percent (Alternative 1).

We estimate that the power cost of the alternative impoundment levels and minimum flows, mitigation, and enhancement of other resources would range from 34.3 mills/kWh (Applicant's Proposal) to 38.67 mills/kWh (Alternative 1). Alternative 2 (Final Recommendation) would result in a cost of power of 34.41 mills/kWh.

We agree with GNP that the Millinocket and East Millinocket paper mills are high cost producers in a highly competitive market. We concur that environmental enhancement alternatives that would add significant replacement power costs could adversely affect the economics of the least competitive paper production processes at the Millinocket and East Millinocket Mills, resulting in production cutbacks. GNP indicated, however, that although annual costs of replacement power would place the coater complex in a long-term break-even economic position, substituting replacement power for hydroelectric generation losses caused by flow enhancements included in its own proposal would not affect the long-term operation of the coater. On the basis of this information, we conclude that the generations losses associated with Alternative 2 (Final Recommendation) would not adversely affect the long-term operation of the coater because they are similar in magnitude.

Environmental enhancement alternatives that cause production cutbacks at Millinocket would affect both GNP and the regional economy. GNP estimates that curtailing production at the coater complex would eliminate 238 jobs at Millinocket, reduce purchases of goods and services from Maine businesses by $20 million annually, and jeopardize the company's plans to invest $550 million in lightweight coated paper production at Millinocket (its least profitable production units) by 1997. Because GNP's data about corporate economic status is proprietary, we could not verify GNP's estimates of the economic effects of production cutbacks; however, our assessment of the paper production industry confirms GNP's contention that its present costs are high and that further cost increases could reduce the company's competitiveness. Multiplier effects from GNP job cutbacks and reduced expenditures for goods and services could result in the total loss of as many as 621 jobs and $15.0 million in annual wages in the Maine economy. GNP's failure to invest could represent a significant lost opportunity to the region in terms of job and income growth.

The staff finds that there is no conclusive evidence that either Alternative 2 (both variations) or the Applicant's Proposal would adversely affect the competitiveness of the two mills. Both alternatives would produce only small increases in annual power costs, and small declines in annual power production. As a result, a significant increase in the total cost of production would not occur at the two mills. In contrast, Alternative 1 probably would

adversely affect the economic competitiveness of the two mills because of its high capital cost and high energy losses.

5.4 SUMMARY OF FINDINGS AND RECOMMENDATIONS

Sections 4(e) and 10(a)(1) of the FPA require the Commission to give equal consideration to all uses of the waterway on which a project is located. When the Commission reviews a proposed project, the fish and wildlife resources, recreational, and other nondevelopmental values of the involved waterway are considered together with power and other developmental values. In determining whether and under what conditions a hydropower license should be issued, the Commission must balance various economic and environmental considerations.

Based on a review of comments from the agencies and intervenors filed during these proceedings and on our independent analysis pursuant to Sections 4(e), 10(a)(1), and 10(a)(2) of the FPA, we conclude that issuing licenses for the Penobscot Mills and Ripogenus projects, with the required enhancement measures defined in Alternative 2 and other special license conditions, would permit the best comprehensive development of the subject portion of the West Branch of the Penobscot River. We recommend this option for the following reasons:

(1) Alternative 2, which includes some enhancement of flows in Millinocket Stream beyond those proposed by GNP but otherwise specifies flow releases and impoundment- level restrictions identical to those included in the Applicant's Proposal, would substantially enhance existing fish stocks (particularly landlocked salmon) in the project region. Flows beyond those included in Alternative 2 in Upper Gorge and the Back Channel probably would not further enhance regional fish stocks.

(2) The minimal enhancement of regional fish stocks associated with higher flow releases specified in Alternative 1 and considered as options for defining Alternative 2 would not cause significant increases in fisheries resources or recreational angling in the region and, thus, would contribute little to the regional economy.

(3) High-quality recreational fishing waters are abundant in the project region; our estimates indicate that creating a limited amount of additional, year-round, riverine habitat in Upper Gorge, and the Back Channel (Alternative 1), is not required to meet increasing recreational fishing demand, even if the additional habitat enhanced regional fish stocks.

(4) Flows for recreational boating negotiated between GNP and some whitewater boating groups and included in Alternative 2 offer some enhancement of existing recreational opportunities and would not adversely affect existing landlocked salmon populations in the West Branch.

(5) The wetlands enhancements (affecting about 280 acres) included in Alternative 2 are sufficient to enhance the estimated acreage of wetlands that are adversely affected by impoundment draw-downs and would eliminate a long-standing adverse effect of the projects on the regional ecosystem.

(6) The proposed 250-foot conservation easements or 200-foot boundary expansion on GNP-owned lands for the Ripogenus Project area, and the proposed 200-foot boundary expansion for GNP-owned land within the Penobscot Mills Project area (Alternative 2) would control potential future development and ensure protection of aesthetic and recreational resources within the project area. The proposed easements and boundary expansions would also protect against habitat modifications that could adversely affect terrestrial wildlife and vegetation in valuable riparian habitat around the impoundments.

(7) Continued limitation of nongeneration flow releases, particularly in the Back Channel, would ensure GNP's access to relatively inexpensive hydroelectric power necessary to maintain its paper production capability cost-effectively, thereby not placing greater economic stress on GNP and providing some protection for local municipalities and citizens against significant adverse effects on regional employment and socioeconomics.

(8) The fisheries and recreational enhancements that would result from the higher flows associated with Alternative 1 would be limited in magnitude, are not needed to meet recreational demand, and would have little benefit to the local economy. In contrast, the wetlands enhancements, conservation easement and project boundary expansion included in Alternative 2 would permanently improve and protect habitat elements critical to the aesthetics and environment of the project areas, habitats that would otherwise be vulnerable to continued or future degradation. The cost of all enhancements included in Alternative 2 is less than the cost of just the flow releases specified in Alternative 1.

(9) The 500-foot expansion of the project boundary around project impoundments under Alternative 1 would provide resource benefits only marginally greater than the conservation easement and boundary expansion included in Alternative 2, at a much higher cost (estimated at $24.6 million).

Table 5-4 provides the levelized net annual costs of our recommended Alternative 2.

5.5 STATUTORY REQUIREMENTS

5.5.1 Water Quality Certificate Conditions

On April 15, 1993, Maine LURC issued a Maine Waterway Development and Conservation Act Permit and Water Quality Certification for the Ripogenus Project as proposed by GNP, subject to special conditions (see section 2.2.1.1). Maine DEP issued the certifications for the Millinocket Lake Storage impoundment (a part of the Penobscot Mills Project) and the other Penobscot Mills Project developments, subject to special conditions (see sections 2.2.1.2 and 2.2.1.3), on April 22, 1993. Tables 5-5, 5-6, and 5-7 lists the WQC conditions specified for the Ripogenus and Penobscot Mills projects, the staff's position regarding whether or not the conditions are related to water quality, and indicate the staff's conclusions regarding whether adopting each condition is warranted under various sections of

the FPA.[14,15] The Maine WQC conditions represent the final recommendations of all state agencies. Section 4 presents the detailed analyses upon which the staff's technical conclusions are based.

Table 5-4. Levelized net annual costs of the staff's final recommendation (Source: Staff)

Project/Mitigation	Levelized Annual Costs (1995$)	Net Benefits* (mills/kWh)
Ripogenus Project		
Maintain relatively stable flows in the West Branch of the Penobscot River below McKay station	$145,300	-7.5
Minimum flow in Upper Gorge of 100 cfs (Jul 1-Sep 30), leakage (Oct 1-Jun 30)	$96,900	-5.0
Wetlands enhancements	$57,700	-3.0
Holbrook Stream fisheries enhancement	$1,700	-0.1
Penobscot Mills Project		
Maintain relatively stable water levels in the North Twin impoundment during the summer season	$224,708	-11.5
Wetlands enhancements	$3,900	-0.2
Minimum flow in Millinocket Stream of 60 cfs year round	$34,000	-1.7
Leakage flow in Back Channel	0	0.0
Hydroelectric operating efficiency losses	$200,100	-10.3
Steam generation losses	$195,200	-10.0
TOTAL	$959,500	-49.3

* Mills/Kwh based on average annual generation loss of 19.471 GWh.

For the Ripogenus Project (table 5-5), we will recommend that the Commission not adopt Condition No. 5, consistent with its holding in *Tunbridge Mill*. We will also recommend that the Commission not adopt Condition No. 6. This condition is so broadly worded and vague that we cannot tell what it means or how it could be enforced. Condition No. 8 does not appear to be a condition, but a statement that the WQC for the Ripogenus Project applies only to the Ripogenus Project. However, the proposition is self-evident and we see no potential conflict with the Commission's public interest determination, so we propose to include

[14] As stated in *Tunbridge Mill Corporation*, 68 FERC ¶ 61,078 (1994), under Section 401(d), states may lawfully impose only conditions related to water quality.

[15] Commission staff is aware of the U.S. Supreme Court's decision in PUD No. 1 of Jefferson County v. Washington Dept. of Ecology, (No. 92-1911, May 31, 1994). The issue of how that decision affects past Commission practice will be addressed in any order issuing a license in this proceeding by the Commission or its delegate.

it in the license. For the Penobscot Mills Project (table 5-7), we will recommend that the Commission not adopt Condition No. 3 because it is not related to operation of the project. We will also recommend that the Commission not adopt Condition No. 10, consistent with its holding in *Tunbridge Mill*. We will also recommend that the Commission not adopt Condition No. 11. This condition is so broadly worded and vague that we cannot tell what it means or how it could be enforced. Other conditions we considered to be unrelated to water quality, as noted in Tables 5-5, 5-6, and 5-7, were considered under 10(a) and will be included as license conditions.

Table 5-5. Summary of the staff's conclusions about Maine 401 Water Quality Certificate conditions for the Ripogenus Project (Source: Staff)

WQC Condition	Water Quality Related	Conclusion
1. Minimum flows in Upper Gorge and below McKay station	yes	Include
2. Monitoring of project flow releases	yes	Include
3. Study of mercury concentrations in aquatic life in project waters	yes	Include
4. Submit plan for implementing all enhancement measures for LURC approval	yes	Include
5. Any variance from project as proposed must be reviewed and approved by LURC	no	Do not include
6. Requires compliance with all applicable federal, state, and local licenses, permits, etc.	yes	Do not include
7. Effective date	yes	Include
8. No element of this WQC shall constitute approval of any operational element of upstream GNP projects	no	Include

Table 5-6. Summary of the staff's conclusions about Maine 401 Water Quality Certificate conditions for the Millinocket Lake Storage dam of the Penobscot Mills Project (Source: Staff)

WQC Condition	Water Quality Related	Conclusion
1. Minimum flows in Millinocket Stream	yes	Include
2. Maintenance of Millinocket Lake elevations	yes	Include
3. Stock brook trout in Millinocket Stream and monitor fishery	yes	Include
4. Submit plan for wetlands mitigation and implement	yes	Include
5. Study impoundment level fluctuation influence on mercury levels in aquatic life	yes	Include
6. Study need for removal of navigation hazards	no	Include

Table 5-7. Summary of the staff's conclusions about Maine 401 Water Quality Certificate conditions for the North Twin, Millinocket, Dolby, and East Millinocket developments of the Penobscot Mills Project (Source: Staff)

WQC Condition	Water Quality Related	Conclusion
1. Run-of-river operation of Millinocket, Dolby, and East Millinocket developments and 2,000 cfs minimum flow to the West Branch at Millinocket	yes	Include
2. Maintenance of North Twin draw-down to benefit lake trout	yes	Include
3. Study of project effects on Dolby Lake DO levels	yes	Do Not Include
4. Study impoundment level fluctuation influence on mercury levels in aquatic life	yes	Include
5. Repair North Twin fishway	yes	Include
6. Monitor North Twin lake trout spawning success	yes	Include
7. Submit plan for and implement wetlands mitigation	yes	Include
8. Study need for removal of navigation hazards	no	Include
9. Recreational access at various project sites	no	Include
10. Limit approval to plans and proposals contained in the application and supporting documents	no	Do No Include
11. Requires compliance with all applicable federal, state, and local licenses, permits, etc.	yes	Do Not Include

5.5.2 Section 18 Prescriptions

Interior reserves authority to prescribe fishways for both projects pursuant to Section 18 of the FPA (letter from J. Deason, Interior, May 24, 1993; letter from A. Raddant, Interior, February 21, 1995).

5.6 SECTION 10(J) RECOMMENDATIONS

5.6.1 Fish and Wildlife Agency Recommendations

Under the provisions of the FPA, as amended by the Electric Consumers Protection Act of 1986, each hydroelectric license issued by the Commission shall include conditions based on recommendations provided by federal and state fish and wildlife agencies for the protection, mitigation, and enhancement of such resources affected by the project.

Section 10(j) of the Act states that whenever the Commission believes that any fish and wildlife agency recommendation is inconsistent with the purposes and the requirements of the Act or other applicable law, the Commission and the agency shall attempt to resolve any such inconsistency, giving due weight to the recommendations, expertise, and statutory responsibilities of such agency.

By executive order of the Governor of the state of Maine, the terms and conditions contained in Maine's 401 Water Quality Certificates represent the state's official recommendations on all issues including fish and wildlife regarding the application, and supersede all preliminary recommendations by individual state agencies. The state did not submit any formal 10(j) recommendations. Thus, in this section we deal only with 10(j) recommendations submitted by Interior.

Interior filed initial 10(j) recommendations in response to the REA notice (letters from J. Deason, Interior, May 24, 1993) and submitted revised 10(j) recommendations with their comments on the DEIS (see Appendix E). We determined that eight of the revised recommendations filed by Interior could be inconsistent with the purpose and requirement of the FPA and applicable law. For the Ripogenus Project (numbered as in Table 5-8) these were items 3, 6, and 7; for the Penobscot Mills Project (numbered as in Table 5-9) these were items 1, 2, 3, 6, and 7.

Table 5-8. Ripogenus Project: Summary of Interior's 10(j) recommendations and their associated costs (Source: the Staff)

Recommendation	Annual Cost of Environmental Measures	Within Scope of § 10(j)	Adopted
1. Provide minimum flow of 100 cfs at Ripogenus Dam from 7/1 to 9/30	None; proposed by applicant	Yes	Adopt
2. Make habitat improvements at Holbrook site	None; proposed by applicant	Yes	Adopt
3. Provide minimum flows at McKay Station of 400 cfs outage, 1422 cfs or inflow 10/15 to 6/7 and 711 cfs or inflow 6/8 to 10/14	Moderate	Yes	Adopt
4. File plan for complying with instream flow requirements	Minor	Yes	Adopt
5. Monitor recreational use	Minor	No	Adopt (under 10(a)
6. Develop a plan for monitoring contaminants	Moderate	Yes	Adopt
7. Develop a plan for monitoring effectiveness of enhancement measures	Moderate	Yes	Adopt

Under Section 10(j)(2) of the Act, whenever the Commission believes that any recommendations of Federal and state fish and wildlife agencies may be inconsistent with the FPA or other applicable law, the Commission shall attempt to resolve such inconsistencies.

Table 5-9. Penobscot Mills Project: Summary of Interior's 10(j) recommendations and their associated costs (Source: the Staff)

Recommendation	Annual Cost of Environmental Measures	Within Scope of § 10(j)	Adopted
1. Provide a minimum flow of 945 cfs or inflow at Stone Dam	$2.53M	Yes	Not adopt; not cost-effective relative to environmental benefits under 4(e) and 10(a)
2. Provide a minimum flow of 120 cfs or inflow to Millinocket Stream between 10/15 and 6/7 and 60 cfs or inflow between 6/8 and 10/14	$77,000	Yes	Not adopt; not biologically justified; year-round flow of 60 cfs agreed to by Interior and FERC staff at 10(j) meeting
3. Operate Millinocket, Dolby and East Millinocket developments in a run-of-river mode	Minor	Yes	Adopt
4. File plan for complying with instream flow requirements	Minor	Yes	Adopt
5. Monitor recreational use	Minor	No	Adopt (under 10(a))
6. Develop a plan for monitoring contaminants	Moderate	Yes	Adopt
7. Develop a plan for monitoring effectiveness of enhancement measures	Moderate	Yes	Adopt

5.6.2 Preliminary Determination of Inconsistency

By letter dated May 1, 1995, we informed Interior of the inconsistency and requested that they consider other options that would adequately protect fish and wildlife consistent with other project purposes. The staff requested that Interior submit these options or additional evidence to support their recommendations to the Commission within 45 days of the date of our letter.

Interior responded by letter dated June 12, 1995. For the Ripogenus Project, Interior stated that they: maintained their recommendation for minimum flows below McKay Station (item 3), agreed that contaminant monitoring would be limited to mercury (item 6), and wished to further discuss monitoring of enhancements (item 7). For the Penobscot Mills Project, Interior stated that they: maintained their recommendation on minimum flows below Stone Dam to the Back Channel (item 1), maintained their position on minimum flows for Millinocket Stream (item 2), agreed to modified run-of-river operation at the Millinocket, Dolby, and East Millinocket developments, although requesting to review proposed language for the license articles(s) dealing with this recommendation (item 3), recommended contaminant monitoring

include mercury, zinc, and copper (item 6), and wished to further discuss monitoring of enhancements (item 7). Interior offered no alternatives or new information in support of their position.

5.6.3 10(j) Meeting

The staff held a 10(j) meeting on February 8, 1996 in a further attempt to resolve these issues. The staff discussed minimum flows below McKay station and the apparent inconsistencies between Interior's 1422 cfs or inflow from October 15 and June 7 and GNP's and the state of Maine's requirement of 1300 cfs during this time period. Both GNP and the state of Maine were concerned about the ability to provide this flow under extreme hydrologic conditions. The staff resolved the issue by indicating the license article for this condition would specify the 1422 cfs for this time period but would allow deviations under extenuating circumstances (low or high flow periods) following consultations between the licensee, state agencies, and the Fish and Wildlife Service. Flows less than 1300 cfs will not be allowed, as required by the 401 WQC.

The staff discussed the issue of contaminant monitoring at both projects . The 401 WQC condition 3 for the Ripogenus Project requires GNP to conduct a study of mercury concentrations on aquatic life at the project and to cooperate in studies on toxic metals in project waters. The 401 WQC condition 5 for the Millinocket Lake Storage Dam and condition 4 for the Penobscot Mills Project also requires GNP to cooperate in studies on toxic metals in project waters. We will recommend that the license include a condition requiring GNP to cooperate on toxic metal studies. The staff stated that effectiveness monitoring for both projects would be limited to those enhancement measures recommended by staff and required in the license. GNP would be required to develop effectiveness monitoring plans in consultation with resource agencies.

As noted above, conditions based on fish and wildlife recommendations submitted pursuant to Section 10(j) must be included in the license unless the Commission determines that the recommendations are inconsistent with the purposes and requirements of the FPA or other applicable law. If the Commission does not adopt a recommendation submitted pursuant to Section 10(j), it must explain, pursuant to Section 10(j)(2), how the recommendation is inconsistent with applicable law and how the conditions selected by the Commission adequately and equitably protect, mitigate damages to, and enhance fish and wildlife. In doing so, we first determine whether the recommendation is supported by substantial evidence in the record, that is, whether there is evidence in the record adequate to support a conclusion. If not, the recommendation is inconsistent with the requirement of Section 313(b) of the FPA that Commission orders be supported by substantial evidence. [16] Next, we determine whether a substantiated recommendation is inconsistent with the FPA or other applicable determinations under the equal consideration/comprehensive development standards of FPA Sections 4(e) and 10(a)(1), in that the recommendation conflicts unduly with

16 See IV FERC Statutes and Regulations, supra, 30,921 at p. 30,157.

another project purpose or value (including the project's economic benefits). [17] In short, we determine whether the recommendation would have a significant, negative impact on a valuable project purpose or beneficial use.

The staff discussed the minimum flow recommendation for the Back Channel. We consider this recommendation to be within the scope of 10(j) but did not adopt it because the magnitude of flow stipulated is unlikely to result in significant fisheries benefits (optimistically, several hundred legal-sized salmon; see section 4.4) at a cost of over $2.5 million annually (see table 5-10). Thus, we concluded that the resource benefits to be derived are not worth the cost in lost generation and the recommendation is inconsistent with the public interest standards of Section 4(e) and 10(a) of the FPA. Therefore, the staff were not able to resolve the inconsistency regarding the Back Channel flows. Interior responded by letter dated March 25, 1996, stating that they disagreed with the staff's assessment of flows to the Back Channel. However, Interior offered no alternatives or new information in support of their position.

Table 5-10. Relative cost comparison for flows to the Back Channel.

	0 cfs	165 cfs	350 cfs	500 cfs	945 cfs
Energy Loss, MWh	0	9900	20800	30700	57231
Annual cost to GNP*	$0	$436,100	$916,300	$1,356,000	$2,521,000

* Does not include any additional hydro efficiency or steam generation losses which could result from additional flow to the BC

The staff discussed the minimum flow recommendation for Millinocket Stream and stated that the IFIM study conducted by GNP indicated a year-round flow of 60 cfs would provide fisheries enhancements beyond those proposed by GNP and the staff in the DEIS. Interior agreed to a year-round flow of 60 cfs or inflow.

We recommend GNP provide the following enhancements at the Ripogenus Project;

- additional flows in the upper gorge;
- additional flows below McKay Station;
- habitat improvements at the Holbrook site;
- plans for monitoring contaminants and effectiveness of enhancement measures;
- wetlands enhancements; and
- conservation easements.

We recommend GNP provide the following enhancements at the Penobscot Mills Project;

- plans for monitoring contaminants and effectiveness of enhancement measures;

17 See Mead Corporation, Publishing Paper Division, 72 61,027 (1995). We also consider whether the application should in fact be denied, on the basis that the resources the project would adversely affect are more valuable than the benefits it would confer.

- wetlands enhancements;
- boundary expansion;
- additional flows in Millinocket Stream to enhance fisheries; and
- lake level management in North Twin to enhance lake trout.

These measures provide resource enhancements throughout both project areas at considerably less cost than providing additional flows to the Back Channel.

Thus, we conclude that our recommendations adequately and equitably enhance fish and wildlife resources affected by the project and that the fish and wildlife measures recommended for the license would comply with the requirements of section 10(j) of the FPA.

5.7 CONSISTENCY WITH COMPREHENSIVE PLANS AND OTHER RESOURCE PLANS

Section 10(a)(2) of the FPA requires the Commission to consider the extent to which a project is consistent with comprehensive plans (where they exist) for improving, developing, or conserving a waterway or waterways affected by a project. Consistency with comprehensive plans is one of several factors considered by the Commission in its licensing decision. Under Section 10(a)(2), federal and state agencies filed five applicable comprehensive plans which are listed and described in section 3.9. We found no conflicts between the projects as they would be licensed under Alternative 2 and all elements of those plans.

6.0 LITERATURE CITED

ATSDR (Agency for Toxic Substances and Disease Registry). 1988. Toxicological profile for mercury. ATSDR, Atlanta, GA.

American Rivers, American Whitewater Affiliation, Appalachian Mountain Club, Conservation Law Foundation, Maine Audubon Society, and Trout Unlimited. 1992. Motion to intervene, filed August 21, 1992.

Atkins, C.G. 1987. The river fisheries of Maine. *In:* The Fisheries and Fishery Industries of the U.S., 1987. G.B. Goode and Associates, eds. pp. 673-728. [As cited in Baum 1983].

Baum, E.T. 1983. The Penobscot River: An Atlantic salmon river management report. Atlantic Sea-Run Salmon Commission.

Bangor Real Estate. 1995. Consulting Report, DEIS Cost Estimate Conservation Easements 82.5 Miles of Waterfront Ripogenus Dam Impoundment.

Barbour, M.G., J.H. Burk, and W.D. Pitts. 1980. Terrestrial plant ecology. The Benjamin/Cummings Publishing Company, Inc., Menlo Park, CA.

Boulter, D.E. 1993. Commission Ripogenus Project Decision in the Matter of Great Northern Paper, Inc. Findings of Fact and Decision. Water Quality Certification for the Ripogenus Project. Maine Land Use Regulation Commission. April 15, 1993.

Brown, T.C., J.G. Taylor, and B. Shelby. 1991. Assessing the direct effects of streamflow on recreation: A literature review. *Water Resources Bulletin.* 27(6): 979-989.

Budd, W.W., P.L. Cohen, and P.R. Saunders. 1987. Stream corridor management in the Pacific Northwest: I. Determination of stream corridor widths. *Environmental Management.* 11(5): 587-597.

Bureau of the Census. 1980, 1990a. Census of population and housing. Government Printing Office, Washington, DC.

_____. 1990b. County Business Patterns. Government Printing Office, Washington, DC.

COE (Corps of Engineers). 1994. John H. Kerr dam and reservoir shoreline management plan. Department of the Army, Wilmington District Corps of Engineers, Wilmington, ME. February 10, 1994.

Cutting, R.E. 1959. Penobscot River salmon restoration. Maine Atlantic Sea-Run Commission.

DEP (Maine Department of Environmental Protection). 1991. Mandatory Shoreland Zoning Act. Title 38, M.R.S.A., Sections 435-449.

_____. 1992. DEP issue profile. Mandatory Shoreland Zoning Act.

_____. 1993a. Natural Resources Protection Act. Title 38, M.R.S.A., Sections 480-A through 480-U.

_____. 1993b. DEP Issue Profile, Natural Resources Protection Act (NRPA).

DIFW (Maine Department of Inland Fisheries and Wildlife). 1991. Planning for Maine's inland fish and wildlife (1991-1996) Vol. II.

DOC (Maine Department of Conservation). 1982. Maine rivers study.

_____. 1988. State comprehensive outdoor recreation plan.

_____. 1991. Best Management Practices, Field Handbook.

_____. 1993. State comprehensive outdoor recreation plan.

Dahl. T.E. 1990. Wetlands losses in the United States 1780's to 1980's. U.S. Department of the Interior, Fish and Wildlife Service, Washington, DC.

Dewan & Associates. 1990a. Penobscot Mills Project, FERC No. 2458, Report on visual resources. Prepared for Great Northern Paper, Inc. Millinocket, Maine.

Dewan & Associates. 1990b. Penobscot Mills Project, FERC No. 2572, Report on visual resources. Prepared for Great Northern Paper, Inc. Millinocket, Maine.

EPA (Environmental Protection Agency). 1992. Motion to intervene, filed August 20, 1992. Environmental Protection Agency, Region I.

_____. 1993. Guidance for assessing chemical contaminant data for use in fish advisories. EPA 823-R-93-002.

East Millinocket. 1993. Draft Comprehensive Plan.

Elson, P.F. 1975. Atlantic salmon rivers, smolt production and optimal spawning: an overview of natural production. I.A.S.F. Spec. Pub. 6, New England Atlantic Salmon Conference. [as cited in FWS 1989]

Environmental Science and Engineering. 1992. Mercury in surface water, sediment, and fish from selected lakes of northern Maine. Prepared for Great Northern Paper/Bowter, Millinocket, ME.

FERC (Federal Energy Regulation Commission). 1993a. Upper Androscoggin River Basin Hydroelectric Project, New Hampshire, Draft Environmental Impact Statement FERC 2422, 2287, 2326, 2327, 2311, 2288, 2300, May 1993.

_____. 1993b. Transcript of Town of Millinocket Public Hearing, August 26, 1993.

_____. 1993c. Scoping Document 2 for Penobscot Mills/Ripogenus Projects.

FS (Forest Service). 1990. USDA Forest Service and Governor's Task Force on Northern Lands. Northern forest lands study. Second printing.

_____. 1992. Riparian forest buffers, function and design for protection and enhancement of water resources. Department of Agriculture, Northeastern Area Forest Service, Radnor, PA.

FWS (U.S. Fish and Wildlife Service). 1989. Restoration of Atlantic Salmon to New England Rivers. Final Environmental Impact Statement 1989-2021. Department of the Interior, Region 5. U.S. Fish and Wildlife Service, Newton Corner, Massachusetts.

_____. 1992. Motion to intervene, filed February 26, 1992.

Fin and Feather Club. 1991. Motion to intervene, filed December 31, 1994.

Fin and Feather Club. 1993. Settlement Agreement between GNP and Fin and Feather Club, August 19, 1993.

Flagg, L.N. undated. The American eel: its life history and fishing in Maine. Maine Dept. of Mar. Res., Augusta, ME.

Frenette, M., C. Rae, and B. Tetreault. 1972. The creation of artificial salmon pools. Department of Civil Engineering, Laval University, Quebec. [as cited in FWS 1989]

Fry, F.E.J. 1947. Temperature relations of salmonids. *In:* Proceedings of the 10th Meeting of the National Committee on Fish Culture, 1947. Fisheries Resources Board of Canada. Appendix D. [as cited in FWS 1989]

GNP (Great Northern Paper, Inc.). 1991a. Ripogenus Project application for new license for major existing dam. FERC No. 2572.

_____. 1991b. Penobscot Mills Project application for new license for major existing dam. FERC No. 2458.

_____. 1992a. Cultural Resources Management Plan for Archaeological Resources. Penobscot Mills Project, FERC No. 2458. Prepared by Archaeology Research Center, University of Maine at Farmington and Kleinschmidt Associates, Consulting Engineers, August 1992.

_____. 1992b. Cultural Resources Management Plan for Archaeological Resources. Ripogenus Mills Project, FERC No. 2572. Prepared by Archaeology Research Center, University of Maine at Farmington and Kleinschmidt Associates, Consulting Engineers, August 1992.

_____. 1992c. Additional information for the application License for the Ripogenus Project, FERC No. 2573 and Penobscot Mills Project, FERC No. 2458. December 7, 1992.

_____. 1992d. Application for new license for Ripogenus Project FERC No. 2572. Vol XIII.

_____. 1993a. Settlement Agreement, Penobscot Mills/Ripogenus between PRO and GNP. September 2, 1993.

_____. 1993b. Application for Relicensing. Ripogenus Project. Vol. XIV: Response to Agency and Intervenor Comments. July 1993.

_____. 1993c. Application for Relicensing. Penobscot Mills Project. Vol. XIV: Response to Agency and Intervenor Comments. July 1993.

_____. 1993d. Application for Relicensing. Penobscot Mills Project. Vol. XV: Response to October 28, 1993 Additional Information Request. November 1993.

_____. 1994. Supplement to Vol. XV, Penobscot Mills and Ripogenus Projects. Response to Additional Information Request of January 14, 1994.

Gilmour, C.G., and E.A. Henry. 1991. Mercury methylation in aquatic systems affected by acid deposition. *Environmental Pollution.* 71:131-169.

Harper, S.C., L.L. Falk, and E.W. Rankin. 1992. The northern forest lands study of New England and New York. Department of Agriculture, Forest Service.

J. Sewall Co. 1993. Northern forest land conversion study. Prepared by James W. Sewall Company of Old Town, Maine and Market Decision, Inc. of South Portland, Maine for the National Forest Lands Council.

Jordan, R.M. 1981. Atlantic salmon spawning survey and evaluation of natural spawning success. Final Report, AFS-20-R. [as cited in FWS 1989]

Joubert, L.B. 1985. Watershed protection strategies for the Sciuate Reservoir. *Journal of the American Water Works Association* . 99(2): 136-156.

Knight, A.E. 1981. Unpublished data, Mad River, NH U.S. Fish and wildlife Service, Laconia, NH. [as cited in FWS 1989]

LURC (Maine Land Use Regulation Commission). 1981. Resource protection plan and recreation management plan for the Penobscot waterway.

_____. 1990a. Fact sheet, land use plan and rule amendments regarding the development and conservation of lakes in Maine's unorganized areas.

_____. 1990b. Amendment of the comprehensive land use plan regarding the development and conservation of lakes in Maine's unorganized area. June 7, 1990.

_____. 1991. Land use districts and standards. Maine Department of Conservation.

_____. 1993. Proceedings of the public hearing for the Ripogenus project: application of Great Northern Paper, Inc. for water quality certification pursuant to Section 401 of the Clean Water Act. Volume 1. February 23, 1993.

Land & Water Associates. 1993. Location of new development in the wildlands. Prepared for the Maine Land Use Regulation Commission by Land & Water Associates, Hallowell, Maine.

MSPO (Maine State Planning Office). 1987. Maine Comprehensive Rivers Management Plan. State of Maine, Executive Department, Augusta, Maine. May 1987. 4 Volumes.

Maine Department of Labor. 1990, 1991, 1992. Maine Employment and Earnings Statistical Handbook.

Marriott, O. 1993. Department order on the matter of Great Northern Paper, Inc. Water Quality Certification for Penobscot Mills Project and Millinocket Lake Storage Development. April 22, 1993.

MEPRO. 1993. Settlement Agreement between Great Northern Paper and Maine Professional River Outfitters, Sepember 2, 1993.

Millinocket. 1992. Draft Comprehensive Plan.

Mitnick, P. 1991. Penobscot River Basin waste load allocation. Maine Department of Environmental Protection.

NERC (North American Electric Reliability Council). 1993. Supply and demand 1993-2002. Princeton, New Jersey. June 1993.

NPCC (Northeast Power Coordinating Council). 1993. Regional Reliability Council long range coordinated bulk power supply programs, OE4411. New York, New York. April 1993.

Nieswand, G.H., R.M. Hordon, T.B. Shelton, B.B. Chavooshian, and S. Blarr. 1990. Buffer strips to protect water supply reservoirs: A model and recommendations 26(6): 959-966.

PIN (Penobscot Indian Nation). 1992. Motion to intervene, filed 20 August 1992.

Peterson, R.H. 1978. Physical characteristics of Atlantic salmon spawning gravel in some New Brunswick streams. Fisheries and Marine Service Tech. Rept. 785. [as cited in FWS 1989]

Peterson, R.H., H.C.E. Spinney, and A. Screedharan. 1977. Development of Atlantic salmon (*Salmo salar*) eggs and alevins under varied temperature regimes. *Journal of the Fisheries Research Board of Canada.* 34:31-34. [as cited in FWS 1989]

Pierce, R.S., J.W. Hornbeck, C.W. Martin, L.M. Tritton, C.T, Smith, C.A. Federer, and H.W. Yawney. 1993. Whole-tree clearcutting in New England: Manger's guide to impacts o soils, streams, and regeneration. U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station. NE-172.

Rolde, N. 1990. Maine, a narrative history. Harpswell Press pp. 243-245.

SOSLA (Save Our Scenic Lakes Association). 1992. Motion to Intervene, June 30, 1992.

Sappier, J. 1990. Concluding statement of the Governor, Penobscot Indian Nation. November 13, 1990.

Smith, C.L. 1985. The Inland Fishes of New York State. Albany, NY: New York State Department of Environmental Conservation.

State of Maine. 1989. Maine Forest Practices Act.

Stokes, P.M. and C.D. Wren. 1987. Bioaccumulation of mercury by aquatic biota in hydroelectric reservoirs: A review and consideration of mechanisms. *In*: Lead, Mercury, Cadmium, and Arsenic in the Environment, 1987. T.C, Hutchinson and K.M. Meema, eds. John Wiley & Sons Ltd., New York. pp. 255-277.

Symons, P.E.K. 1979. Estimated escapement of Atlantic salmon (*salmo salar*) for maximum smolt production in rivers of different productivity. *Journal of the Fisheries Research Board of Canada*. 35:175-183. [as cited in FWS 1989]

Thompson Appraisal Company, Inc. 1995. Appraisal of approximately 2,000 acres of waterfront land with 82.5 miles of frontage on Chesuncook, Ripogenus and Caribou Lakes.

Tiner, R.W. 1984. Wetlands of the United States: Current status and recent trends. Department of the Interior, U.S Fish and Wildlife Service.

WHO (World Health Organization). 1990. Environmental health criteria 101: Methyl mercury. World Health Organization, Geneva.

Warner, K. 1963. Natural spawning success of landlocked salmon, *Salmo salar. Transactions of the American Fisheries Society.* 92(2):161-164. [as cited in FWS 1989]

Welch, L. 1991. Contaminant burdens and reproductive rates of bald eagles breeding in Maine. A research proposal submitted to the faculty of the graduate school of the University of Maine at Orono, in partial fulfillment of the requirements for the degree of Master of Science in Wildlife Management.

Welch, L.J. 1994. Contaminant burdens and reprpductive rates of bald eagles breeding in Maine. Master's thesis, University of Maine, Orono.

Wiemeyer, S.N., T.G. Lamont, C.M. Bunck, C.R. Sindelar, F.J. Gramlich, J.D. Fraser, and M.A. Byrd. 1984. Organochlorine pesticide, polychlorobiphenyl, and mercury residues in bald eagle eggs - 1969-1979 - and their relationship to shell thinning and reproduction. *Archives of Environmental Contamination and Toxicology.* 13 (5): 529-549.

Wiener, J.G., R.E. Martini, T.B. Sheffy, and G.E. Glass. 1990. Factors influencing mercury concentrations in walleyes in northern Wisconsin lakes. *Transactions of the American Fisheries Society.* 119:862-870.

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APPENDIX A

DAMS IN THE PENOBSCOT RIVER BASIN

Table A-1. Dams within the Penosbscot River Basin

MAP ID #	DAM NAME	RIVER	FERC #	STATE ID #	CAPACITY (KW)	FISH PASSAGE STATUS	
						TYPE	YEAR CONSTRUCTED
1	Ulmer Brook Dam	Ulmer Brook	NJ	901			
2	Orland Village Dam	Orland River	NJ	710			
3	Alamoosook Dam	Narramissic River	NJ	715			
4	Toddy Pond Dam	Powerhouse Brook	NJ	717			
5	Craig Pond Dam	Craig Brook	NJ	716			
6	Williams Pond Dam	Stubbs Brook	NJ	711			
7	Silver Lake Dam	Silver Lake Outlet	NJ	718			
8	Searsport Water District	Halfmoon Stream	NJ	719			
9	Frankfort Dam	Marsh Stream	6618	720	550		
10	West Winterport Dam	Marsh Stream	6132	758	150		
11	Town Marsh Dam	N. Br. Marsh Stream	NJ	766			
12	Brooks Dam	Marsh Stream	NJ	3807			
13	Samuel Foss Dam	Marsh Stream	7979	895	15		
14	Ellis Dam	Marsh Stream	NJ	3802			
15	Randall Dam	Marsh Stream	NJ	3803			
16	Sanborn Pond Dam	Marsh Stream	NJ	3806			
17	Swetts Pond Dam	Mill Brook	NJ	725			
18	Souadabscook Stream Dam	Souadabscook Stream	4727	726	200		
19	Temple Mill Dam	Souadabscook Stream	NJ	900			
20	Lovely's Dam	Souadabscook Stream	NJ	907			
21	Mill Street Dam	Sedgeunkedunk Stream	NJ	729			
22	East Orrington Dam	Sedgeunkedunk Stream	NJ	731			
23	Brewer Lake Dam	Sedgeunkedunk Stream	NJ	732			
24	Garland Pond Dam	Kenduskeag Stream	NJ	737			

Table A-1. Continued

MAP ID #	DAM NAME	RIVER	FERC #	STATE ID #	CAPACITY (KW)	FISH PASSAGE STATUS	
						TYPE	YEAR CONSTRUCTED
25	Bangor Dam	Penobscot River	P3986	700		Breached	
26	Veazie Dam	Penobscot River	2403	701	8400	Vertical Slot	1970
27	Gilman Mill Dam	Blackman Stream	NJ	742			
28	Orono Water Works Dam	Blackman Stream	NJ	743			
29	Leonards Mills Dam	Blackman Stream	NJ	906			
30	Parks Pond Dam	Parks Pond Brook	NJ	746			
31	Eddington-Holbrooks Dam	Mill Brook	NJ	745			
32	Orono Dam	Stillwater River	2710	702	2332	None	
33	Stillwater Dam	Stillwater River	2712	703	1950	None	
34	Great Works Stream Dam	Great Works Stream	NJ	747	4680		
35	Great Works Dam	Penobscot River	2312	705	7655	Denil (2)	1968
36	Milford Dam	Penobscot River	2534	706	6400	Denil	1968
37	Gilman Falls Dam	Stillwater River	2534	704		None	
38	Pushaw Lake Dam	Pushaw Stream	NJ	749			
39	Hatchery Dam	Cold Stream	NJ	761			
40	Stanhope Mill Dam #2	Cold Stream	NJ	762			
41	Round Pond Dam	Cold Stream	NJ	763			
42	Lowell Tannery Dam	Passadumkeag River	4202	760	875		
43	Eskutassis Stream Dam	Eskutassis Stream	NJ	764			
44	Eskutassis Pond Dam	Eskutassis Stream	NJ	765			
45	NO. 3 Pond Outlet	W. Br. Passadumkeag River	NJ	772			
46	Nicatous Stream Dam	Nicatous Stream	NJ	767			
47	Howland Dam	Piscataquis River	2721	773	1800	Denil	1965
48	Old Farm Pond Water Control	Trib. to Seboeis Stream	NJ	888			
49	Seboeis Lake Dam	W. Br. Seboeis Stream	NJ	778			
50	Schoodic Lake Dam	Schoodic Stream	NJ	779			

Table A-1. Continued

MAP ID #	DAM NAME	RIVER	FERC #	STATE ID #	CAPACITY (KW)	FISH PASSAGE STATUS	
						TYPE	YEAR CONSTRUCTED
51	Brownville Dam	Pleasant River	P10664	781		Breached	
52	Milo Dam	Sebec River	5647	790	600		
53	Sebec Lake Dam	Sebec River	7253	791	1100		
54	Lake Hebron Dam	Hebron Lake Brook	NJ	798			
55	Lower Dam (Brown's Mill)	Piscataquis River	5613	774	550	Denil	1973
56	Upper Dam (Moosehead)	Piscataquis River	5912	775	300	Denil	1973
57	Davee Brook #1	Davee Brook	NJ	903			
58	East Davee Brook Site #2	Davee Brook	NJ	904			
59	Dunham Brook Site #2	Dunham Brook	NJ	887			
60	Branns Mill Dam	Black Stream	NJ	801			
61	Haley Dam	Carlton Stream	NJ	804			
62	Mahanock Pond Dam	Carlton Stream	NJ	805			
63	Gordon's Dam	Gordon's Pond Outlet	NJ	788			
64	Pingree Pond Outlet	Pingree Stream	NJ	806			
65	Guilford Dam	Piscataquis River	P8316	776		Denil	1972
66	Bennett Pond Dam	Gales Brook	NJ	807			
67	Shirley Pond Dam	E. Br. Piscataquis River	NJ	809			
68	Kingsbury Pond Dam	Kingsbury Stream	NJ	808			
69	Piper Pond Dam	Piper Pond Outlet	NJ	782			
70	West Enfield Dam	Penobscot River	2600	707	13000	Vertical Slot	1987
71	Runaround Dam	Merrill Brook	2600	777		None	
72	Roberts Dam	Mattamiscontis Stream	NJ	810		Dam Removed	
73	SO. Branch Lake Dam	South Branch Stream	NJ	813			
74	Mill Pond Dam	Mattanawcook Stream	NJ	814			
75	Mattanawcook Pond Dam	Mattanawcook Stream	NJ	815			

Table A-1. Continued

MAP ID #	DAM NAME	RIVER	FERC #	STATE ID #	CAPACITY (KW)	FISH PASSAGE STATUS	
						TYPE	YEAR CONSTRUCTED
76	Folsom Pond Dam	Mattanawcook Stream	NJ	816			
77	Long Pond Dam	Mattanawcook Stream	NJ	817			
78	Mill Pond Dam	Cambolasse Stream	NJ	819			
79	Stump Pond Dam	Cambolasse Stream	NJ	820			
80	Cambolasse Pond Dam	Cambolasse Stream	NJ	821			
81	Long Pond Dam	Cambolasse Stream	NJ	822			
82	Dwinal Pond Dam	Mattakeunk Stream	NJ	824			
83	Mallett's Mill Dam	Mattakeunk Stream	NJ	825			
84	Village Dam	Mattakeunk Stream	NJ	827			
85	Silver Lake (Mattakeunk Pond)	Mattakeunk Stream	NJ	828			
86	Sherman Lumber Dam	West Branch Molunkus Stream	NJ	860			
87	Danforth Dam	Baskahegan Stream	NJ	831			
88	Dyer Brook Dam	Dyer Brook	NJ	840			
89	Rockabema Outlet Dam	W. Br. Mattawamkeag River	NJ	844			
90	Mill Pond Dam	Fish Stream	NJ	841			
91	Peasley Brook Dam	Peasley Brook	NJ	842			
92	Mattaceunk Dam	Penobscot River	2520	708	19200	Pool & Weir	1980
93	Swift Brook Dam	Swift Brook	NJ	848			
94	Sawtelle Deadwater Dam	Sawtelle Brook	NJ	852			
95	Medway Dam	W. Br. Penobscot River	2666A	862	3440		
96	East Millinocket Dam	W. Br. Penobscot River	2458C	863	9600		
97	Dolby Dam	W. Br. Penobscot River	2458B	864	20988		
98	Millinocket Lake Dam	Millinocket Stream	2458E	868			
99	Quakish Dam (Stone)	W. Br. Penobscot River	2458A	865	14880		
100	North Twin Dam	W. Br. Penobscot River	2458D	866	9840		

Table A-1. Continued

MAP ID #	DAM NAME	RIVER	FERC #	STATE ID #	CAPACITY (KW)	FISH PASSAGE STATUS	
						TYPE	YEAR CONSTRUCTED
101	Abol Pond Dam	Abol Stream	NJ	873			
102	Rainbow Lake Dam	Rainbow Lake Outlet	NJ	872			
103	Sourdnahunk Lake Dam (Nesowadnehunk Dam)	Nesowadnehunk Stream	NJ	874			
104	Telos Dam	Webster Brook	NJ	859			
105	Lock Dam	Chamberlain Lake Outlet	NJ	2311			
106	Ripogenus Dam	W. Br. Penobscot River	2572	867	37530		
107	Harrington Lake Dam	Ripogenus Stream	NJ	875			
108	Ragged Lake Dam	Ragged Stream	2634A	876			
109	Umbazooksus Lake Dam	Umbazooksus Stream	NJ	878			
110	Cauoomgomoc Dam	Cauoomgomoc Stream	2634B	879			
111	Loon Lake Dam	Loon Stream	NJ	880			
112	Seboomook Dam	W. Br. Penobscot River	2634C	869			
113	Dole Pond Dam	Dole Brook	NJ	882			
114	Long Pond Dam	Long Pond Outlet	NJ	883			
115	Canada Falls Dam	S. Br. Penobscot River	2634D	885			
116	Penobscot Lake Dam	Penobscot Brook	NJ	886			

APPENDIX B

FISHERIES RESOURCES

Table 1. Species in Penobscot Mills Project and Ripogenus Project impoundments (X = known presence; Source: GNP, 1991 a, Vol. II; GNP 1991 b, Vol. II)

Common Name	Scientific Name	Impoundments					
		North Twin	Millinocket Lake	Ripo-genus	Quakish Lake	Dolby Pond	East Millinocket
Land-locked salmon	*Salmo salar*	x[a]	x[a]	x	x	x	x
Brook trout	*Salvelinus fontinalis*	x	x	x	o	x	o
Lake trout (togue)	*Salvelinus namaycush*	x[a]	x[a]	x	x	o	o
Splake	*S. fontialis x S. namaycush*	o	o	o	o	o	o
Lake whitefish	*Coregonus clupeaformis*	x	x	x	o	o	o
Round whitefish	*Prospium cylindraceum*	o	o	o	o	o	o
Rainbow smelt	*Osmerus mordax*	x	x	x	x	x	x
Burbot (cusk)	*Lota lota*	x	x	x	o	o	o
Smallmouth bass	*Micropterus dolomieui*	o	o	o	o	x	x
Chain pickerel	*Esox niger*	x	x	o	x	x	x
White perch	*Morone americana*	x	x	x	x	x	x
Yellow perch	*Perca flavescens*	x	x	x	x	x	x
Redbreast sunfish	*Lepomis auritus*	x	x	o	x	x	x
Pumpkinseed	*Lepomis gibbosus*	x	x	o	x	x	x
Brown bullhead (hornpout)	*Ictalurus nebulosus*	x	x	x	x	x	x
American eel	*Anguilla rostrata*	x	x	x	x	x	x
White sucker	*Catostomus commersoni*	x	x	x	x	x	x
Longnose sucker	*Catostomus catostomus*	x	x	x	x	x	x
Fallfish	*Semotilus corporalis*	x	x	x	x	x	x
Pearl dace	*Semotilus margarita*	o	x	o	o	o	o
Blacknose dace	*Rhinichthys atratulus*	x	x	x	x	x	x
Lake chub	*Couesius plumbeus*	x	x	x	x	x	o
Common shiner	*Notropis cornutus*	x	x	x	x	x	x
Golden shiner	*Notemigonus crysoleucas*	x	x	x	x	x	x
Creek chub	*Semotilus atromaculatus*	x	x	x	x	x	x
Fathead minnow	*Pimephales promelas*	x	o	o	o	o	o
Ninespine stickleback	*Pungitius pungitius*	x	x	o	x	o	o
Slimy sculpin	*Cottus cognatus*	x	x	o	x	x	x
Banded killifish	*Fundulus diaphanus*	x	x	o	x	x	x

[a] Stocked

Table 2. Species in riverine waters of the Penobscot Mills and Ripogenus projects (X = known presence; Source: GNP, 1991 a, Vol. II; GNP 1991 b, Vol. II)

Common Name	Scientific Name	Riverine Reaches						
		W. Branch N. Twin Dam to Quakish L.	W. Branch Millinocket Development Tailrace to Dolby Pond	W. Branch E. Millinocket Development Tailrace	Millinocket Stream	Back Channel	Upper gorge	W. Branch Ripogenus to N. Twin
Landlocked salmon	*Salmo salar*	x	x	x	x	x	x	x
Brook trout	*Salvelinus fontinalis*	x	x	o	x[a]	o	x	x
Lake trout (togue)	*Salvelinus namaycush*	o	o	o	x	o	x	x
Splake	*S. fontinalis x S. namaycush*	o	o	o	o	o	o	x
Lake whitefish	*Coregonus clupeaformis*	o	o	o	o	o	o	x
Round whitefish	*Prospium cylindraceum*	o	o	o	o	o	o	x
Rainbow smelt	*Osmerus mordax*	x	x	x	x	o	x	x
Burbot (cusk)	*Lota lota*	o	o	o	x	o	o	x
Smallmouth bass	*Micropterus dolomieui*	o	x	x	x	x[b]	o	o
Chain pickerel	*Esox niger*	x	x	o	x	o	o	x
White perch	*Morone americana*	x	x	x	x	o	x	x
Yellow perch	*Perca flavescens*	x	x	o	x	o	x	x
Redbreast sunfish	*Lepomis auritus*	o	o	o	x	x	o	x
Pumpkinseed	*Lepomis gibbosus*	o	o	o	o	o	o	o
Brown bullhead (hornpout)	*Ictalurus nebulosus*	o	x	o	o	o	o	x
American eel	*Anguilla rostrata*	x	x	x	x	o	x	x
White sucker	*Catostomus commersoni*	x	x	x	x	x	x	x
Longnose sucker	*Catostomus catostomus*	x	x	o	x	o	x	x
Fallfish	*Semotilus corporalis*	x	x	o	x	o	x	x
Pearl dace	*Semotilus margarita*	o	o	o	o	o	o	o
Blacknose dace	*Rhinichthys atratulus*	x	x	o	x	o	x	x
Lake chub	*Couesius plumbeus*	o	o	o	o	o	o	x
Common shiner	*Notropis cornutus*	o	o	o	x	x	o	x
Golden shiner	*Notemigonus crysoleucas*	o	o	o	o	o	o	x
Creek chub	*Semotilus atromaculatus*	o	o	o	x	x	o	x
Fathead minnow	*Pimephales promelas*	x	o	o	o	o	o	o
Ninespine stickleback	*Pungitius pungitius*	x	x	o	o	o	o	x
Slimy sculpin	*Cottus cognatus*	x	x	o	x	x	x	x
Banded killifish	*Fundulus diaphanus*	o	o	o	o	o	o	o

[a] Stocked
[b] Below Grand Falls only

APPENDIX C

WETLANDS AND TERRESTRIAL RESOURCES

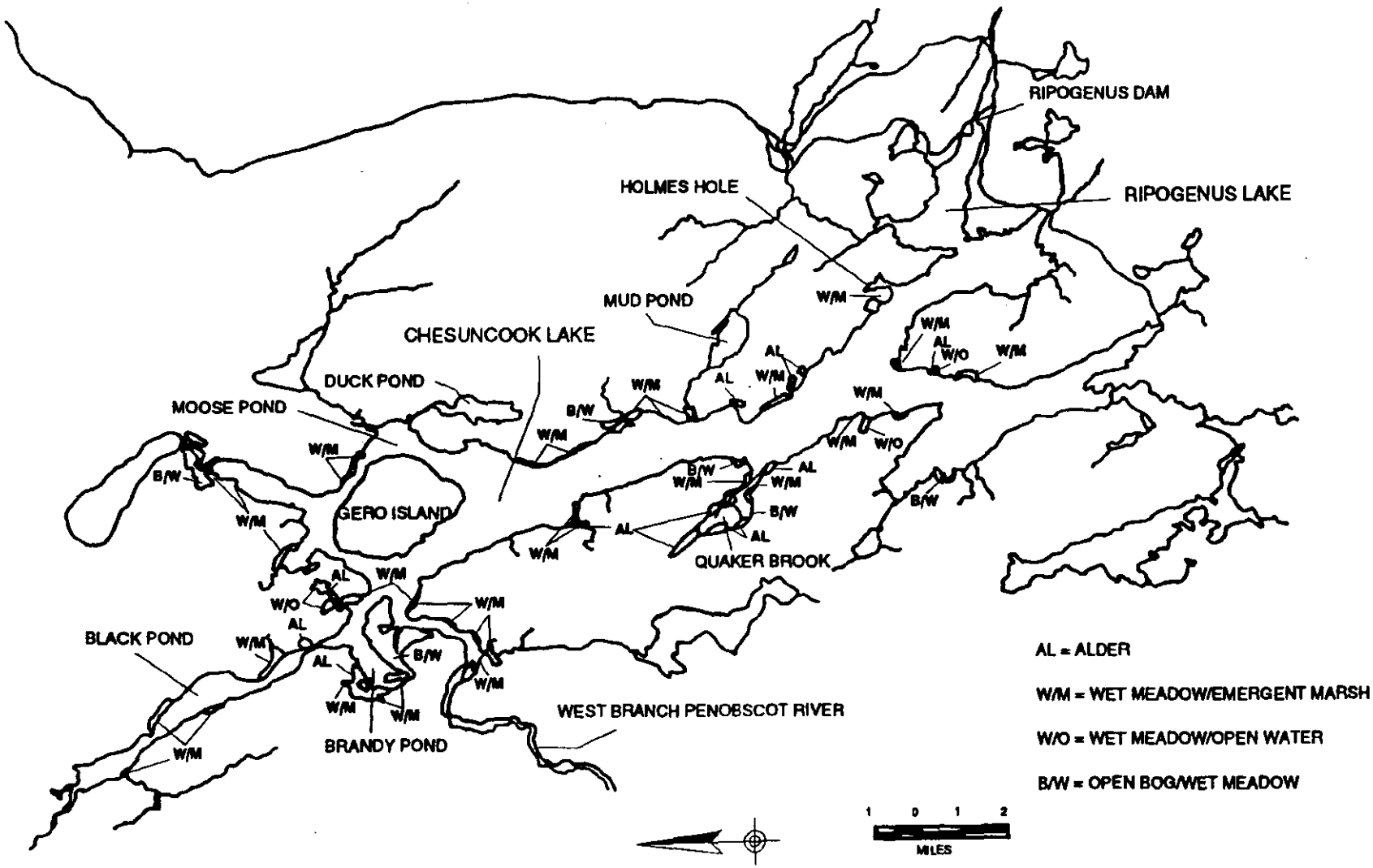

Figure C-1. Existing wetlands in the vicinity of Ripogenus impoundment, Ripogenus Project (modified after figure E3.2-2, GNP, 1991a)

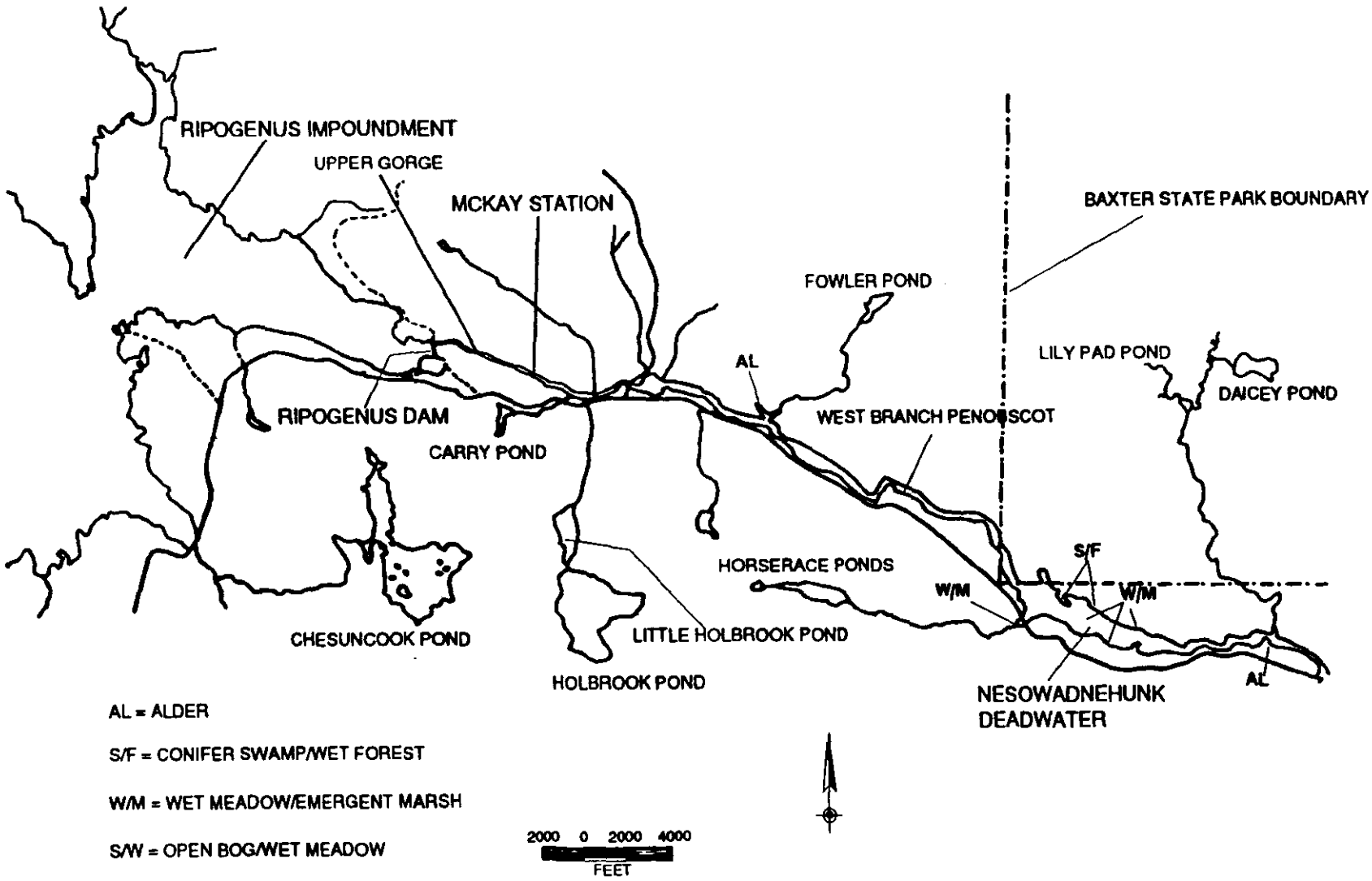

Figure C-2. Existing wetlands bordering the West Branch of the Penobscot River, in the vicinity of the Ripogenus Project (modified after figure E3.2-3, sheet 1, GNP, 1991a)

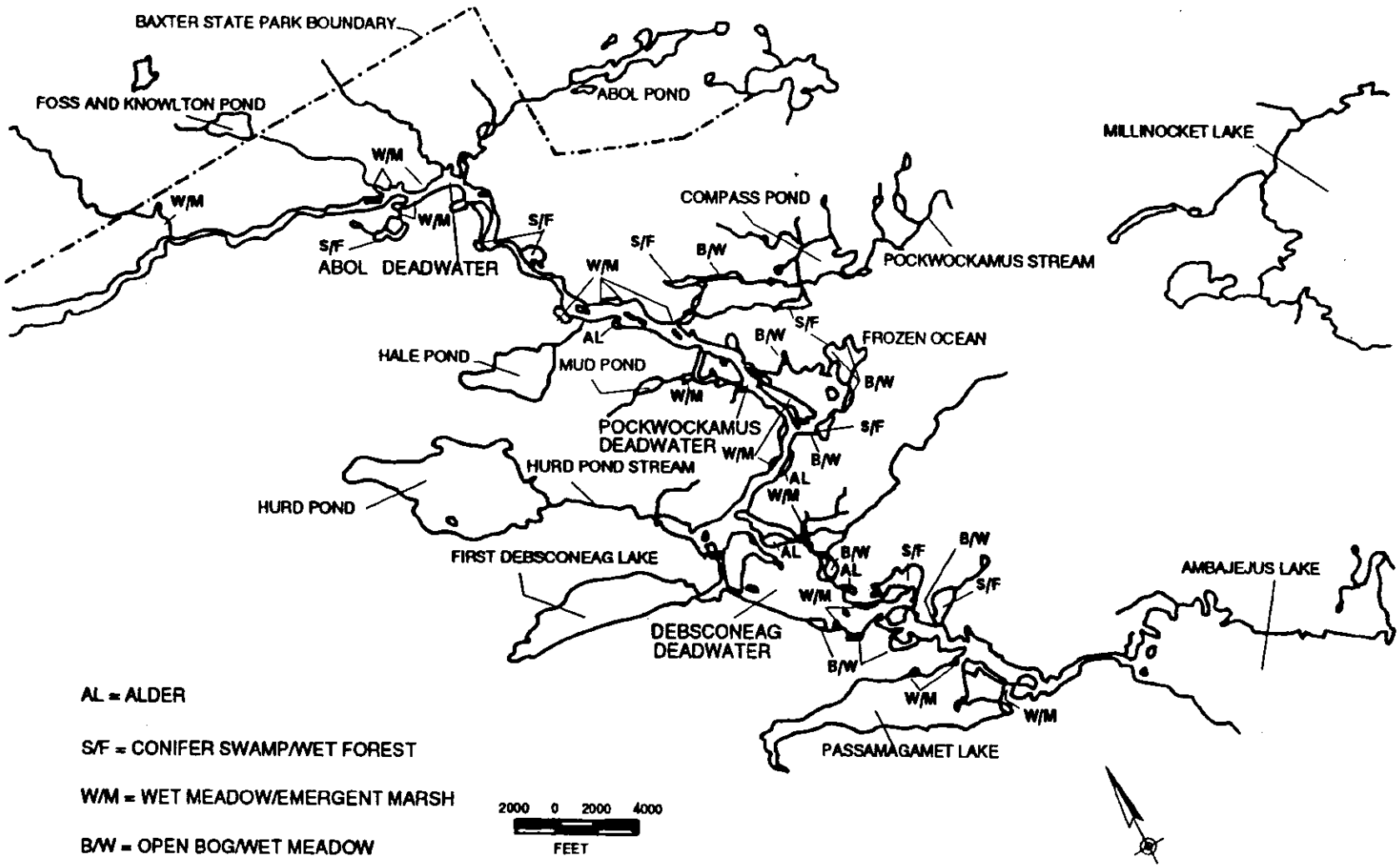

Figure C-3. Existing wetlands bordering the West Branch of the Penobscot River, in the eastern section of the Ripogenus Project (modified after figure E3.2-3, sheet 2, GNP, 1991a)

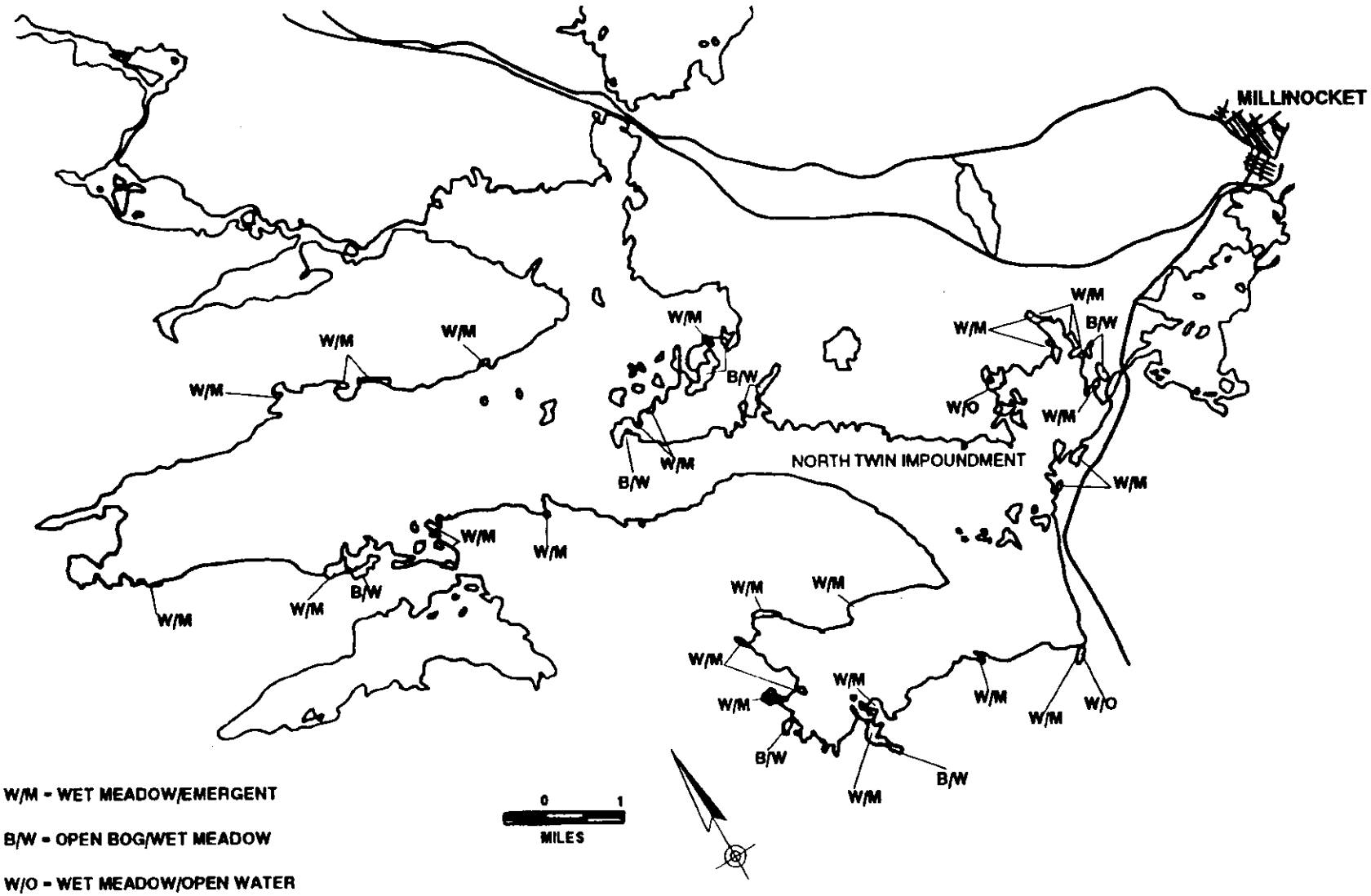

Figure C-4. Existing wetlands in the vicinity of North Twin impoundment, Penobscot Mills Project (modified after figure E3.2-2, GNP, 1991b)

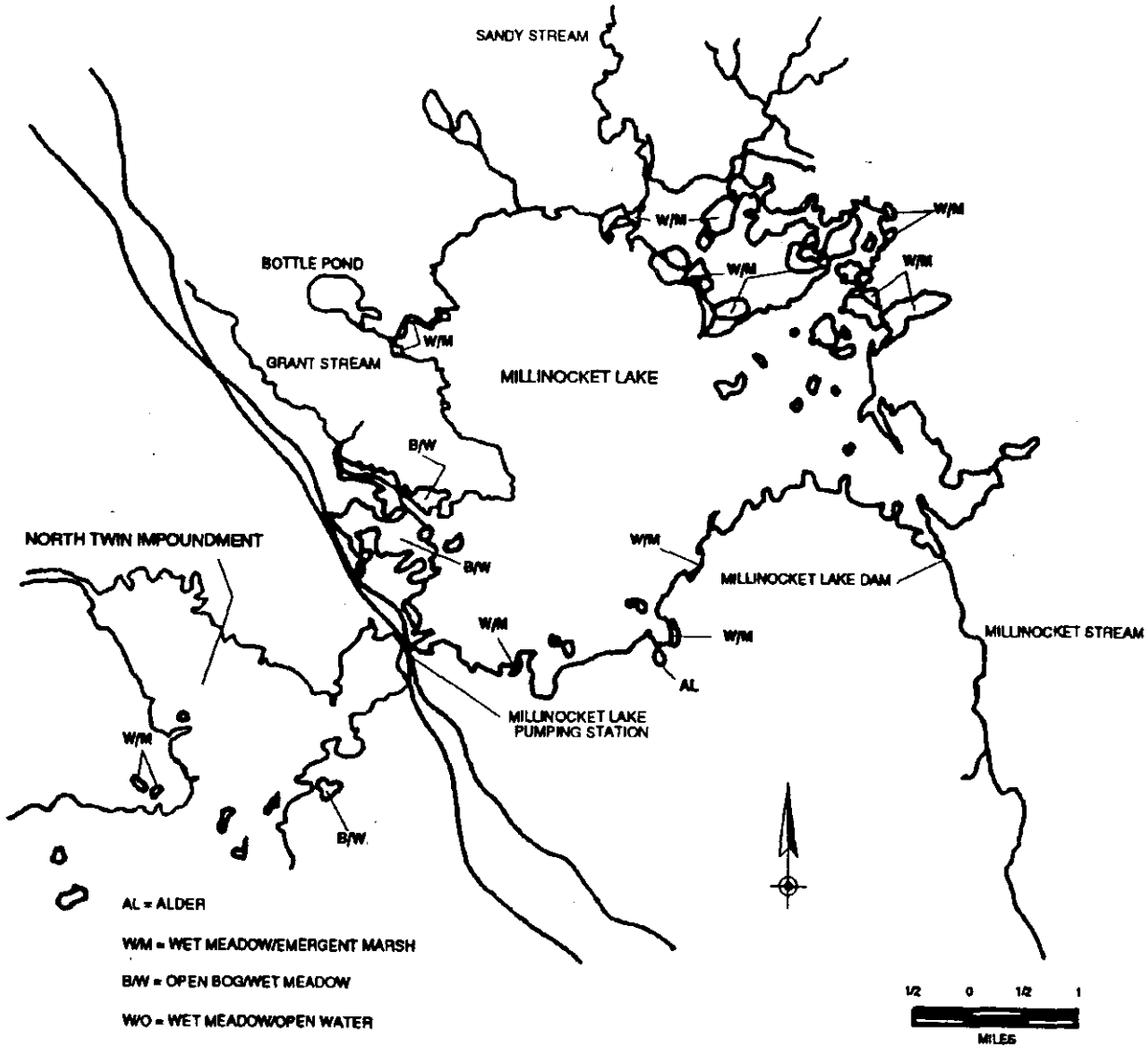

Figure C-5. Existing wetlands in the vicinity of Millinocket Lake, Penobscot Mills Project (modified after figure E3.2-3, GNP, 1991b)

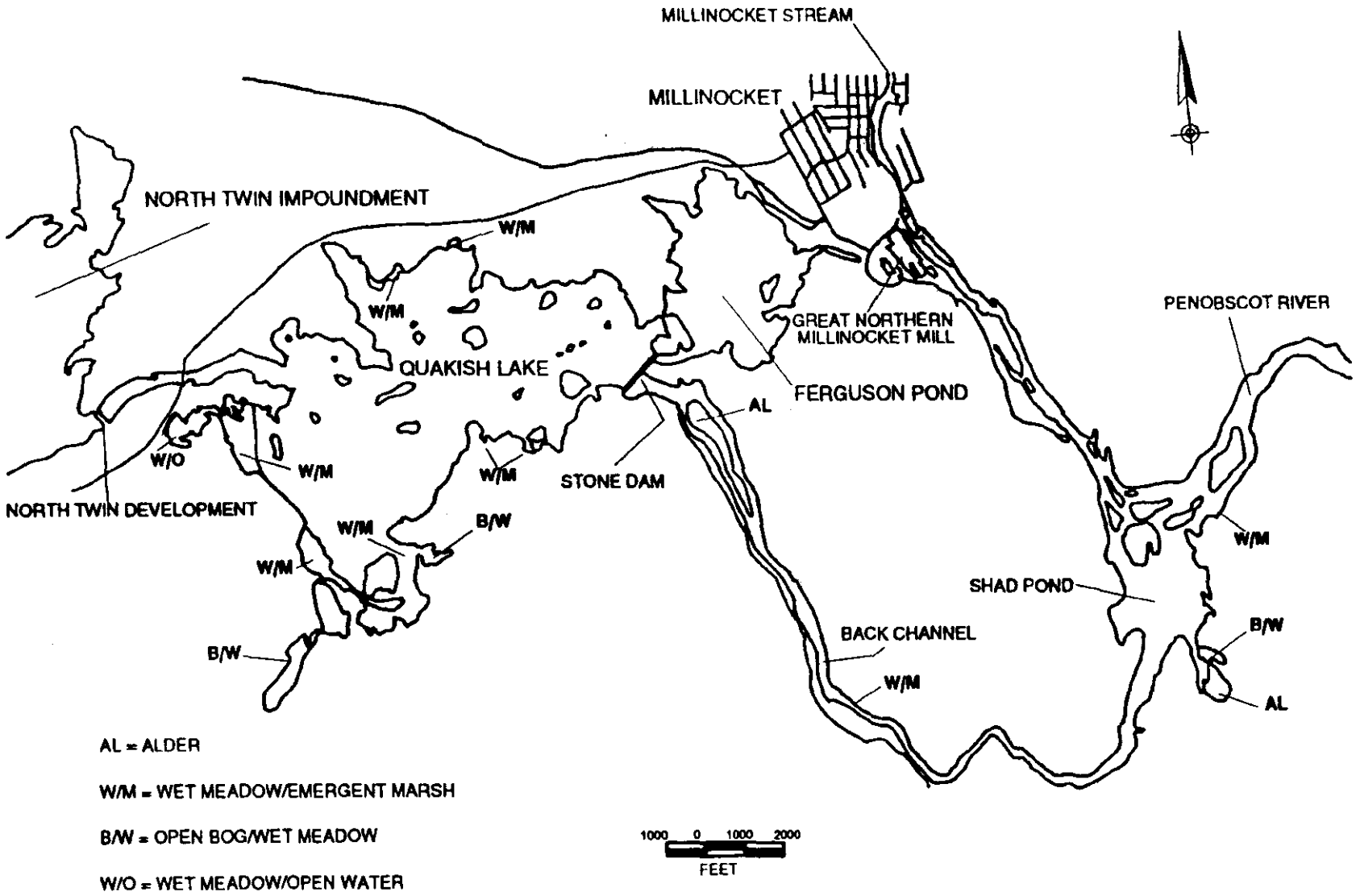

Figure C-6. Existing wetlands in the vicinity of Quakish Lake, Penobscot Mills Project (modified after figure E3.2-4, GNP, 1991b)

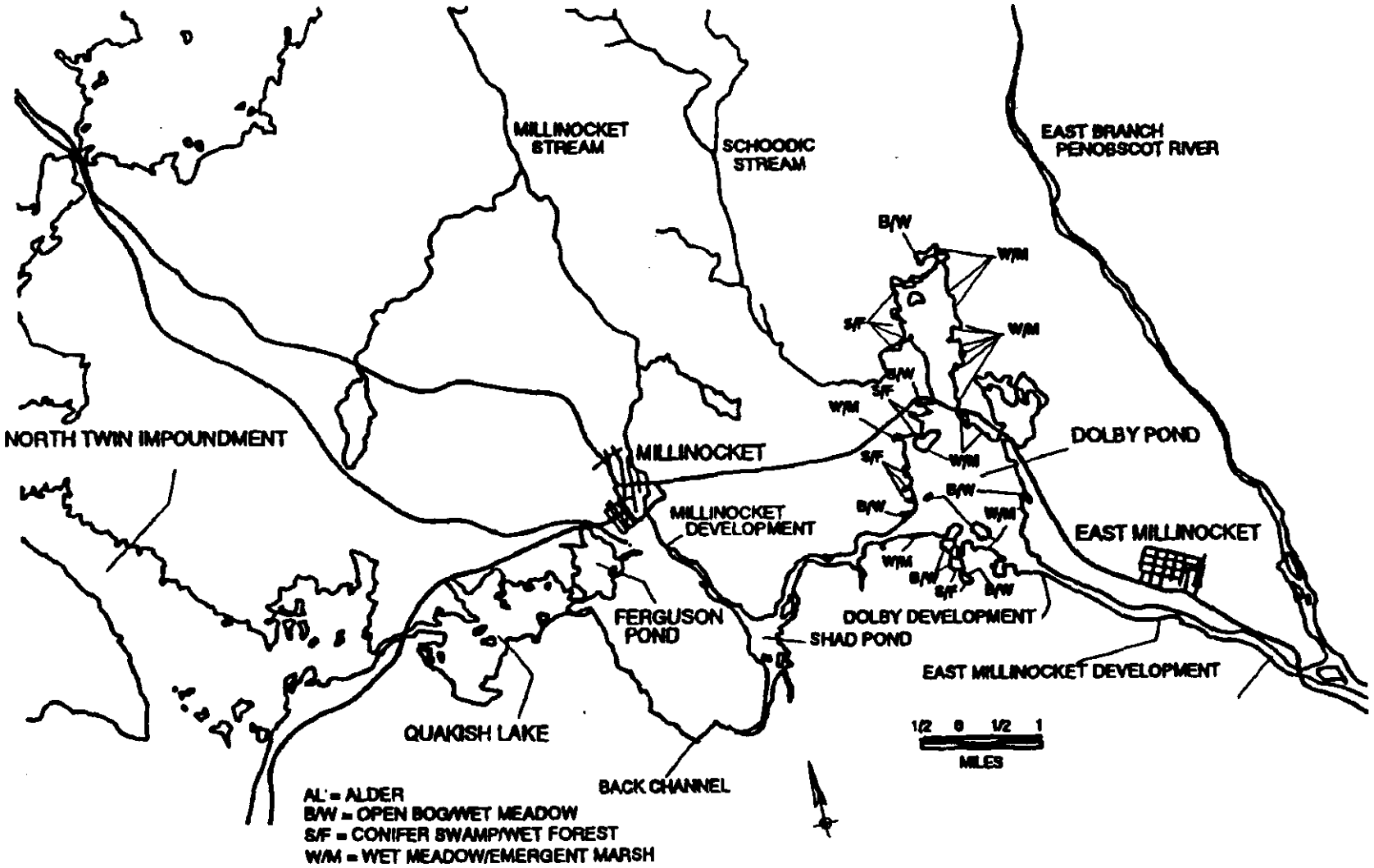

Figure C-7. Existing wetlands in the vicinity of Dolby Pond, Penobscot Mills Project (modified after figure E3.2-5, GNP, 1991b)

Table 1. Plants occupying softwood-dominated mixed forest in the Ripogenus and Penobscot Mills projects, Piscataquis and Penobscot Counties, Maine (original data from GNP Vol. X, 1991).

Scientific Name	Common Name
Canopy	
Picea rubens	Red spruce
Abies balsamea	Balsam fir
Betula lutea	Yellow birch
B. papyrifera	Paper birch
Fagus grandifolia	Beech
Quercus borealis	Northern red oak
Sorbus americana	Mountain ash
Pinus strobus	White pine
Thuja occidentalis	Northern white cedar
Fraxinus pennsylvanica var. subintegerrima	Green ash
Populus balsamifera	Balsam poplar
Picea mariana	Black spruce
Acer rubrum	Red maple
Ostrya virginiana	Hophornbeam
Picea glauca	White spruce
Acer saccharum	Sugar maple
Understory	
Acer pensylvanicum	Striped maple
Acer spicatum	Mountain maple
Corylus cornuta	Beaked hazel
Vaccinium angustifolium	Lowbush blueberry
Lonicera canadensis	Fly honeysuckle
Rubus idaeus var. strigosus	Red raspberry
Viburnum alnifolium	Hobblebush
Ribes glandulosum	Gooseberry
Vaccinium vacillans	Lowbush blueberry
Gaultheria hispidula	Bristly wintergreen
Amelanchier laevis	Shadbush
Diervilla lonicera	Bush honeysuckle
Rubus sp.	Blackberry
Kalmia angustifolia	Sheep laurel
Gaultheria procumbens	Wintergreen
Nemopanthus mucronata	Mountain holly
Viburnum lentago	Nannyberry
Hamamelis virginiana	Witch hazel
Gaylussacia baccata	Black huckleberry
Salix sp.	Willow
Ledum groenlandicum	Labrador tea

Table 1. Continued

Scientific Name	Common Name
Herbaceous Layer	
Cypripedium acaule var. albicaulis	Pink Lady's Slipper (white form)
Trientalis borealis	Starflower
Dryopteris spinulosa	Spinulose wood fern
Maianthemum canadense	Canada mayflower
Oxalis montana	Wood sorrel
Cornus canadensis	Bunchberry
Trillium erectum	Purple trillium
Clintonia borealis	Clintonia
Aralia nudicaulis	Wild sarsaparilla
Pteridium aquilinum	Bracken fern
Osmuinda claytoniana	Interrupted fern
Athyrium filix-femina	Lady fern
Smilacina racemosa	False Solomon's Seal
Dryopteris disjuncta	Oak fern
Streptopus roseus	Twisted stalk
Polypodium vulgare	Rock polypody
Linnaea borealis	Twinflower
Lycopodium lucidulum	Shining clubmoss
Lycopodium clavatum	Trailing clubmoss
Coptis trifolia	Goldthread
Actaea rubra	Dolls' Eyes
Medeola virginiana	Indian cucumber
Poa languida	Bluegrass
Polygonatum biflorum	Solomons' Seal
Chrysosplenium americanum	Golden saxifrage
Trillium undulatum	Painted trillium
Mitella nuda	Miterwort
Mitchella repens	Partridgeberry
Oryzopsis asperifolia	Mountain rice
Dryopteris phegopteris	Long beech fern
Cypripedium acaule	Pink Lady's Slipper
Carex arctata	Sedge
Brachyelytrum erectum	Brachyelytrum
Onoclea sensibilis	Sensitive fern
Thalictrum polygamum	Meadow rue
Osmunda cinnamomea	Cinnamon fern
Epigaea repens	Trailing arbutus
Viola sp.	Purple violet
Sphagnum sp.	Sphagnum moss
Streptopus amplexifolius	Twisted stalk
Luzula accuminata	Wood rush
Equisetum fluviatile	Horsetail

Table 1. Continued

Scientific Name	Common Name
Herbaceous Layer (Cont'd)	
Melampyrum lineare	Cow wheat
Monotropa uniflora	Indian pipe
Solidago flexicaulis	Goldenrod
Dalibarda repens	False violet
Veronica scutellata	Speedwell
Trisetum spicatum	Three-awned grass
Circaea alpina	Enchanter's nightshade

Table 2. Plants occupying hardwood-dominated mixed forests in the Ripogenus and Penobscot Mills projects, Piscataquis and Penobscot Counties, Maine (original data from GNP Vol. X, 1991).

Scientific Name	Common Name
Canopy	
Fagus grandifolia	Beech
Fraxinum americana	White ash
Fraxinus pennsylvanica var. subintegerrima	Green ash
Betula lutea	Yellow birch
Acer saccarum	Sugar maple
Picea rubens	Red spruce
Tsuga canadensis	Hemlock
Abies balsamea	Balsam fir
Quercus borealis	Northern red oak
Thuja occidentalis	Northern white cedar
Ostrya virginiana	Hophornbeam
Ulmus americana	American elm
Betula papyrifera	Paper birch
Pinus strobus	White pine
P. resinosa	Red pine
Populus tremuloides	Trembling aspen
P. grandidentata	Bigtooth aspen
Acer rubrum	Red maple
Sorbus americana	Mountain ash
Understory	
Viburnum alnifolium	Witch hobble
Amelanchier laevis	Shadbush
Alnus rugosa	Speckled alder
Lonicera canadensis	Fly honeysuckle
Vaccinium angustifolium	Lowbush blueberry
Corylus cornuta	Beaked hazel
Acer pennsylvanicum	Striped maple
Viburnum lentago	Sheep berry
Salix spp.	Willow
A. spicatum	Mountain maple
Cornus alternifolia	Alternate-leaved dogwood
Diervilla lonicera	Mountain-fly honeysuckle
Herbaceous Layer	
Cypripedium calceolus	Yellow Ladys' Slipper
Adiantum pedatum	Maidenhair fern
Osmunda Cinnamomea	Cinnamon fern
Dryopteris disjuncta	Oak fern

Table 2. Continued

Scientific Name	Common Name
Herbaceous Layer (Cont'd)	
Trillium erectum	Purple trillium
Brachyelytrum erectum	Brachyelytrum
Polyganatum biflorum	Solomons' Seal
Dryopteris spinulosa	Spinulose wood fern
Osmunda claytoniana	Interrupted fern
Medeola virginiana	Indian cucumber
Actaea rubra	Dolls' Eyes
Pyrola rotundifolia	Shinleaf
Athyrium filix-femina	Lady fern
Dryopteris phegopteris	Long beech fern
Aralia nudicaulis	Wild sarsaparilla
Pteridium aquilinum	Bracken fern
Arisaema triphyllum	Jack-in-the-pulpit
Veratrum viride	False hellebore
Trientalis borealis	Starflower
Cypripedium acaule var. albecaulis	Pink Lady's Slipper (white form)
Uvularia sessilifolia	Bellwort
Viola pubescens	Violet
Smilacina racemosa	False Solomon's Seal
Oxalis montana	Wood sorrel
Pteretis pennsylvanica	Ostrich fern
Cornus canadensis	Bunchberry

Table 3. Plants occupying alder thicket wetlands at the Ripogenus and Penobscot Mills projects, Piscataquis and Penobscot Counties, Maine (original data from GNP Vol. X, 1991).

Scientific Name	Common Name
Understory	
Alnus rugosa	Speckled alder
Acer rubrum	Red maple
Myrica gale	Sweet gale
Rubus sp.	Blackberry
Spiraea latifolia	Meadowsweet
Ilex verticillata	Winterberry
Viburnum cassinoides	Witherod
Salix spp.	Willow
Herbaceous Layer	
Carex spp.	Sedge
Onoclea sensibilis	Sensitive fern
Calamagrostis canadensis	Blue-joint grass
Osmunda cinnamomea	Cinnamon fern
Dryopteris spinulosa	Spinulose wood fern

Table 4. Plants occupying conifer swamp/wet forest wetlands at the Ripogenus and Penobscot Mills projects, Piscataquis and Penobscot Counties, Maine (original data from GNP Vol. X, 1991).

Scientific Name	Common Name
Canopy	
Thuja accidentalis	Northern white cedar
Betula Lutea	Yellow birch
Acer rubrum	Red maple
Abies balsamea	Balsam fir
Fraxinum pennsylvanica var. subintegerrima	Green ash
F. americana	White ash
Picea rubens	Red spruce
P. mariana	Black spruce
Tsuga canadensis	Hemlock
Larix laricina	Larch
Understory	
Alnus rugosa	Speckled alder
Rubus pubescens	Dwarf raspberry
Ribes glandulosum	Skunk Current
Cornus rugosa	Round leaved dogwood
Acer pensylvanicum	Striped maple
Lonicera canadensis	Fly honeysuckle
Salix sp.	Willow
Cornus sericea	Red osier dogwood
Herbaceous Layer	
Impatiens capensis	Jewelweed
Thalictrum polygamum	Meadow rue
Athyrium filix-femina	Lady fern
Dryopteris disjuncta	Oak fern
D. phegopteris	Longbeech fern
D. cristata	Crested shield fern
D. spinulosa	Spinulose wood fern
Cornus canadensis	Bunchberry
Osmunda cinnamomea	Cinnamon fern
Chrysosplenium americanum	Golden saxifrage
Nasturtium aquaticum	Watercress
Arisaema triphyllum	Jack-in-the-pulpit
Coptis groenlandica	Goldthread
Mitella nuda	Miterwort
Osmunda claytoniana	Interrupted fern
Aralia nudicaulis	Wild sarsaparilla
Linnaea borealis	Twinflower
Dalibarda repens	False Violet

Table 4. Continued

Scientific Name	Common Name
Herbaceous Layer (Cont'd)	
Fragaria virginiana	Wild strawberry
Carex trisperma	Three-seeded sedge
Cardamine pensylvanica	Bitter cress
Moneses uniflora	One-flowered wintergreen
Pteretis pennsylvanica	Ostrich fern
Cares arctata	Sedge
C. foliculata	Sedge
Oxalis montana	Wood sorrel
Circaea alpina	Enchanter's nightshade

Table 5. Plants occupying wet meadow/emergent marsh wetlands at the Ripogenus and Penobscot Mills projects, Piscataquis and Penobscot Counties, Maine (original data from GNP Vol. X, 1991).

Scientific Name	Common Name
Understory	
Salix spp.	Willow
Spiraea tomentosa	Steeplebush
S. latifolia	Meadowsweet
Alnus hispidus	Speckled alder
Rubus hispidus	Dewberry
R. idaeus var. strigosus	Red raspberry
Pinus strobus	White pine
Picea mariana	Black spruce
P. rubens	Red spruce
Chamaedaphne calyculata	Leatherleaf
Thuja occidentalis	Northern white cedar
Herbaceous Layer	
Calamagrostis canadensis	Blue-joint grass
Equisetum fluviatile	Horsetail
Onoclea sensibilis	Sensitive fern
Thalictrum polygamum	Meadow rue
Fragaria virginiana	Wild strawberry
Carex tribuloides	Sedge
Galium spp.	Bedstraw
Scirpus cyperinus	Wool grass
Bromus ciliatus	Brome grass
Glyceria canadensis	Manna grass
G. Pallida	Manna grass
Eupatorium perfoliatum	Boneset
Galium asprellum	Bedstraw
Solidago graminifolia	Lance-leaved goldenrod
Agrostit scabra	Bentgrass
Trisetum spicatum	Three-awned grass
Carex crinita	Sedge
Campanula uliginosa	Marsh bluebell
Dryopteris cristata	Crested shield fern
Habernaria clavellata	Greenwoodland orchis
Phalaris arundinacea	Reed canary grass
Poa plustris	Fowl meadow grass
Sium suave	Water parsley
Carex rostrata	Sedge
Hypericum virginicum	Marsh St. Johns wort
H. ellipticum	St. Johns wort
Juncus canadensis	Rush
J. filiformis	Rush

Table 5. Continued

Scientific Name	Common Name
Herbaceous Layer (Cont'd)	
Carex leptalea	Sedge
Dulichium arundinaceum	Three-way sedge
Habernaira psycodes	Small purple fringed orchis
Nuphar variegatum	Yellowpond lily
Lysimachia terrestris	Swamp candles
Drosera rotundifolia	Sundew
Lycopus virginicus	Water horehound
Carex lurida	Sedge
Eleocharis obtusa	Spikerush
Sphagnum sp.	Sphagnum moss
Carex vulpinoidea	Sedge
Scutellaria lateriflora	Skullcap
Polygonum sagittatum	Thumb tear
Chelone glabra	Turtlehead
Iris versicolor	Blue flag
Elymus virginicus	Wild rye
Glyceria borealis	Manna grass
Sparganium chlorocarpum	Bur-reed
Typha latifolia	Cattail
Potentilla palustris	Marsh cinquefoil

Table 6. Plants occupying open bog/wet meadow wetlands at the Ripogenus and Penobscot Mills projects, Piscataquis and Penobscot Counties, Maine (original data from GNP Vol. X, 1991).

Scientific Name	Common Name
Understory	
Chamaedaphne calyculata	Leatherleaf
Kalmia angustifolia	Sheep laurel
Kalmia polifolia	Bog laurel
Ledum groenlandicum	Labrador tea
Larix laricina	Larch
Rhododendron canadense	Rhodora
Andromeda glaucophylla	Bog rosemary
Picea marina	Black spruce
Vaccinium oxycoccos	Cranberry
Alnus rugosa	Speckled alder
Viburnum cassinoides	Witherod
Herb Layer	
Eriophorum virginicum	Cotton grass
E. spissum	Hare's tail
Carex trisperma	Three-seeded sedge
Carex oligosperma	Few-seeded sedge
Carex stricta	Tussock sedge
Scirpus cyperinus	Woolgrass
Sarracenia purpurea	Pitcher plant
Sphagnum sp.	Sphagnum moss
Calamagrostis canadensis	Blue-joint grass

Table 7. Plants occupying deep marsh/aquatic bed wetlands at the Ripogenus and Penobscot Mills projects, Piscataquis and Penobscot Counties, Maine (original data from GNP Vol. X, 1991).

Scientific Name	Common Name
Herbaceous Layer	
Glyceria borealis	Manna grass
Scirpus subterminalis	Bulrush
Nymphaea odorata	Pond lily
Brasenia schreberi	Water shield
Potamogeton epihydrus	Pondweed
Sparganium sp.	Bur-reed
Nuphar variegatum	Yellow pond lily
Utricularia vulgaris	Bladderwort
Sparganium fluctuans	Bur-reed

Table 8. Mammals with typical ranges that overlap the Ripogenus and Penobscot Mills project boundaries, Piscataquis and Penobscot Counties, Maine. An "R" or a "P" after a common name indicates the documented presence of a species within or adjacent to the Ripogenus or Penobscot Mills projects (adapted from original data in GNP Vol. X, 1991).

Family	Scientific Name	Common Name
Soricidae	*Sorex cinereus*	Masked shrew
	Sorex palustris	Water shrew
	Sorex fumeus	Smoky shrew
	Sorex dispar	Long-tailed shrew
	Sorex hoyi	Pygmy shrew
	Blarina brevicauda	Northern short-tailed shrew (R,P)
Talpidae	*Parascalops breweri*	Hairy-tailed mole
	Condylura cristata	Star-nosed mole
Vespertilionidae	*Myotis lucifugus*	Little brown myotis
	Myotis keenii	Keen's myotis
	Lasionycteris noctivagans	Silver-haired bat
	Eptisicus fuscus	Big brown bat
	Lasiurus borealis	Red bat
	Lasiurus cinereus	Hoary bat
Leporidae	*Lepus americanus*	Snowshoe hare (R,P)
Sciuridae	*Tamias striatus*	Eastern chipmunk
	Marmota monax	Woodchuck
	Sciurus carolinensis	Gray squirrel
	Tamiasciurus hudsonicus	Red squirrel (R,P)
	Glaucomys sabrinus	Northern flying squirrel
Castoridae	*Castor canadensis*	Beaver (R,P)
Cricetidae	*Peromyscus maniculatus*	Deer mouse (R,P)
	Clethrionomys gapperi	Southern red-backed vole (R,P)
	Microtus pennsylvanicus	Meadow vole (R,P)
	Microtus chcrotorrhinus	Rock vole
	Ondatra zibethicus	Muskrat (P)
	Synaptomys cooperi	Southern bog lemming
	Synaptomys borealis	Northern bog lemming
Muridae	*Rattus norvegicus*	Norway rat
	Mus musculus	House mouse
Zapodidae	*Zapus hudsonius*	Meadow jumping mouse (R,P)
	Napaeozapus insignis	Woodland jumping mouse (R,P)
Erethizontidae	*Erethizon dorsatum*	Porcupine

Table 8. Continued

Family	Scientific Name	Common Name
Canidae	*Canis latrans* *Vulpes vulpes*	Coyote (R,P) Red fox (R,P)
Ursidae	*Ursus americanus*	Black bear (R,P)
Procyonidae	*Procyon lotor*	Raccoon (R,P)
Mustelidae	*Martes americana* *Martes pennanti* *Mustela erminea* *Mustela frenata* *Mustela vison* *Mephitis mephitis* *Lutra canadensis*	Marten (R,P) Fisher Ermine Long-tailed weasel Mink (R,P) Striped Skunk (P) River otter (R,P)
Felidae	*Felis lynx* *Felis rufus*	Lynx Bobcat (R,P)
Cervidae	*Odocoileus virginianus* *Alces alces*	White-tailed deer (R,P) Moose (R,P)

Table 9. Birds with typical ranges that overlap the Ripogenus and Penobscot Mills project boundaries, Piscataquis and Penobscot Counties, Maine. An "R" or a "P" after a common name indicates the documented presence of a species within or adjacent to the Ripogenus and Penobscot Mills projects (adapted from original data in GNP Vol. X, 1991).

Family	Scientific Name	Common Name
Gaviidae	*Gavia immer*	Common loon (R,P)
Podicipedidae	*Podilymbus podiceps*	Pied-billed grebe
Phalacrocoracidae	*Phalacrocorax auritus*	Double-crested cormorant (R,P)
Ardeidae	*Botaurus lentiginosus* *Ardea herodias* *Butorides striatus*	American bittern Great blue heron (R,P) Green-backed heron
Anatidae	*Branta canadensis* *Aix sponsa* *Anas crecca* *Anas rubripis* *Anas platyrhynchos* *Anas discors* *Aythya collaris* *Bucephalaclangula* *Lophodytes cucullatus* *Mergus merganser* *Mergus serrator*	Canada goose Wood duck Green-winged teal American black duck (R,P) Mallard (R,P) Blue-winged teal Ring-necked duck Common goldeneye Hooded merganser Common merganser (R,P) Red-breasted merganser (R,P)
Accipitridae	*Pandion haliaetus* *Haliaeetus leucocephalus* *Circus syaneus* *Accipiter striatus* *Accipiter cooperii* *Accipiter gentilis* *Buteo lineatus* *Buteo platypterus* *Buteo jamaicensis* *Buteo lagopus*	Osprey (R,P) Bald eagle (P) Northern harrier (R) Sharp-shinned hawk Cooper's hawk (R,P) Northern goshawk Red-shouldered hawk Broad-winged hawk (R,P) Red-tailed hawk (R) Rough-legged hawk
Falconidae	*Falco sparverius*	American kestrel (R)
Phasianidae	*Dendragapus canadensis* *Bonasa umbellus*	Spruce grouse Ruffed grouse (R,P)
Rallidae	*Rallus limicola* *Porzana carolina*	Virginia rail Sora
Charadriidae	*Charadrius vociferus*	Killdeer (R,P)

Table 9. Continued

Family	Scientific Name	Common Name
Scolopacidae	*Actitis macularia*	Spotted sandpiper (R,P)
	Gallinago gallinago	Common snipe (R,P)
	Scolopax minor	American Woodcock (R,P)
Laridae	*Larus delawarensis*	Ring-billed gull (R)
	Larus argentatus	Herring gull (R,P)
	Larus marinus	Great black-backed gull (R)
	Sterna hirundo	Common tern (R)
Columbidae	*Columba livia*	Rock dove
	Zenaida macrour	Mourning dove
Cuculidae	*Coccyzus erythropthalmus*	Black-billed cuckoo
Strigidae	*Bubo virginianus*	Great horned owl
	Nyctea scandiaca	Snowy owl
	Strix varia	Barred owl Long-eared owl
	Asio otus	Short-eared owl
	Asio flammeus	Long-eared owl
	Aegolius funereus	Short-eared owl
	Aegolius funereus	Boreal owl
	Aegolius acadicus	Northern saw-whet owl
Caprimulgidae	*Chordeiles minor*	Common nighthawk
	Caprimulgus vociderus	Whip-poor-will
Apodidae	*Chaetura pelagica*	Chimney swift
Trochilidae	*Archilochus colubirs*	Ruby-throated hummingbird
Alcedinidae	*Ceryle alcyon*	Belted kingfisher (R,P)
Ficidae	*Sphyrapicus varius*	Yellow-bellied sapsucker (R,P)
	Picoides pubescens	Downy woodpecker (R,P)
	Picoides villosus	Hairy woodpecker (R,P)
	Picoides tridactylus	Three-toed woodpecker
	Picoides arcticus	Black-backed woodpecker
	colaptes auratus	Northern flicker (R,P)
	Dryocopus pileatus	Pileated woodpecker (R,P)
Tyrannidae	*Contopus borealis*	Olive-sided flycatcher
	Contopus virens	Eastern wood-pewee (R,P)
	Empidonax flaviventris	Yellow-bellied flycatcher
	Empidonax alnorum	Alder flycatcher
	Empidonax minimum	Least flycatcher (R,P)
	Sayorniss phoebe	Eastern Phoebe
	Myiarchus crinitus	Great crested flycatcher (R,P)
	Tyrannus tyrannus	Eastern kingbird (P)

Table 9. Continued

Family	Scientific Name	Common Name
Alaudidae	*Eremophila alpestris*	Horned lark
Hirundinidae	*Tachycineta bicolor*	Tree swallow (R,P)
	Riparia riparia	Bank swallow
	Hirundo pyrrhonota	Cliff swallow
	Hirundo rustica	Barn swallow (R,P)
Corvidae	*Perisoreus canadensis*	Gray jay
	Cyanocitta cristata	Blue jay (R,P)
	Corvus brachyrhynchos	American crow (P)
	Corvus corax	Common raven (R,P)
Paridae	*Parus atricapillus*	Black-capped chickadee (R,P)
	Parus hudsonicus	Boreal chickadee
Sittidae	*Sitta canadensis*	Red-breasted nuthatch (R,P)
	Sitta carolinensis	White-breasted nuthatch (R,P)
Certhiidae	*Certhia americana*	Brown creeper
Troglodytidae	*Troglodytes aedon*	House wren
	Troglodytes troglodytes	Winter wren (R,P)
	Cistothorus palustris	Marsh wren
Muscicapidae	*Regulus satrapa*	Golden-crowned kinglet
	Regulus calendula	Ruby-crowned kinglet (R,P)
	Sialia sialis	Eastern bluebird
	Catharus fuscescens	Veery (R,P)
	Catharus minimus	Gray-cheeked thrush
	Catharus ustulatus	Swainson's thrush (R,P)
	Catharus guttatus	Hermit thrush (R,P)
	Hylocichla mustelina	Wood thrush (R,P)
	Turdus migratorius	American robin (R,P)
Mimidae	*Dumetella carolinensis*	Gray catbird (R,P)
Bombycillidae	*Bombycilla garrulus*	Bohemian waxwing
	Bombycilla cedrorum	Cedar waxwing (R,P)
Laniidae	*Lanius excubitor*	Northern shrike
Sturnidae	*Sturnus vulgaris*	European starling (R,P)
Vireonidae	*Vireo solitarius*	Solitary vireo (R,P)
	Vireo gilvus	Warbling vireo
	Vireo philadelphicus	Philadelphia vireo
	Vireo olivaceus	Red-eyed vireo (R,P)

Table 9. Continued

Family	Scientific Name	Common Name
Emberizidae	*Vermivora peregrina*	Tennessee warbler (R,P)
	Vermivora ruficapilla	Nashville warbler (R,P)
	Parula americana	Northern parula (R,P)
	Dendroica petechia	Yellow warbler (R,P)
	Dendroica pennsylvanica	Chestnut-sided warbler (R,P)
	Dendroica magnolia	Magnolia warbler (R,P)
	Dendroica tigrina	Cape May warbler (R,P)
	Dendroica caerulescens	Black-throated blue warbler (R,P)
	Dendroica coronata	Yellow-rumped warbler (R,P)
	Dendroica virens	Black-throated green warbler (R,P)
	Dendroice fusca	Blackburnian warbler (R,P)
	Dendroica pinus	Pine warbler
	Dendroica palmarum	Palm warbler
	Dendroica castanea	Bay-breasted warbler (R,P)
	Dendroica striata	Blackpoll warbler (R,P)
	Mniotilta varia	Black-and-white warbler (R)
	Setophaga ruticilla	American redstart (R)
	Seiurus aurocapillus	Ovenbird (R,P)
	Seiurus noveboracensis	Northern waterthrush (R,P)
	Oporonis philadelphia	Mourning warbler
	Geothlypis trichas	Common yellowthroat (R,P)
	Wilsonia pusilla	Wilson's warbler
	Wilsonia canadensis	Canada warbler (R,P)
	Piranga olivacea	Scarlet tanager (R,P)
	Pheucticus ludovicianus	Rose-breasted grosbeak (R,P)
	Passerina cyanea	Indigo bunting
	Spizella passerina	Chipping sparrow
	Pooecetes gramineus	Vesper sparrow
	Passerculus sandwichensis	Savannah sparrow (R)
	Melospiza melodia	Song sparrow (R,P)
	Melospiza lincolnii	Lincoln's sparrow
	Melospiza georgiana	Swamp sparrow (R,P)
	Zonotrichia albicollis	White-throated sparrow (R,P)
	Junco hyemalis	Dark-eyed junco (R,P)
	Calcarius lapponicus	Lapland longspur
	Plectrophenax nivalis	Snow bunting
	Dolichonyx oryzivorus	Bobolink
	Agelaius phoeniceus	Red-winged blackbird (R,P)
	Sturnella magna	Eastern meadowlark
	Euphagus carolinus	Rusty blackbird
	Quiscalus quiscula	Common grackle (R)
	Molothrus ater	Brown-headed cowbird
	Icterus galbula	Northern oriole

Table 9. Continued

Family	Scientific Name	Common Name
Fringillidae	*Pinicola enucleator*	Pine grosbeak
	Carpodacus purpureus	Purple finch (R,P)
	Loxia curvirostra	Red crossbill
	Loxia leucoptera	White-winged crossbill
	Carduelis flammea	Common redpoll (R,P)
	Caduelis hornemanni	Hoary redpoll
	Carduelis pinus	Pine siskin (R,P)
	Carduelis tristis	American goldfinch (R,P)
	Coccothraustea vespertinus	Evening grosbeak (R,P)
Passeridae	*Passer domesticus*	House sparrow

Table 10. Reptiles and amphibians with typical ranges that overlap the Ripogenus and Penobscot Mills project boundaries, Piscataquis and Penobscot Counties, Maine. An "R" or a "P" after a common name indicates the documented presence of a species within or adjacent to the Ripogenus and Penobscot Mills projects (original data from GNP Vol. X, 1991).

Family	Scientific Name	Common Name
Ambystomatidae	*Ambystoma jeffersonianum* *Ambystoma laterale* *Ambystoma maculatum*	Jefferson salamander Blue-spotted salamander Spotted salamander (R,P)
Salamandridae	*Notophthalmus v. viridescens*	Red-spotted newt
Plethodontidae	*Desmognathus f. fuscus* *Plethodon cinereus* *Eurycea b. bislineata*	Northern dusky salamander (R,P) Redback salamander (R,P) Northern two-lined salamander
Bufonidae	*Bufo a. americanus*	Eastern american toad (R,P)
Hylidae	*Hyla c. crucifer*	Northern spring peeper (R,P)
Ranidae	*Rana catesbeiana* *Rana clamitans melanota* *Rana septentrionalis* *Rana sylvatica* *Rana pipiens* *Rana palustris*	Bullfrog (R,P) Green frog (R,P) Mink frog Wood frog (R,P) Northern leopard frog (R,P) Pickerel frog (R)
Chelydridae	*Chelydra s. serpentina*	Common snapping turtle
Emydidae	*Clemmys insculpta* *Chrysemy p. picta*	Wood turtle Eastern painted turtle
Colubridae	*Storeria a. occipitomaculata* *Thamnophis s. sirtlis* *Thamnophis sirtalis pallidula* *Diadophis punctatus edwardsi* *Opheodrys v. vernalis*	Northern redbelly snake Eastern garter snake (R) Maritime garter snake Northern ringneck snake Eastern smooth green snake

APPENDIX D

GNP'S WATER-USE MODEL

APPENDIX D.

GNP'S WATER-USE MODEL

D.1 DESCRIPTION OF THE MODEL

GNP's hydropower system historically has been operated to maximize power for mill operations. GNP used a historically derived rule curve (figure D-1) to determine reservoir operations for this purpose. Based on comments received from agencies and other interest groups during the consultation stage of the relicensing process, GNP determined that a water-use model of its hydro system would be needed to evaluate various proposed flow enhancements. The purpose of the model was to assist in evaluating the various flow requests and aid in determining how conflicting requests could best be accommodated. The model was also used to simulate impoundment levels and possible release flows under major alternative flow scenarios. GNP developed the model to evaluate the following original flow requests as listed in table D-1.

GNP's water-use model includes the major storage reservoirs of its system, including the upper storage ponds, Ripogenus impoundment, and North Twin impoundment. The upper storage ponds are listed in table 3-1 and are grouped as one compartment in the model. These projects are used solely as storage reservoirs and do not produce power. Because they are not included in the current relicensing process, GNP used the historical operation of these projects as input to the model but did not simulate any changes in their operation. Other elements of the model include the inflow, storage, elevation, and outflow from Ripogenus and North Twin impoundments. Millinocket Storage Lake is not explicitly included in the model, although it supplies a small amount of storage and can be used to supplement North Twin as needed. The other impoundments within GNP's system have no usable storage and, therefore, are not included in the model; see figure 2-3 and table 3-2 for a complete diagram and listing of the impoundments included in the Ripogenus and Penobscot Mills projects. Figure D-2 shows a diagram of elements included in GNP's water-use model. Elevation/storage curves of the Ripogenus, North Twin, and Millinocket Lake Storage impoundments are shown in figures D-3 through D-5.

D.1.1. Period of Record and Timestep

GNP chose the 15-year period from 1976 to 1990 to provide historical operating records representing hydrologic conditions within which a water-use plan would need to operate. Prior to 1973, when log driving operations occurred on the West Branch, GNP's reservoir and river system were operated differently than they are now. The hydrologic system continued to be influenced by those operations for several years, so GNP started with 1976. Within this 15-year period, GNP defined very wet and very dry years based on total available water, which consisted of water available in storage and outflow at Ripogenus (table D-2). GNP believed the weekly timestep to be appropriate for the system because it does not have peaking operations or other short-term fluctuations that might require a smaller timestep. Using operating records of impoundment elevations (for the upstream projects collectively,

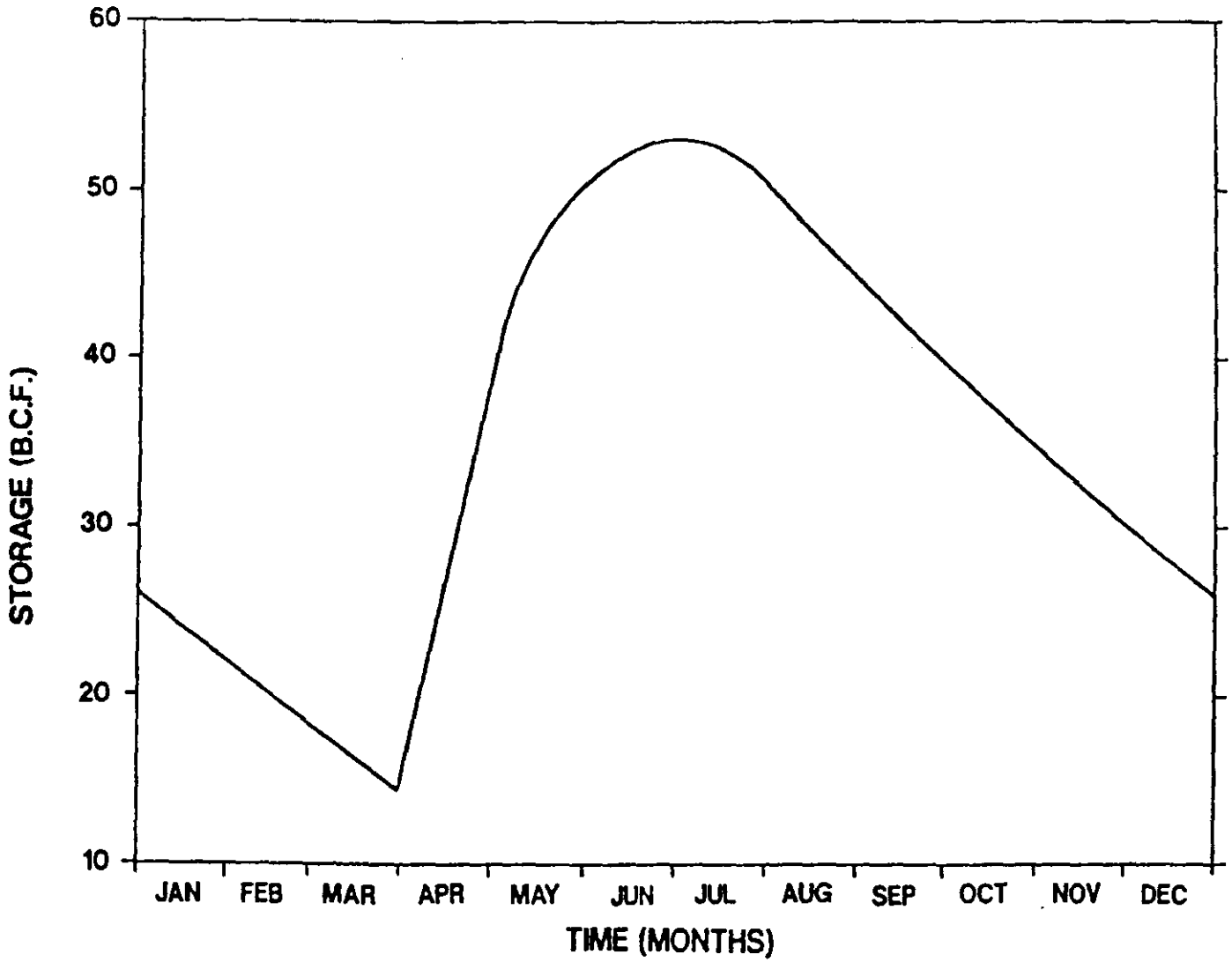

Figure D-1. Rule curve for GNP's integrated power system on the West Branch of the Penobscot River, based on a flow of 2400 cfs at Millinocket with a 1% probability of depleting storage (from figure B-3, GNP, 1991a)

Table D-1. Initial flow requests by agencies and interest groups to be evaluated for the Ripogenus and Penobscot Mills projects

Water Body	Request	Reason	Time Period
Ripogenus Impoundment	"relatively stable" water levels (not specifically defined)	wildlife	1 May - 15 July
		wetlands, recreation, aesthetics	1 May - 30 Sept.
Upper Gorge	100 cfs	salmon fishery	1 July - 30 Sept.
	50 cfs	salmon fishery	1 Oct. - 30 June
West Branch below McKay Station	2400 - 3600 cfs	rafting	1 May - 15 Oct.
	ABF or IFIM*	salmon fishery	15 June - 30 Sept.
	maintain flow	salmon spawning	15 Oct. - 15 Nov.
		salmon incubation	16 Nov. - 7 June
North Twin and Millinocket Lake Impoundments	"relatively stable" water levels	wildlife	1 May - 15 July
		wetlands, recreation, aesthetics	1 May - 30 Sept.
	draw-down limit	lake trout spawning	15 Oct. - 5 Nov.
		lake trout incubation	6 Nov. - 1 May
Back Channel	350 - 500 cfs	fishery habitat	year round
Millinocket Stream	60 - 80 cfs	fishery habitat	year round
West Branch downstream of Millinocket Mills	2,000 cfs instantaneously (required by state law, 401 WQC, and existing FERC license.	water quality	year round

* Aquatic baseflow (ABF) or Instream Flow Incremental Methodology (IFIM) study requested to determine minimum flow

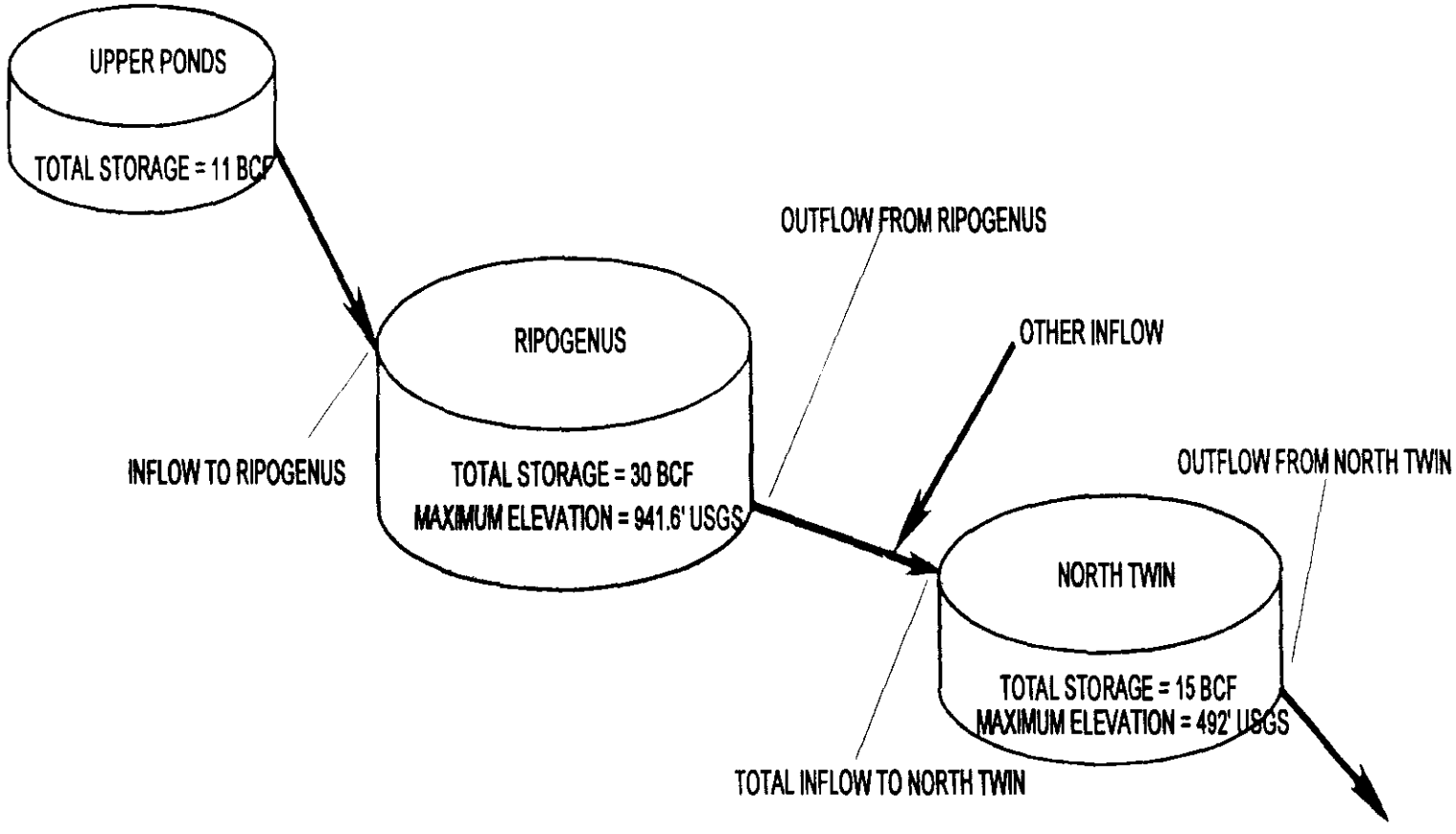

Figure D-2. Diagram of the major elements included in GNP's water use model of the Ripogenus and Penobscot Mills projects (Source: Staff)

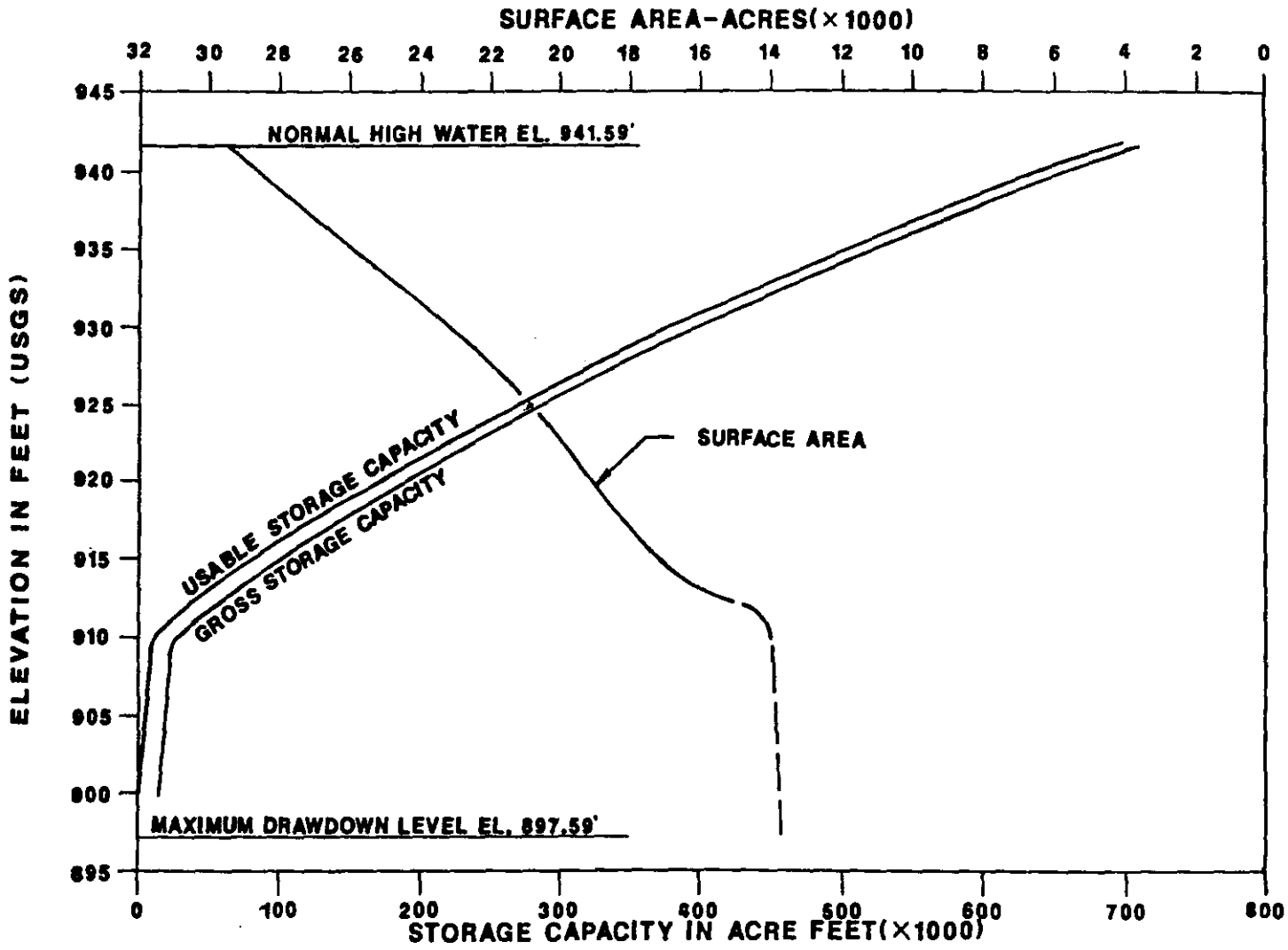

Figure D-3. Area-capacity curve for the Ripogenus impoundment (dashed line represents the combined surface area of Chesuncook Lake at elevation 910.49 ft., and Ripogenus Lake (from figure B-2, GNP, 1991a)

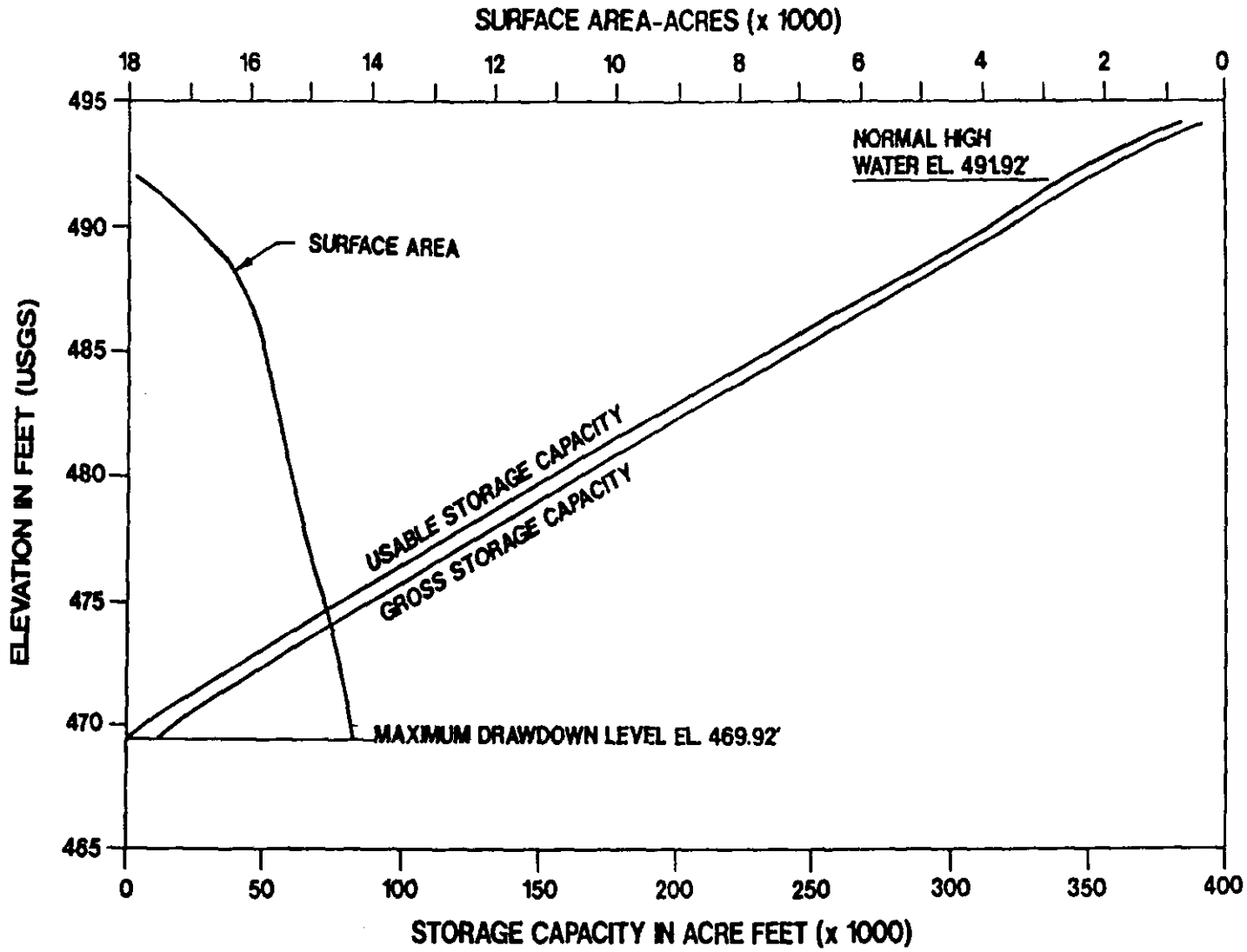

Figure D-4. Area-capacity curve of the North Twin development (from figure B-2, GNP, 1991b)

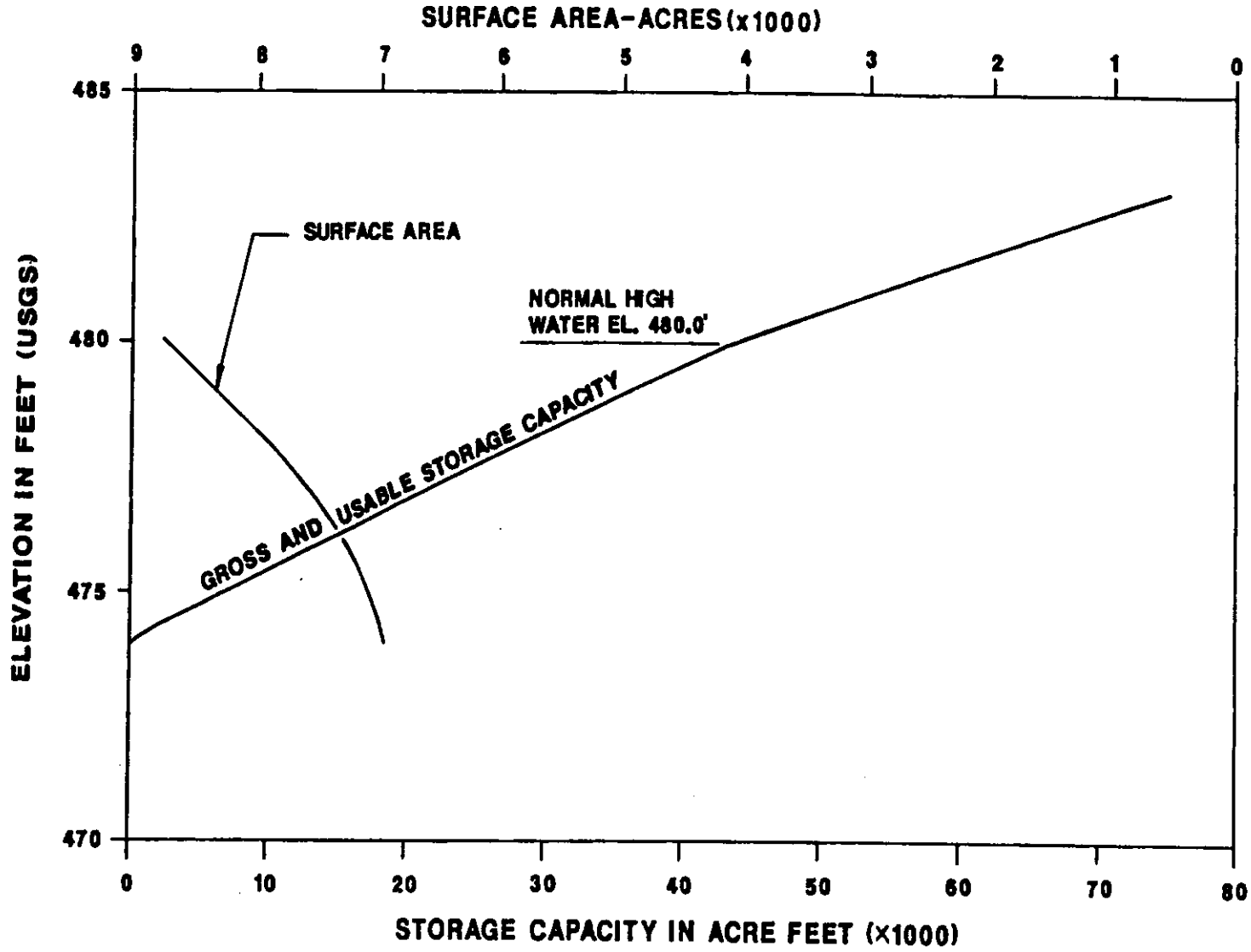

Figure D-5. Area-capacity curve of the Millinocket Lake Storage development (from figure B-3, GNP, 1991b)

Table D-2. Hydrologic rankings of water years (April through March) used in GNP's water-use model (based on historical records of total available water, defined as average storage and discharge volumes at Ripogenus impoundment)

YEAR	Total Available Water (bcf)[c]	Rank (1 = lowest water; 15 = highest water)	GNP's Hydrologic Type
1976	34.8	15	wet
1977	31.9	13	
1978	27.9	10	
1979	25.0	7	
1980	14.5	1	
1981	28.5	11	
1982	25.6	8	average
1983	29.3	12	
1984	25.0	6	
1985	16.1	2	dry
1986	26.3	9	
1987	21.1	4	
1988	17.4	3	
1989	24.4	5	
1990	34.7	14	
'typical' average[a]	25.2	-	
'typical' worst-case[b]	13.6	-	

[a] Based on compilation of weekly average values of total available water from the period of record (1976-1990).

[b] Based on compilation of weekly lowest values of total available water from the period of record (1976-1990).

[c] bcf = billion cubic feet.

Ripogenus, and North Twin) and outflow records, GNP constructed a spreadsheet model to represent weekly inflow, storage, and outflow through the major project elements. GNP used the entire 15-year period of record to establish the historical baseline of project operations, although individual years also can be evaluated. Because the lowest amount of available water typically occurred toward the end of March, the model years run from the end of March one year, to the end of March in the following year. GNP also created synthetic 'typical' years to represent average conditions and worst-case, or minimum available water, conditions by using the average and driest individual weeks, respectively, within the period of record. Because it consists of the data from the driest weeks within the 15-year period of record, the worst-case year represents more extreme conditions than the single driest year within that record. It is important to note that the model is not predictive but allows simulations of changes in water use based on historically available water.

GNP simulated additional flows to the BC by adding flow to the 2000 cfs minimum flow required at Millinocket, plus an approximate 10% buffer to account for variations in flow regulation, gate settings, and control equipment sensitivities between North Twin and Millinocket Mills. The required amount of flow buffer capacity has not been quantitatively evaluated. The model runs attempted to release the combined minimum flow while maintaining desired flows in the West Branch and North Twin impoundment levels (North Twin outflow minimum was 2610 cfs to simulate 350 cfs to the BC and 2420 cfs to simulate 165 cfs to the BC). In a scenario with insufficient water within the simulation year, the model operates as follows. The simulations continue with the required minimum flows from North Twin until there is no longer enough water to continue at that rate without depleting historically available storage from the following year. Flows are then reduced to a rate small enough to prevent storage depletion. This reduced flow may or may not be sufficient to maintain the BC flow and the 2000 cfs minimum at Millinocket. Other flows and impoundment level goals may be jeopardized as well. If BC flows were made as a permanent enhancement measure, all flow-related enhancements would have to be prioritized to list those which would be sacrificed first. Such a scenario might for instance involve maintaining the minimum flow at Millinocket Mills, reducing BC flows, and relaxing North Twin impoundment management for lake trout; alternatively, flows through the mill could be reduced.

D.1.2 Model Results

GNP determined which of the requested enhancements could be met at all times without compromising others (GNP 1991a, 1991b, 1992d, 1993d, 1994; letter from J. Carson, GNP, April 5, 1994). The final list of enhancements proposed by GNP are known collectively as the water-use plan (WUP) and are listed in table 4-1. Simulations comparing historic project operations with WUP operations (in terms of impoundment elevation and outflow at Ripogenus and North Twin) are illustrated in figures D-6 through D-9 and table D-3, for the wet, average, dry and worst-case years, respectively. These results are described in Section 4.2.1; in summary, all of the enhancements proposed by GNP can be accommodated in all years.

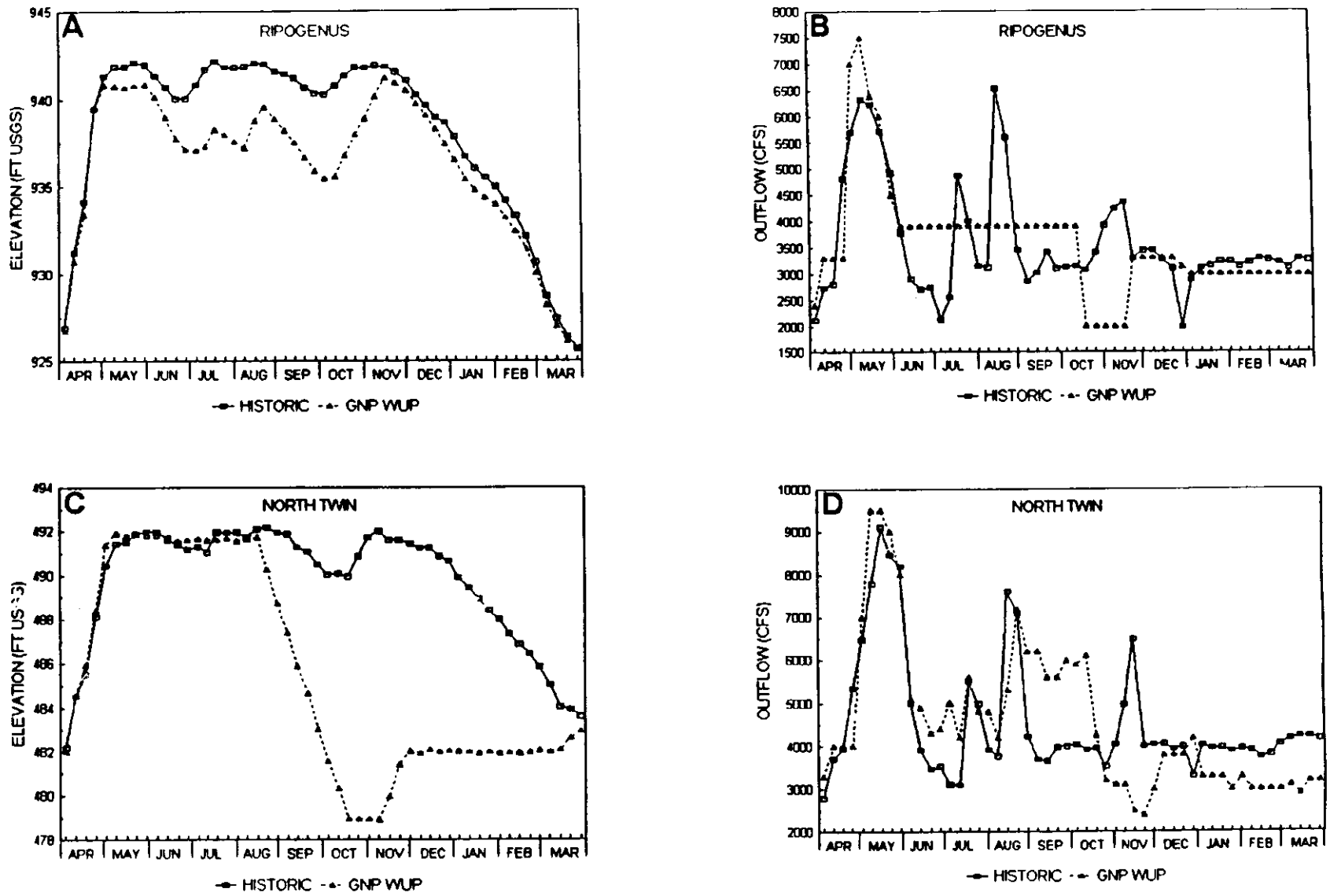

Figure D-6. Water-use model results comparing weekly average impoundment elevations (panels A,C) and outflows (panels B,D) at Ripogenus and North Twin under historic conditions and the Applicant's Proposal during a wet year (1976)

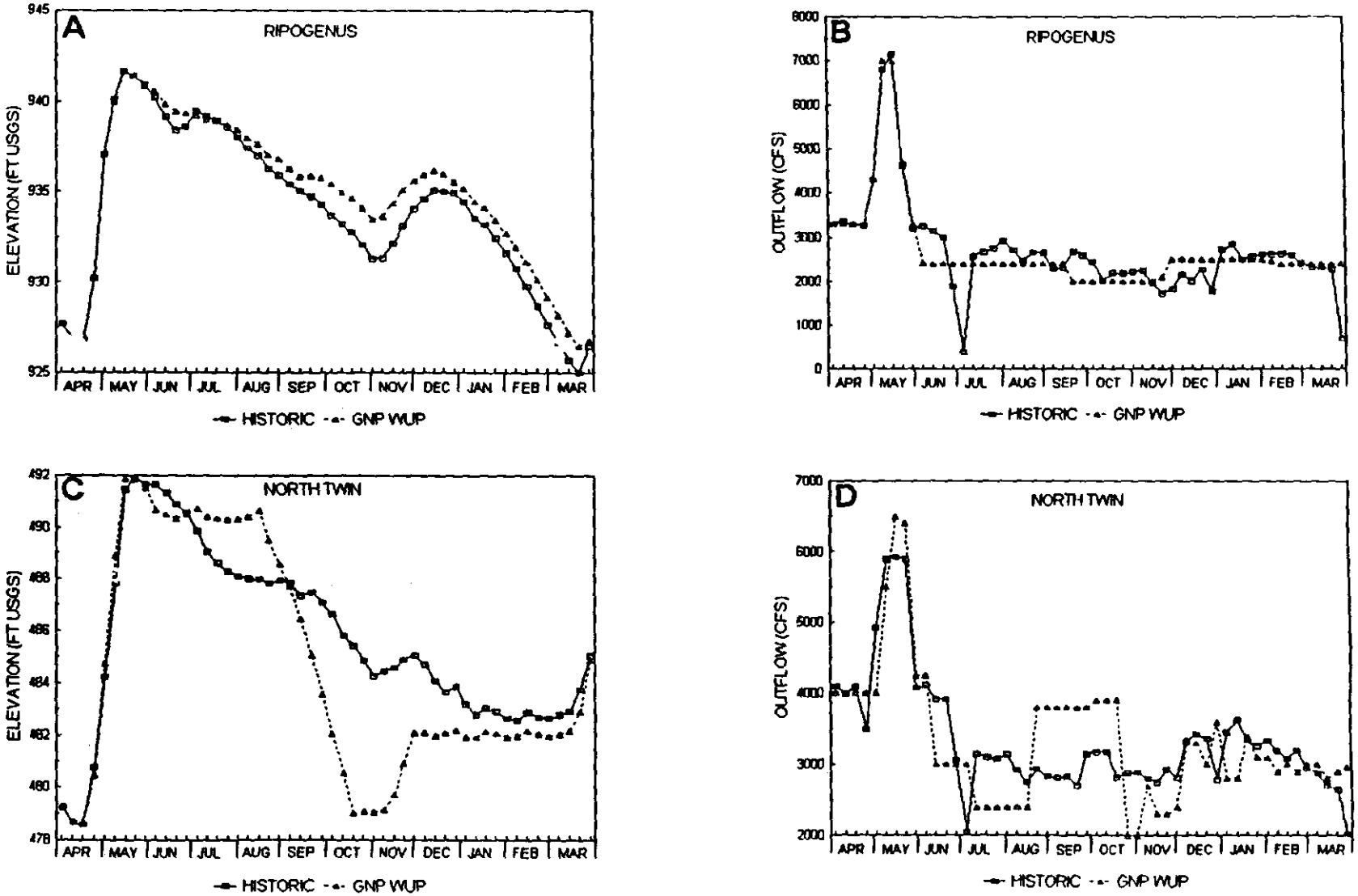

Figure D-7. Water-use model results comparing weekly average impoundment elevations (panels A,C) and outflows (panels B,D) at Ripogenus and North Twin under historic conditions and the Applicant's Proposal during an average year (1982)

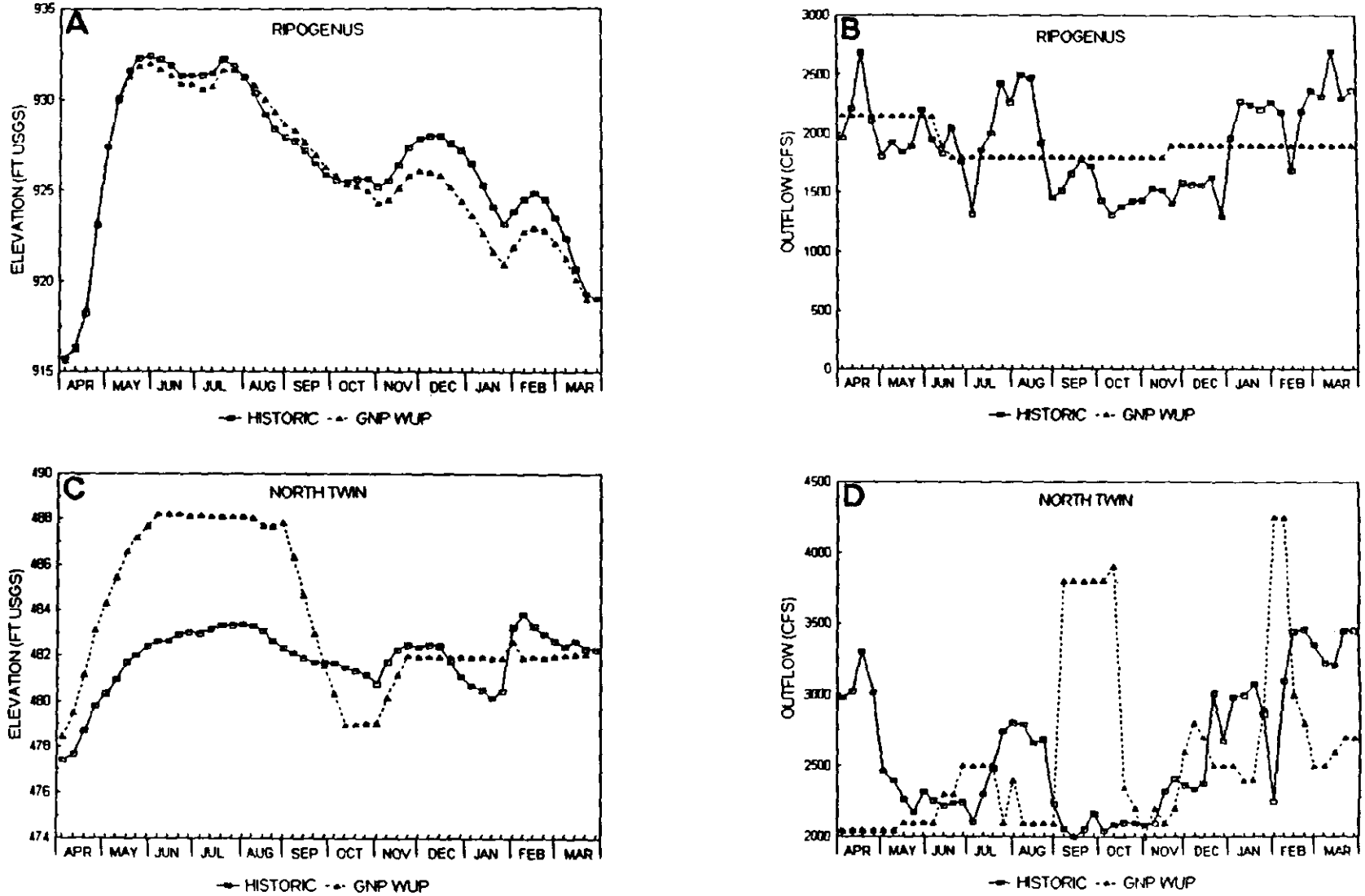

Figure D-8. Water-use model results comparing weekly average impoundment elevations (panels A,C) and outflows (panels B,D) at Ripogenus and North Twin under historic conditions and the Applicant's Proposal during a dry year (1985)

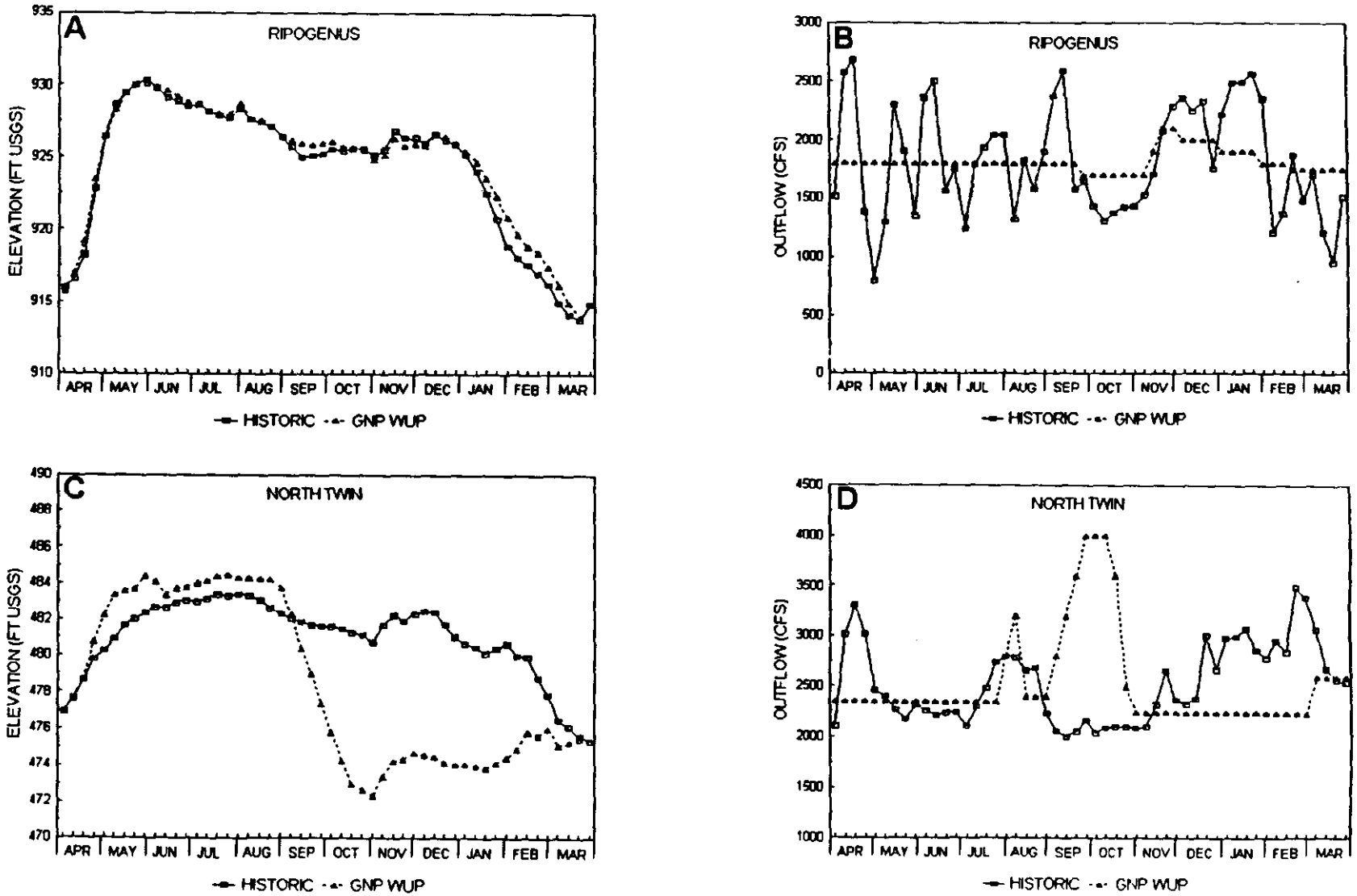

Figure D-9. Water-use model results comparing weekly average impoundment elevations (panels A,C) and outflows (panels B,D) at Ripogenus and North Twin under historic conditions and the Applicant's Proposal during a worst-case year (lowest available water)

Table D-3. Comparison of weekly average impoundment levels and outflows at Ripogenus and North Twin under **historical conditions** and the Applicant's Proposal for a **wet year, average year, dry year, and worst-case year**, based on GNP's water-use model

		Wet Year (1976)		Average Year (1982)		Dry Year (1985)		Worst-Case Year	
		Hist.	**Applicant's Proposal**	**Hist.**	**Applicant's Proposal**	**Hist.**	**Applicant's Proposal**	**Hist.**	**Applicant's Proposal**
Ripogenus Elevation (ft. USGS)	Minimum	925.7	925.6	925.0	926.5	915.7	915.6	913.8	914.0
	Maximum	942.1	941.2	941.6	941.6	932.4	932.0	930.3	930.1
	Average	938.3	936.3	934.0	934.9	926.6	925.8	924.2	924.6
	Range	16.4	15.5	16.6	15.1	16.6	16.4	16.5	16.1
North Twin Elevation (ft. USGS)	Minimum	482.2	478.9	478.6	478.7	477.4	478.4	475.3	472.3
	Maximum	492.2	491.9	491.9	491.8	483.8	488.2	483.4	484.5
	Average	487.7	485.5	485.7	484.6	481.9	483.6	481.0	478.4
	Range	10.0	13.0	13.3	13.1	6.4	9.8	8.1	12.1
Ripogenus Outflow (cfs)	Minimum	1974	2000	385	2000	1295	1800	795	1700
	Maximum	6523	7500	7153	7000	2695	2150	2680	2100
	Average	3583	3585	2696	2688	1907	1906	1817	1817
North Twin Outflow (cfs)	Minimum	2802	2400	2023	2000	2003	2000	2003	2240
	Maximum	9106	9500	5924	6500	3457	4250	3489	4000
	Average	4549	4566	3339	3334	2592	2591	2530	2530

GNP provided simulations of two major flow alternatives - a conservation intervenor-oriented alternative (Alternative 1) with 350 cfs flow to Back Channel year round (figures D-10 through D-13; table D-4), and a staff alternative (Alternative 2) of 165 cfs to Back Channel year round (figures D-14 through D-17; table D-5). GNP provided these simulations for a wet, average, dry, and worst-case year, based partially on a FERC Additional Information Request. We explain these results in Sections 4.2.2 and 4.2.3 and summarize overall results in Section 4.2.5. The simulations for BNP's proposed Alternatives 1 and 2 were in addition to those already conducted by GNP, including a draw-down limit at Ripogenus and 100 cfs in Back Channel, separately and combined with the draw-down limit.

D.2 CRITICISMS OF MODEL

The Conservation Intervenors (CI) proposed terms and conditions for the Ripogenus and Penobscot Mills projects (letter from D. Sosland, CI, September 3, 1993). The CI criticized GNP's water-use model on the following grounds: 1) it fails to include watershed scale processes; 2) it uses uncalibrated data; 3) it uses an inadequate timestep; 4) it excludes over-year storage; 5) it does not include reservoirs other than North Twin and Ripogenus; 6) it is unable to consider conservation measures in the economic analysis; and 7) it lacks a habitat evaluation module (letter from D. Sosland, CI, November 2, 1993). In addition, CI believes that GNP did not use the model to evaluate different flow alternatives. Staff evaluation of these concerns are as follows.

D.2.1 Watershed Scale Processes

The CI and others want the water use model to include "watershed scale processes." These processes would seem to include the effects of timber management practices and other land use practices. These effects are not caused by project operations and, therefore, are outside the scope of this EIS. The CI also want all of the projects in at least the West Branch portion of the watershed included in the water use model. The water-use model does include all the major storage reservoirs, including the upstream storage ponds (the Great Northern Storage Project and unlicensed storage projects - see table 3-1), and Ripogenus and North Twin impoundments. Although the model treats the upstream storage projects as one compartment, staff does not believe it necessary to model them as separate entities. These projects do not generate power and are not included in the current license process, so their operation could not be modified at this time. In addition, their total storage represents less than 20 percent of GNP's total system storage, and their operation would be unaffected by downstream processes. Their current operation is similar to that of Ripogenus, with a minimum storage during the fall and winter months, a filling period starting in April with spring runoff, and a gradual draw-down during the summer months; the exact timing of draw-down depends on water availability during a particular year (figures D-18 through D-21). Although site-specific impacts could warrant a change in their operation, staff believes that it is unlikely that additional downstream enhancements would be possible by changing the current mode of operation. Any operational changes to increase downstream water availability probably would result in large draw-downs and related impacts in the upper ponds. Changes to decrease draw-downs in the upper ponds would probably reduce the ability to meet downstream enhancements. In addition, GNP has agreed to a reopener clause in its licenses for Ripogenus and Penobscot Mills, which would allow for a change in its proposed WUP if changes proposed during relicensing for the upper projects require it (GNP, 1993b, 1993c).

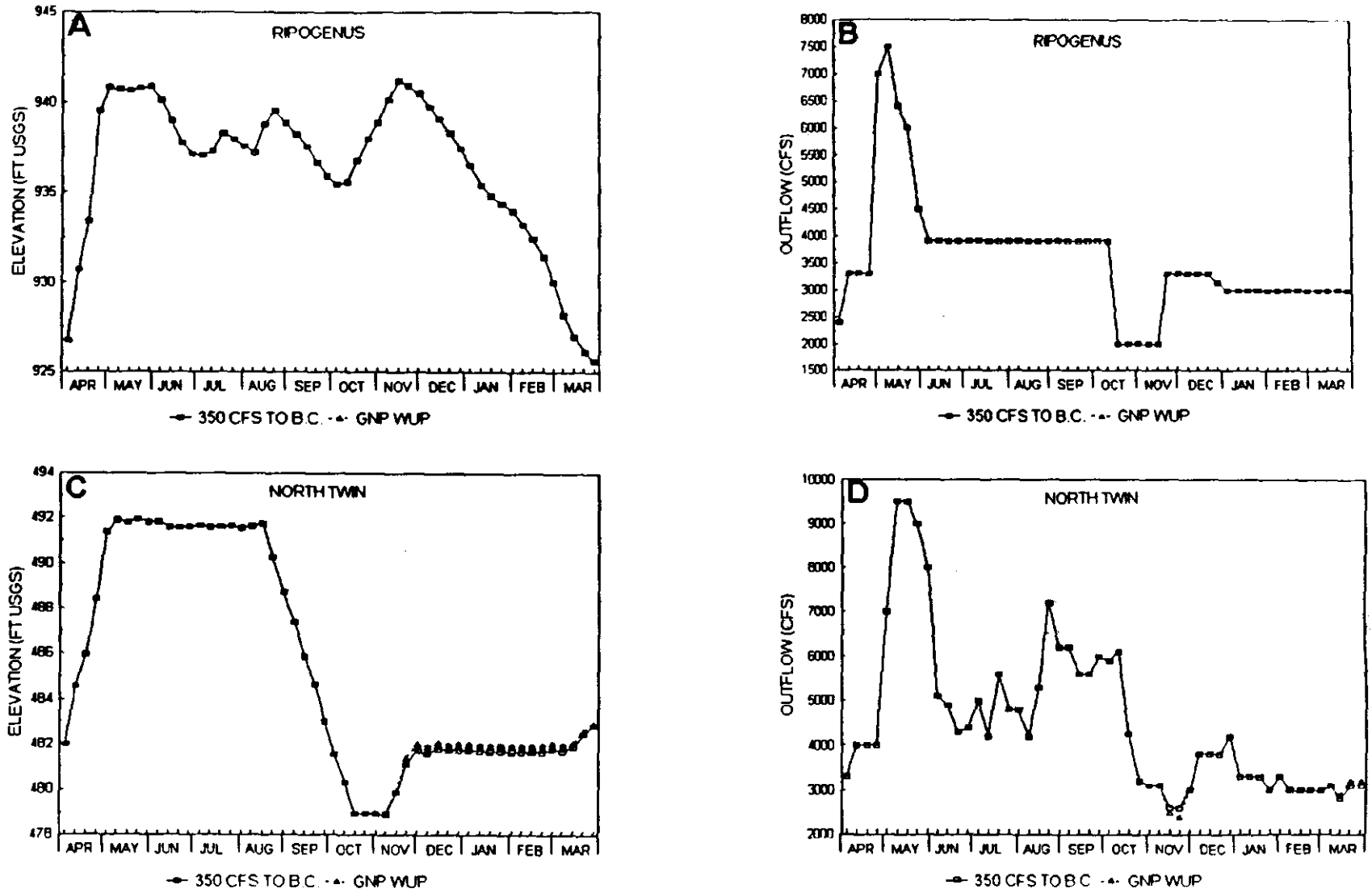

Figure D-10. Water-use model results comparing weekly average impoundment elevations (panels A,C) and outflows (panels B,D) at Ripogenus and North Twin under the Applicant's Proposal and Alternative 1 (350 cfs to the Back Channel) during a wet year (1976)

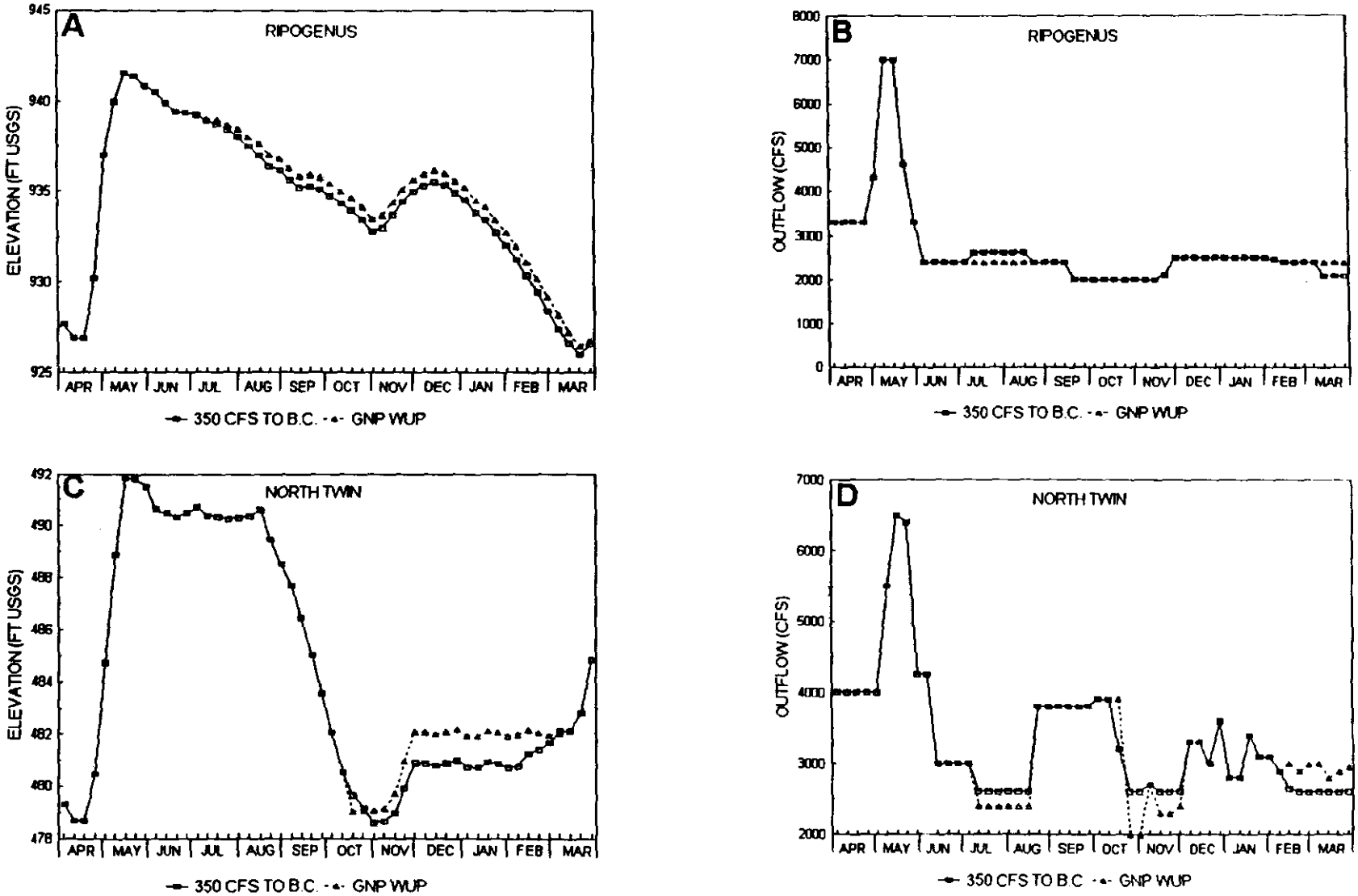

Figure D-11. Water-use model results comparing weekly average impoundment elevations (panels A,C) and outflows (panels B,D) at Ripogenus and North Twin under the Applicant's Proposal and Alternative 1 (350 cfs to the Back Channel) during an average year (1982)

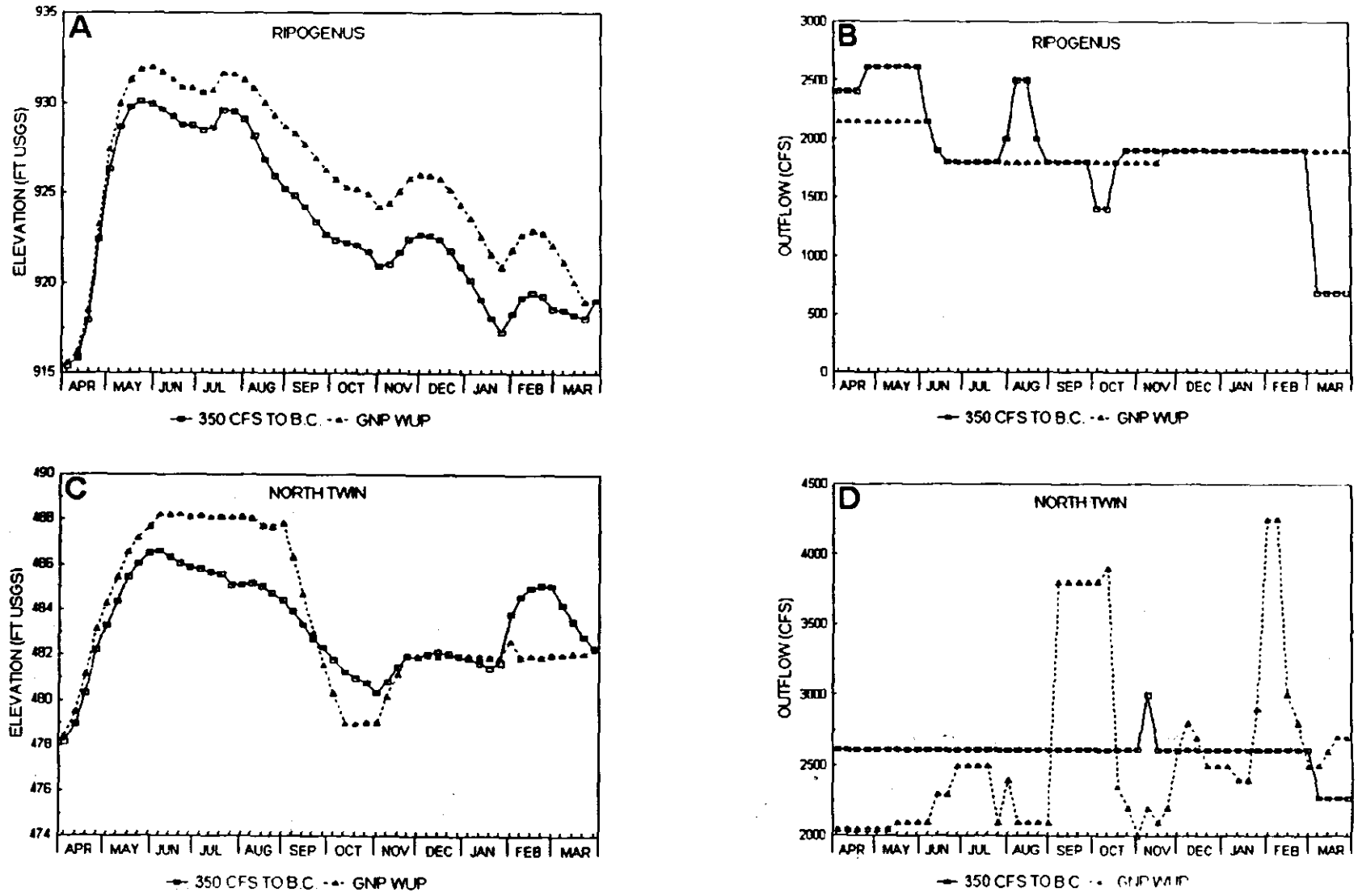

Figure D-12. Water-use model results comparing weekly average impoundment elevations (panels A,C) and outflows (panels B,D) at Ripogenus and North Twin under the Applicant's Proposal and Alternative 1 (350 cfs to the Back Channel) during a dry year (1985)

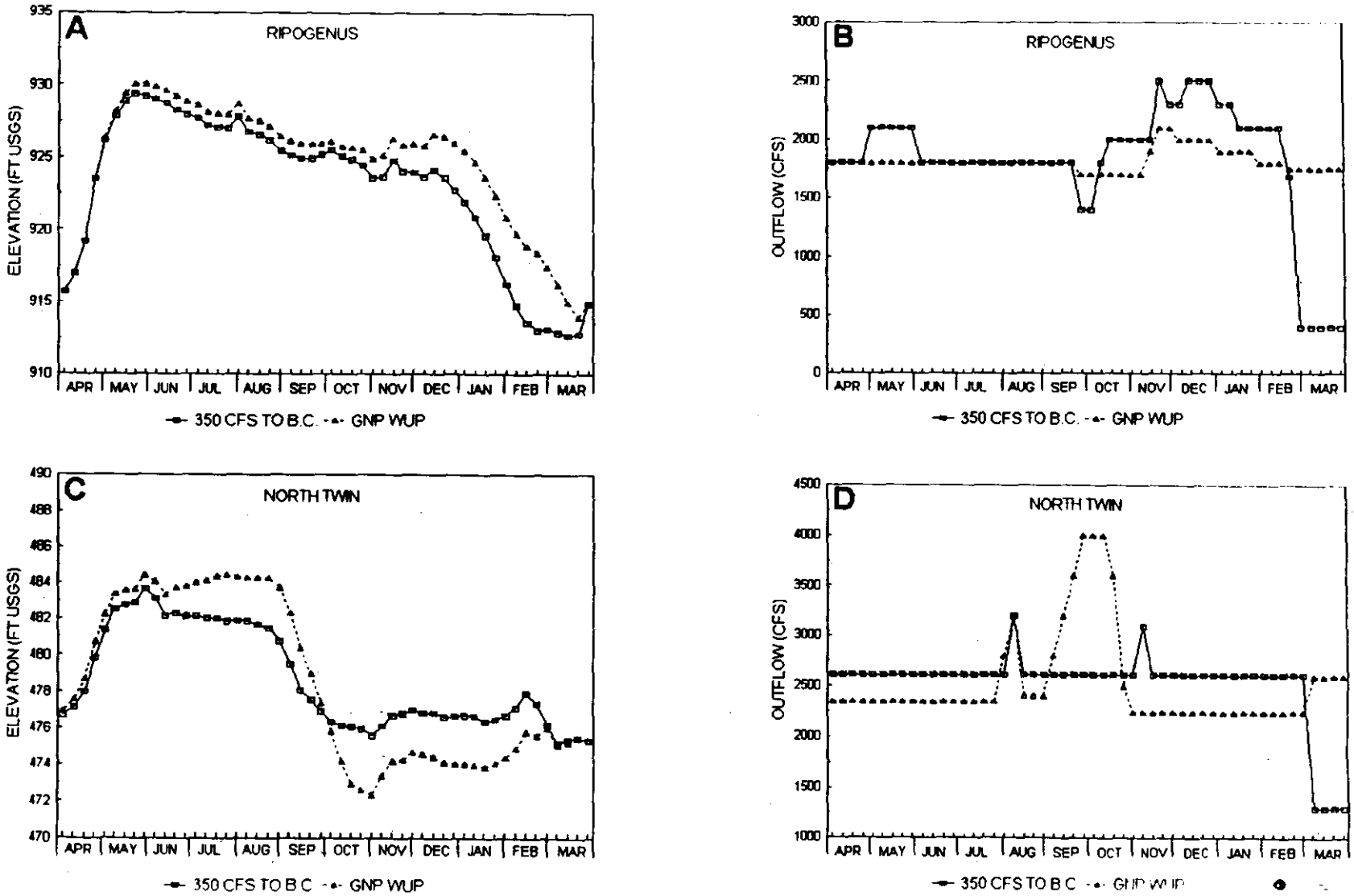

Figure D-13. Water-use model results comparing weekly average impoundment elevations (panels A,C) and outflows (panels B,D) at Ripogenus and North Twin under the Applicant's Proposal and Alternative 1 (350 cfs to the Back Channel) during a worst-case year (lowest available water)

Table D-4. Comparison of weekly average impoundment levels and outflows at Ripogenus and North Twin under the Applicant's Proposal and **Alternative 1** (350 cfs in the Back Channel), for a wet year, average year, dry year, and worst-case year, based on GNP's water-use model

		Wet Year (1976)		**Average Year (1982)**		**Dry Year (1985)**		**Worst-Case Year**	
		Applicant's Proposal	**Alt. 1**	**Applicant's Proposal**	**Alt. 1**	**Applicant's Proposal**	**Alt. 1**	**Applicant's Proposal**	**Alt. 1**
Ripogenus Elevation (ft. USGS)	Minimum	925.6	925.6	926.5	926.0	915.6	915.4	914.0	912.7
	Maximum	941.2	941.2	941.6	941.6	932.0	930.1	930.1	929.3
	Average	936.3	936.3	934.9	934.4	925.8	923.2	924.6	922.9
	Range	15.5	15.5	15.1	15.6	16.4	14.7	16.1	16.6
North Twin Elevation (ft. USGS)	Minimum	478.9	478.9	478.7	478.3	478.4	478.2	472.3	475.2
	Maximum	491.9	491.9	491.8	491.8	488.2	486.6	484.5	483.7
	Average	485.5	485.4	484.6	484.3	483.6	483.3	478.4	478.6
	Range	13.0	13.0	13.1	13.2	9.8	8.4	12.1	8.5
Ripogenus Outflow (cfs)	Minimum	2000	2000	2000	2000	1800	690	1700	400
	Maximum	7500	7500	7000	7000	2150	2610	2100	2500
	Average	3585	3585	2688	2694	1906	1907	1817	1817
North Twin Outflow (cfs)	Minimum	2400	2610	2000	2610	2000	2272	2240	1300
	Maximum	9500	9500	6500	6500	4250	3000	4000	3200
	Average	4566	4568	3334	3341	2591	2592	2530	2530

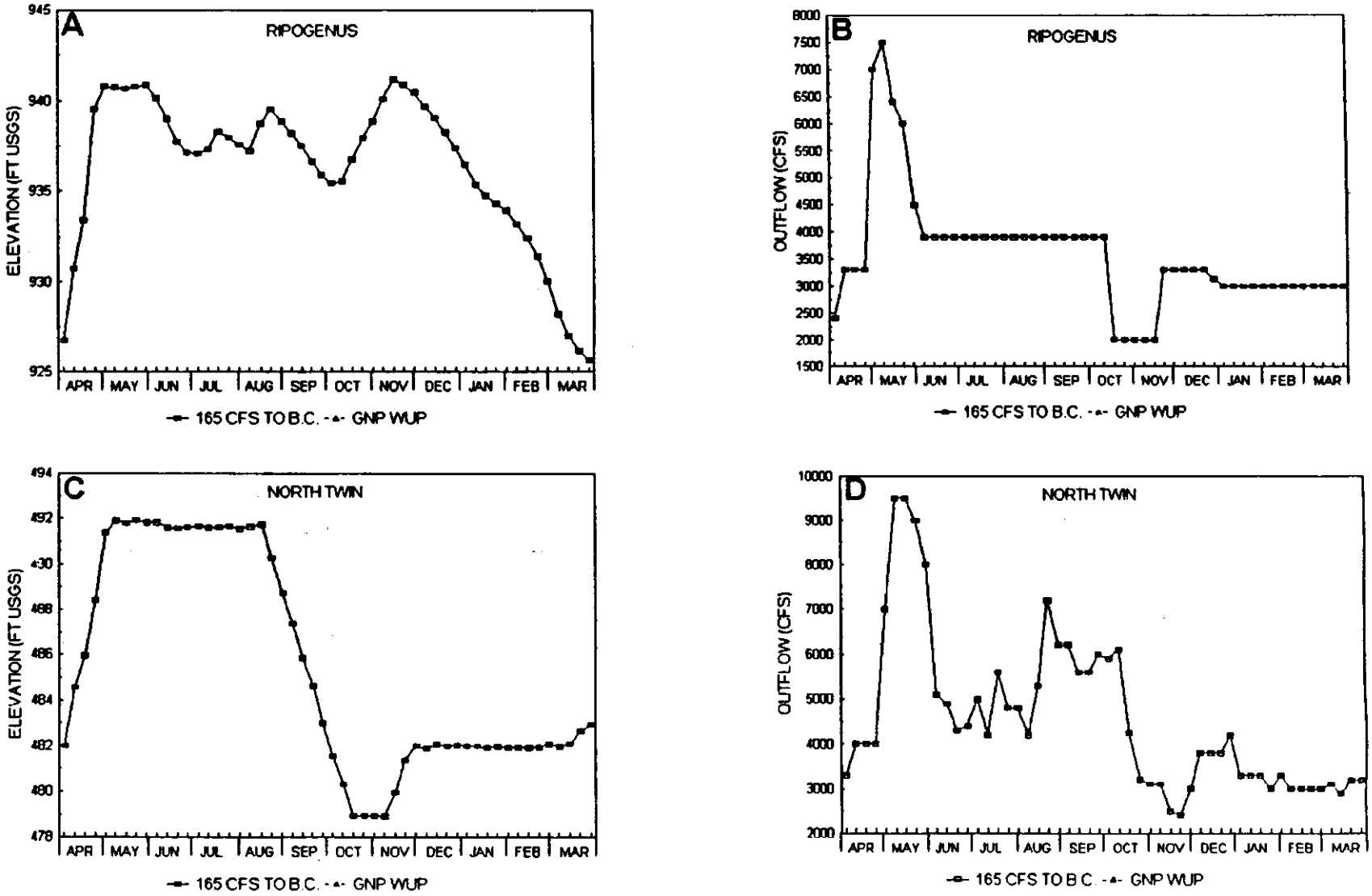

Figure D-14. Water-use model results comparing weekly average impoundment elevations (panels A,C) and outflows (panels B,D) at Ripogenus and North Twin under the Applicant's Proposal and Alternative 2 (165 cfs to the Back Channel) during a wet year (1976)

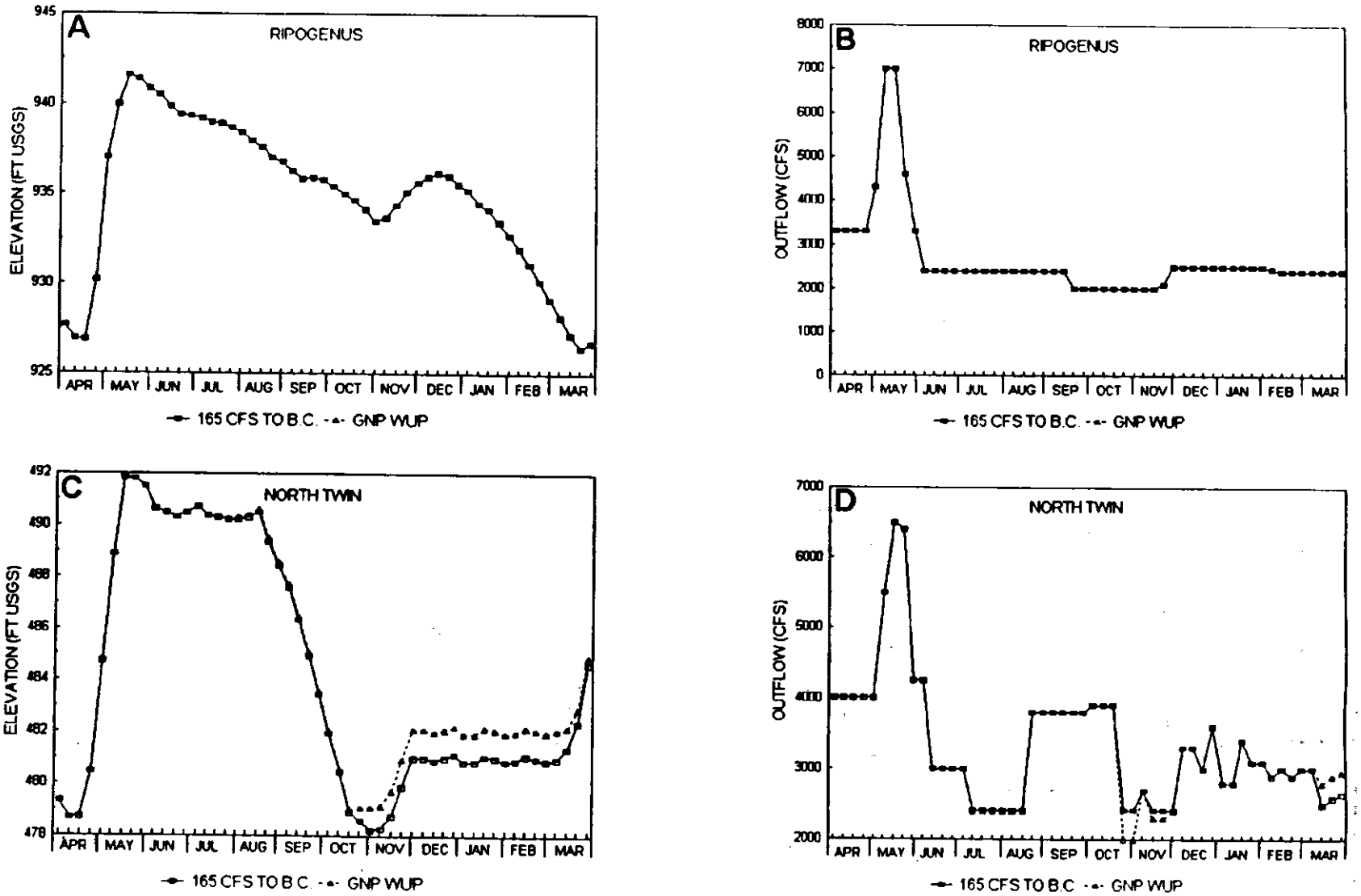

Figure D-15. Water-use model results comparing weekly average impoundment elevations (panels A,C) and outflows (panels B,D) at Ripogenus and North Twin under the Applicant's Proposal and Alternative 2 (165 cfs to the Back Channel) during an average year (1982)

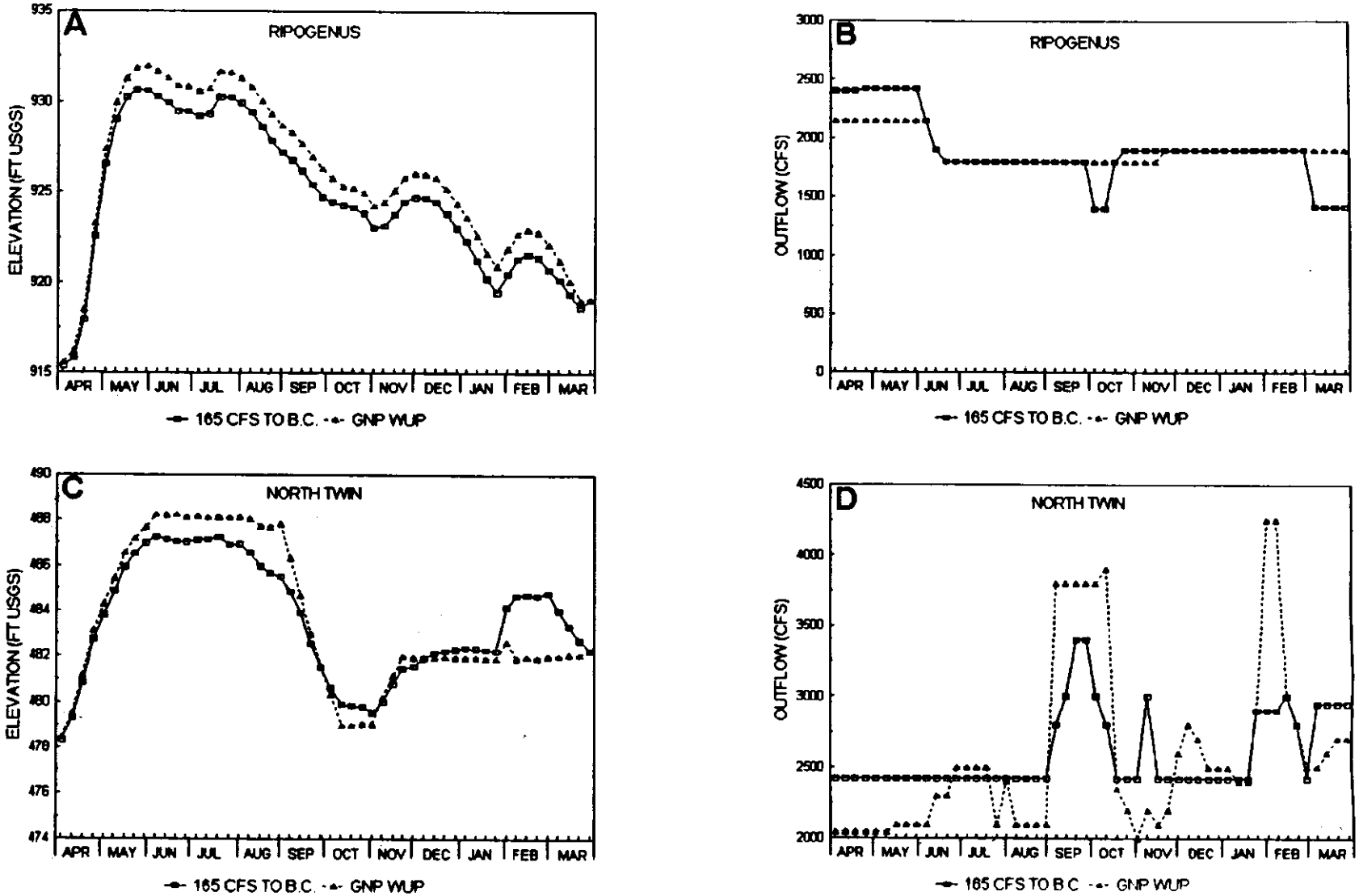

Figure D-16. Water-use model results comparing weekly average impoundment elevations (panels A,C) and outflows (panels B,D) at Ripogenus and North Twin under the Applicant's Proposal and Alternative 2 (165 cfs to the Back Channel) during a dry year (1985)

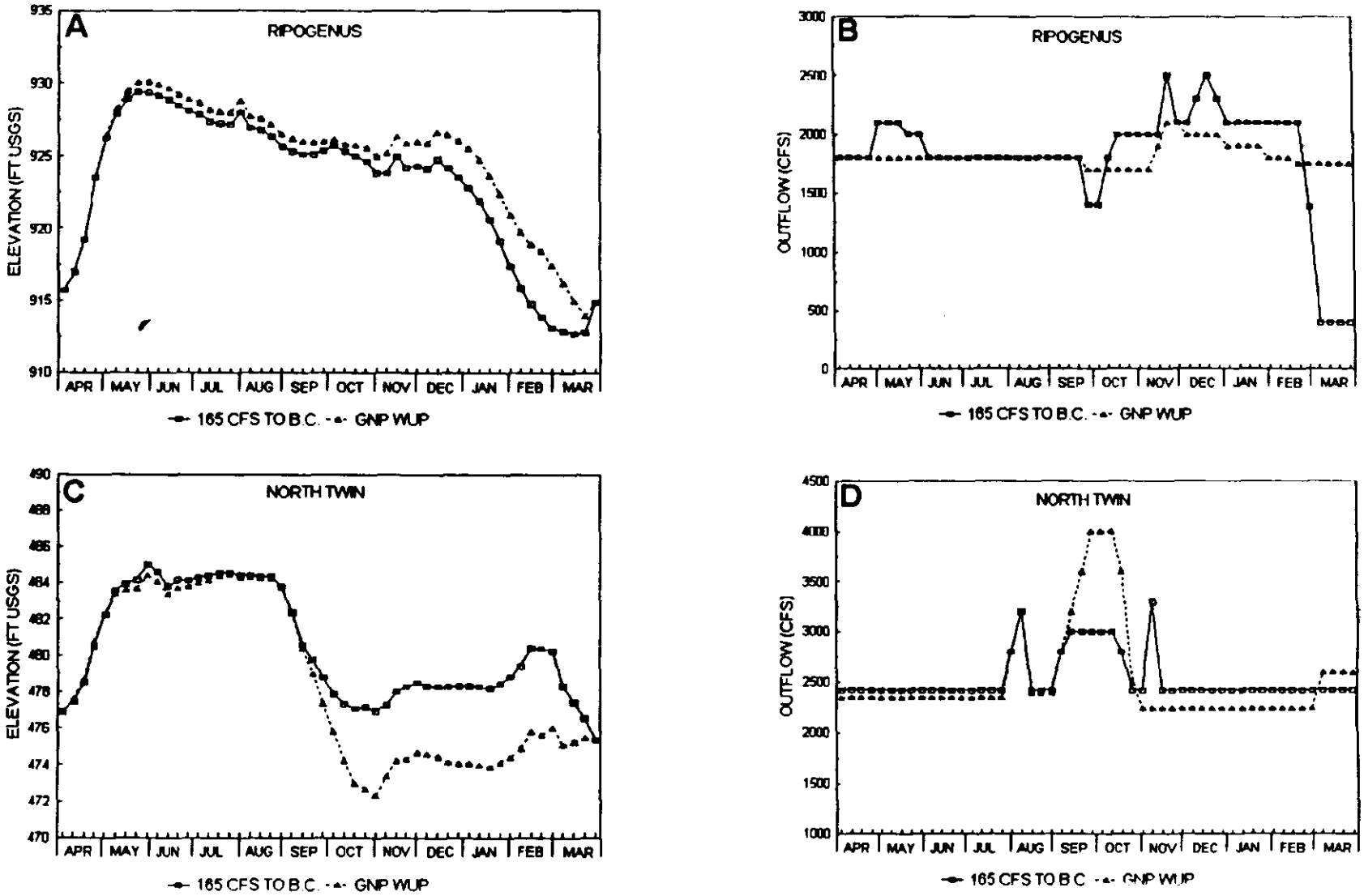

Figure D-17. Water-use model results comparing weekly average impoundment elevations (panels A,C) and outflows (panels B,D) at Ripogenus and North Twin under the Applicant's Proposal and Alternative 2 (165 cfs to the Back Channel) during a worst-case year (lowest available water)

Table D-5. Comparison of weekly average impoundment levels and outflows at Ripogenus and North Twin under the Applicant's Proposal and **Alternative 2** (165 cfs in the Back Channel), for a wet year, average year, dry year, and worst-case year, based on GNP's water-use model

		Wet Year (1976)		Average Year (1982)		Dry Year (1985)		Worst-Case Year	
		Applicant's Proposal	**Alt. 2**	**Applicant's Proposal**	**Alt. 2**	**Applicant's Proposal**	**Alt. 2**	**Applicant's Proposal**	**Alt. 2**
Ripogenus Elevation (ft. USGS)	Minimum	925.6	925.6	926.5	926.5	915.6	915.4	914.0	912.7
	Maximum	941.2	941.2	941.6	941.6	932.0	930.6	930.1	929.4
	Average	936.3	936.3	934.9	934.9	925.8	924.6	924.6	923.2
	Range	15.5	15.5	15.1	15.1	16.4	15.2	16.1	16.7
North Twin Elevation (ft. USGS)	Minimum	478.9	478.9	478.7	478.2	478.4	478.3	472.3	475.4
	Maximum	491.9	491.9	491.8	491.8	488.2	487.3	484.5	485.0
	Average	485.5	485.5	484.6	484.2	483.6	483.6	478.4	480.4
	Range	13.0	13.0	13.1	13.6	9.8	8.9	12.1	9.6
Ripogenus Outflow (cfs)	Minimum	2000	2000	2000	2000	1800	1400	1700	400
	Maximum	7500	7500	7000	7000	2150	2420	2100	2500
	Average	3585	3585	2688	2687	1906	1916	1817	1817
North Twin Outflow (cfs)	Minimum	2400	2420	2000	2420	2000	2272	2240	2420
	Maximum	9500	9500	6500	6500	4250	3000	4000	3300
	Average	4566	4566	3334	3340	2591	2592	2530	2530

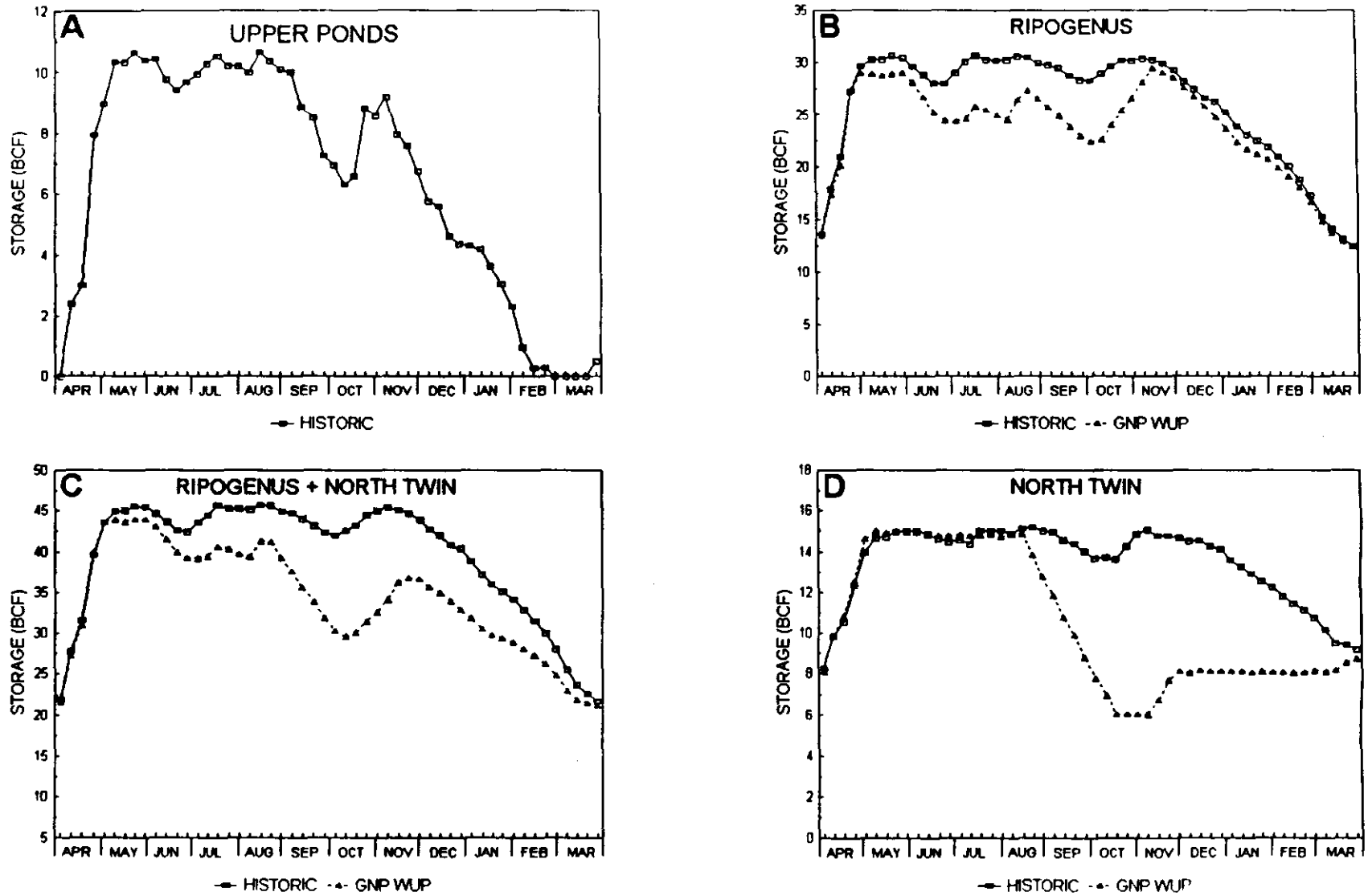

Figure D-18. Water-use model results comparing weekly total impundment storage in the upper ponds (panel A), Ripogenus (panel B), Ripogenus and North Twin combined (panel C), and Norht Twin (panel D), under historic conditions and GNP's proposed Water Use Plan (WUP) during a wet year (1976)

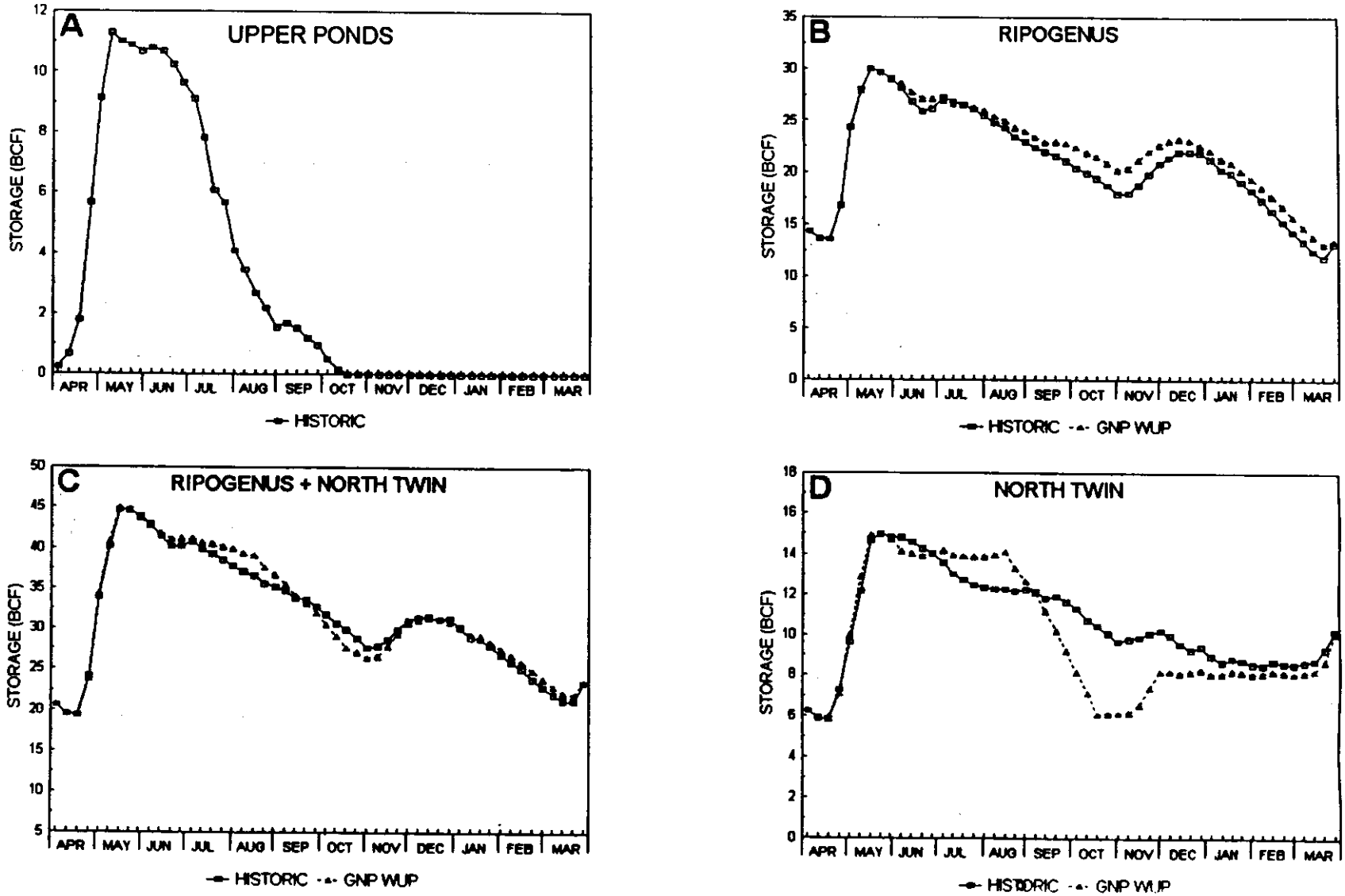

Figure D-19. Water-use model results comparing weekly total impundment storage in the upper ponds (panel A), Ripogenus (panel B), Ripogenus and North Twin combined (panel C), and Norht Twin (panel D), under historic conditions and GNP's proposed Water Use Plan (WUP) during an average year (1982)

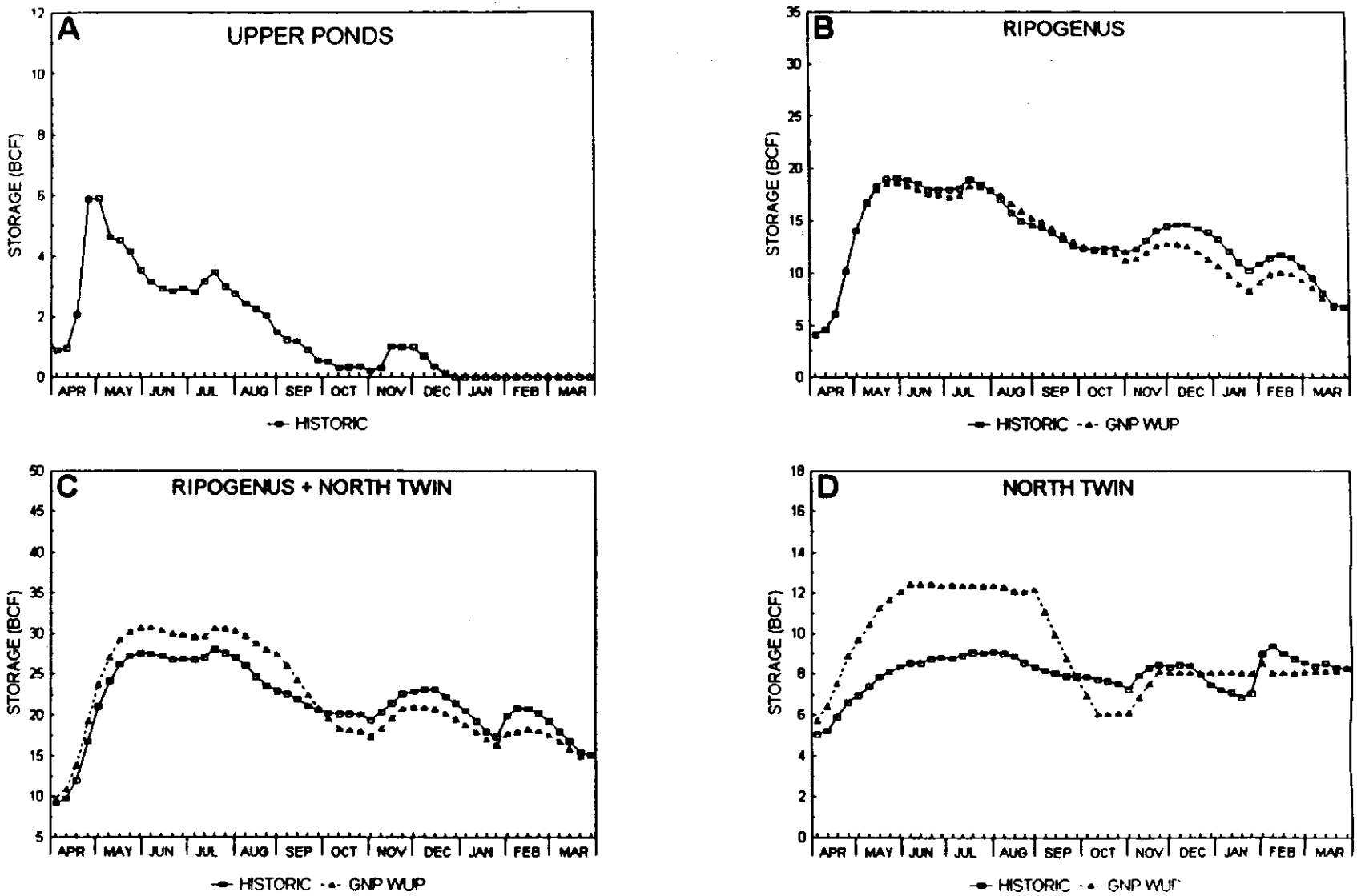

Figure D-20. Water-use model results comparing weekly total impundment storage in the upper ponds (panel A), Ripogenus (panel B), Ripogenus and North Twin combined (panel C), and Norht Twin (panel D), under historic conditions and GNP's proposed Water Use Plan (WUP) during a wet year (1985)

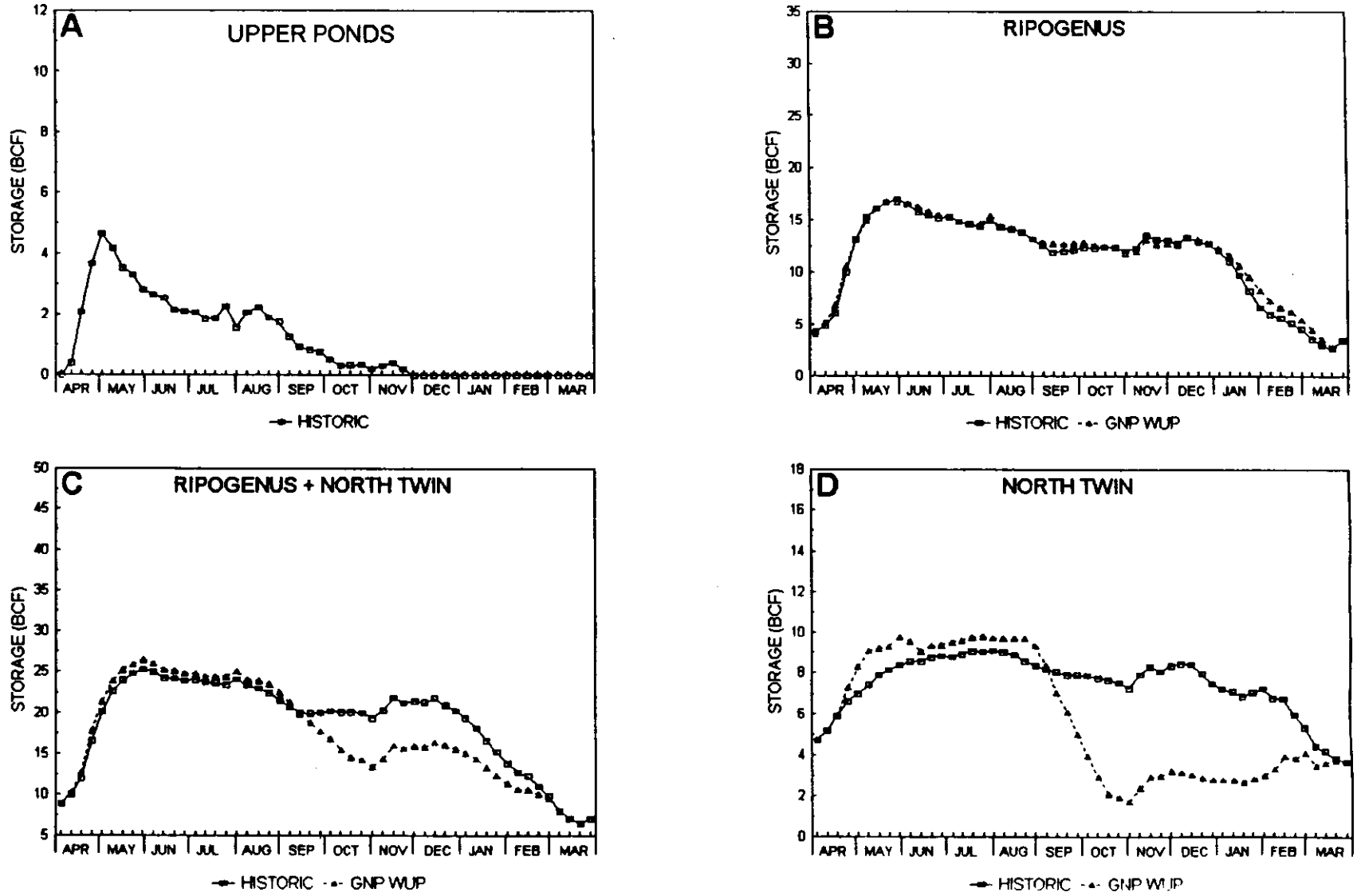

Figure D-21. Water-use model results comparing weekly total impundment storage in the upper ponds (panel A), Ripogenus (panel B), Ripogenus and North Twin combined (panel C), and Norht Twin (panel D), under historic conditions and GNP's proposed Water Use Plan (WUP) during a worst-year (lowest available water)

The model could be used to simulate collective changes in the flows from the Upper Storage ponds; however, no one has suggested such a modelling scenario or suggested a way to operate the upper projects to produce additional enhancements.

D.2.2 Uncalibrated Input Data

Staff is not certain about what CI means by this statement. GNP's water-use model uses actual (historical) measured impoundment levels and flows for the 15-year period of record as a baseline within which to evaluate various proposed water uses. The historical data provides information about the total available water within each year that can be redistributed to provide alternative water levels and flows within the system. GNP ran simulations for all 15 years of available historical data using spreadsheet files for each individual year. The ending point of the first year (in terms of water levels) was the starting point for the following year, and so on. Water could not be reallocated from the following year without affecting water availability in the subsequent year.

D.2.3 Inadequate Timestep

GNP used a weekly timestep, and CI requested a daily timestep to enable simulation of daily changes that may affect recreational flows and the influence of storm flows. Staff contends that this is not necessary for several reasons. Because GNP operates its system for continuous power production rather than for peaking operation, large changes in flow within a day do not occur due to project operation and thus do not require simulation to determine water usage. In addition, the storage capacities of Ripogenus and North Twin are so large that flows resulting from storm events occurring over a period of days would be absorbed; seasonal patterns in rainfall, flows, and storage are the dominant factors affecting water availability in the system. The requested enhancements also occur on a monthly to seasonal basis and do not require the detailed analysis that would be available with a daily timestep model. The only enhancements not specifically simulated with the weekly timestep model are the recreation flows, which occur on an hourly/daily scale. From an overall water-use perspective, however, the weekly timestep model is sufficient to characterize the water available for that need. Having the ability to simulate hourly/daily flow fluctuations is not required to determine water availability on a monthly/seasonal basis.

D.2.3 Over-year Storage

GNP used storage and inflow data for the upper ponds, Ripogenus, and North Twin for 15 consecutive years (1976 to 1990) as input for the water-use model. GNP conducted simulations for individual years and presented data for a dry year and a 'typical' average year in its application; however, GNP actually simulated all 15 years for the historical (existing conditions) and WUP cases. For each year, historically available water in storage at the end of the year was used as the starting point for the next year, regardless of the alternative being simulated. Other alternatives could also be simulated for any or all of the years, although staff believes that analysis of alternatives for a wet, average, and dry year is adequate to determine whether there is sufficient water to meet all of the requested flows.

D.2.4 Omission of Other Reservoirs

Staff addressed the inclusion of the upper ponds in the water-use model earlier. Other than Millinocket Lake Storage Development (MLS), the other impoundments in GNP's system (Quakish Lake, Ferguson Pond, Shad Pond, Dolby, East Millinocket) are operated as run-of-river and have no significant storage. Their operation depends almost entirely on flows released from Ripogenus and North Twin; consequently, including them in the water-use model would serve no useful purpose. MLS has a storage capacity of two billion cubic feet, less than four percent of total storage capacity of GNP's system. It is used to supplement flows to North Twin via a pumping station, or flows may be released to Millinocket Stream. Water available from MLS is included in the model, although its storage is not. Including this storage in the model would allow a more direct determination of impacts of minimum flow releases on the impoundment elevation, although its storage is not significant enough to influence the probability of meeting other water use needs in the overall system. Impacts of minimum flows from MLS on its elevation can be evaluated independently of the model; see sections 4.2.2 and 4.2.3.

D.2.5 Economic Analysis

CI claims that the model is biased toward power production. The model itself is not used to evaluate the effects of flow alternatives on project economics. We used it solely to evaluate the feasibility of providing alternative flows using available water. We have not seen any other suggested management schemes that provide for additional enhancement while including the state's desired fishery management goals. There is nothing inherent in the model structure that would preclude its use in evaluating other project alternatives.

D.2.6 Habitat Evaluation Module

Staff is not aware of any other water-use model currently in use that contains a habitat evaluation module; habitat analyses are usually conducted with IFIM, independently of any hydrologic or hydraulic model. The HEC-5 model (suggested by CI as a more appropriate water-use model) does not contain such a module. Staff used the results of the IFIM analyses conducted by GNP to reach its own conclusions about minimum flows appropriate for various stream reaches within the project areas (see section 4.4).

D. 3 OTHER SCENARIOS EVALUATED BUT NOT CONSIDERED AS REASONABLE ALTERNATIVES

D.3.1 Draw-down Limits

D.3.1.1 **Full-Pond,** Run-of-River Operation

D.3.1.1.1 Flood Control Benefits of Current Operation

Current operations at the Ripogenus and Penobscot Mills projects are designed to maximize water storage during the spring snowmelt and runoff period for sustained power generation during the lower-flow summer and fall months. Such operation smooths out the natural fluctuations in river flow and creates a more constant and moderated flow in the West

Branch. These operating practices and the large storage capacity of the Ripogenus and North Twin impoundments significantly reduce the magnitude and frequency of flood flows in the entire Penobscot River basin (GNP, 1991a). Short-term storms and seasonal runoff are captured during wet periods and released later during periods of lower flow. The Corps of Engineers (Corps 1989 as cited in GNP, 1991a) stated that the West Branch has historically contributed very little to flood events due to the large reservoir storage capacity; the present mode of operation has greatly reduced the West Branch's contribution to main stem flood peaks. During the April 1987 flood for instance, significant flood damage occurred in the Penobscot River Basin, but no significant damage occurred in towns on the West Branch. Moreover, significant flow reduction and storage in the project impoundments of the West Branch resulted in a 98 percent decrease in potential discharge at Millinocket and more than a 35 percent decrease in potential flow in Bangor, Maine (GNP, 1991a). GNP's WUP would not significantly alter operations relative to flood control and, in fact, could slightly increase flood control benefits. During the wet year simulation (figure D-6), impoundment levels were slightly reduced over historic operations, and slightly more storage volume would have been available prior to spring runoff.

D.3.1.1.2 Impacts of Full-pond Operation

During the consultation phase of relicensing, several agencies requested consideration of a full-pond operating policy for the Ripogenus and Penobscot Mills projects to provide enhancements of impoundment recreation, fisheries, wildlife, and wetlands (GNP, 1991a). GNP evaluated this proposed policy and found that it would increase the magnitude and frequency of flooding in the basin because impoundment storage would no longer be available. The West Branch would experience flood flows that do not occur under current operating procedures. Flooding would also be increased downstream in the basin. GNP calculated that a 100-year flood (approximately 200,000 cfs at Bangor) would become a 50-year event with a full-pond policy. There would also be an 80 percent increase in flood damage costs in the basin for a 500-year event, and a 300 percent increase in flood damage costs for a 10-year event, as compared with the current water management policy. GNP calculated the annual loss of flood control benefits to be $1,000,000 (in 1994 dollars) or $69 million over the 30-year license term.

A full-pond operation policy would also have adverse impacts on Bangor Hydro generation, James River Paper generation, whitewater rafting, water quality, and some aquatic resources; however, there would be some positive benefits for other aquatic resources and recreation opportunities. In balance, the adverse impacts would be much greater than the minor positive benefits of full-pond operation, and such a policy would be unacceptable. Staff asserts that such a policy should not be considered further.

D.3.1.2 Partial Ripogenus Draw-down Limit

GNP showed that a total limit would have unacceptable adverse impacts on downstream recreation, fisheries, water quality, and flood control. GNP used the water-use model to illustrate impacts on downstream water availability by simulating a partial draw-down limit on Ripogenus. This simulation was conducted for a dry year (1985) and a worst-case year by reducing the outflow from Ripogenus such that the maximum draw-down would not

exceed 10.1 bcf. This amount of storage is roughly equivalent to limiting the change in elevation during the year to about half of the normal level (figures D-22 and D-23). The consequences of this limit can be seen in the outflow from Ripogenus (panel B in these figures), which is significantly reduced during the winter. This would prevent attainment of salmon spawning flows during this period. North Twin elevations also would be affected (panel C) because less water would be available downstream. Elevations would be reduced by several feet during the fall and winter period, and the lake trout incubation period would be affected by a draw-down that exceeds the minimum spawning level, which is targeted for the end of October in the WUP. Flood control benefits also would be affected because the Ripogenus impoundment elevations would be significantly elevated over the historical and WUP levels at the end of the winter. This would reduce storage in Ripogenus and could result in spillage and flood flows during a subsequent wet spring; however, this loss in flood control benefits has not been quantified. Staff agrees with GNP and other agencies that a draw-down limit on Ripogenus should not be imposed because even a partial limit would have unacceptable adverse effects.

D.3.2 Unregulated Flows in the West Branch

Trout Unlimited (TU) believes that flows in the West Branch are too high during summer and too low during spring (letter from C.F. Gauvin and M. M. Janopaul, May 24, 1993). TU suggests a ramped flow consisting of much lower flows from July through October (500 to 1000 cfs), higher flows from April through May (3000 to 6750 cfs), and 750 to 2000 cfs from November through March and during June. No other agency or group has suggested such flows. These recommendations do not account for the state's recommendations as specified in the 401 WQC and would render the goals of the state and GNP's WUP unobtainable. They also would create a large economic penalty to GNP and could result in a substantial loss in flood control benefits within the river basin; therefore, we do not consider these recommendations as part of a reasonable alternative.

D.3.3 Millinocket 2000 cfs Minimum Flow

EPA, PIN, and TU suggested reducing the 2,000-cfs minimum flow at Millinocket to provide additional flows to the Back Channel (BC) without altering other aspects of the proposed Water-Use Plan (letters from R.G. Manfredonia, EPA Region I, May 21, 1993; P. Biscula, PIN, May 21, 1993; C.F. Gauvin and M.M. Janopaul, TU, May 24, 1993). GNP is presently required by Maine legislation and its WQC to release a 2,000-cfs minimum flow at Millinocket (this release is currently passed through the generating station at Millinocket Mills). The outflow from Millinocket Mills combines with the outflow from Shad Pond (into which BC flows empty) a few miles downstream from Millinocket Mills. There is a legal question as to exactly where existing regulations and legislation require that the 2,000-cfs minimum flow be met. The state law says GNP "may use West Branch water, subject to the provision that day and night throughout the year the flow of water down the West Branch, so long as there shall be any stored water shall not be less than two thousand cubic feet per second, measured in the canal and at the stone dam of the Great Northern Paper Company, at Millinocket..." (Chapter 174, Section 10 of An Act to Incorporate the West Branch Driving and Reservoir Dam Company, enacted by the Senate and House of Representatives, Approved March 13, 1901, as cited in USEPA's letter to FERC on Penobscot Mills, dated May 21, 1993).

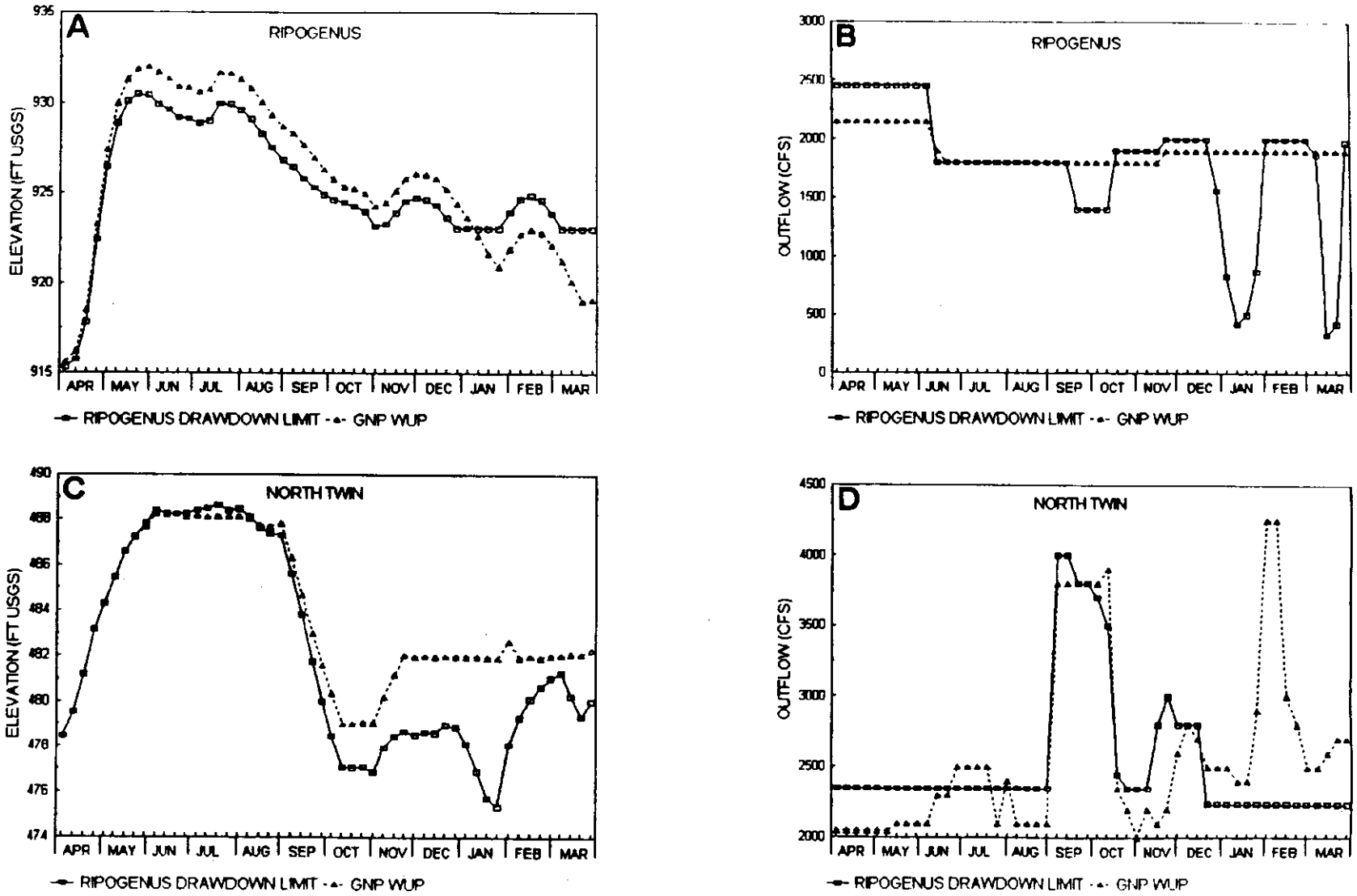

Figure D-22. Water-use model results comparing weekly average impoundment elevations (panels A,C) and outflows (panels B,D) at Ripogenus and North Twin under historic conditions GNP's proposed Water Use Plan (WUP), and with the drawdown limit for Ripogenus during a dry year (1985)

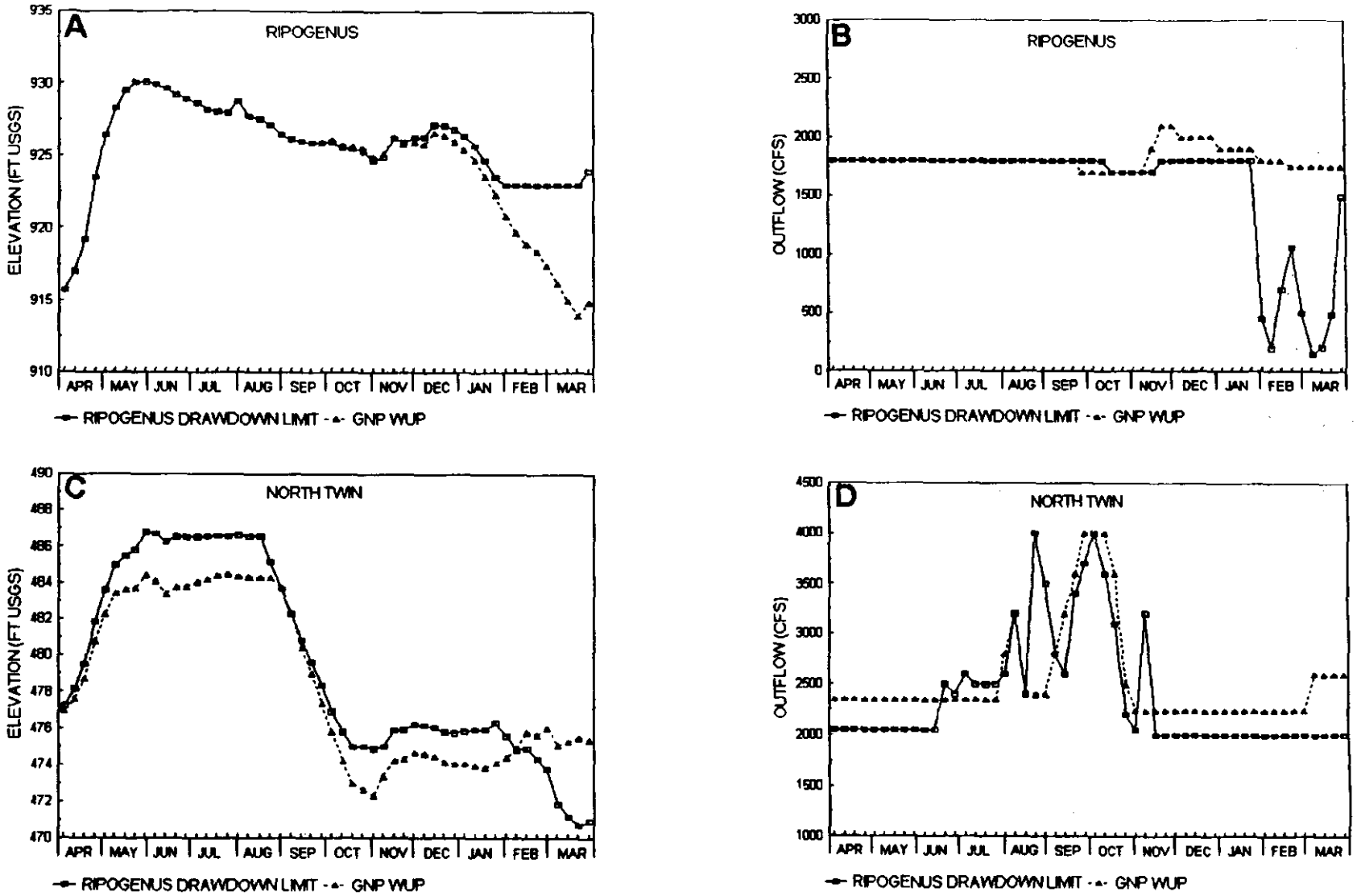

Figure D-23. Water-use model results comparing weekly average impoundment elevations (panels A,C) and outflows (panels B,D) at Ripogenus and North Twin under historic conditions GNP's proposed Water Use Plan (WUP), and with the drawdown limit for Ripogenus during a worst-case year (lowest available water)

EPA contends that this state law should be interpreted to mean that the combined flows at Millinocket Mills and BC (stone dam) must be maintained at 2,000 cfs. Thus, EPA claims that BC flow of any magnitude could be maintained without affecting any other water management measures in the project area by decreasing the flow through Millinocket Mills. GNP claims that the legislation cannot be interpreted in that way; diverting flow from Millinocket Mills to BC decreases power production at Millinocket Mills. The WQC states only that 2,000 cfs be passed "at Millinocket." Trading flows between Millinocket Mills and BC is the only sure way of providing significant flows in the BC without affecting other water management objectives and WQC condition requirements for the two projects under all hydrologic conditions. The only possible environmental consequence of a flow out of Millinocket Mills less than 2,000 cfs could be a reduction in dilution of discharge from the mill and waste water treatment plant over a short stretch of Millinocket Stream upstream of where the BC enters Shad Pond. We do not address this legal issue in the EIS because flow release in the BC is not warranted due to lack of biological/fisheries benefits and the cost in lost power benefits.

Federal Energy Regulatory Commission

Office of Hydropower Licensing

September 1996

FERC/FEIS–0075

FINAL ENVIRONMENTAL IMPACT STATEMENT

Upper Penobscot River Basin

Maine

Volume 2 - Responses To Comments on DEIS

Ripogenus Hydroelectric Project
(FERC No. 2572) – 005

Penobscot Mills Hydroelectric Project
(FERC No. 2458) – 004

FEDERAL ENERGY REGULATORY COMMISSION
OFFICE OF HYDROPOWER LICENSING

FINAL ENVIRONMENTAL IMPACT STATEMENT
VOLUME 2
APPENDIX E RESPONSES TO COMMENTS

LICENSING TWO EXISTING HYDROELECTRIC PROJECTS IN THE UPPER PENOBSCOT RIVER BASIN

FERC Project Nos.

2572 Ripogenus
2458 Penobscot Mills

Applicant:

Great Northern Paper, Inc.

Additional copies of the FEIS are available from:

Federal Energy Regulatory Commission
Public Reference and Files Maintenance Branch
888 First Street, N.E., Room 2A
Washington, DC 20426

September 1996

FEDERAL ENERGY REGULATORY COMMISSION
Washington, DC 20426

TO THE AGENCY OR INDIVIDUAL ADDRESSED

Attached is the Final Environmental Impact Statement (FEIS) for relicensing the Ripogenus (FERC No. 2572) and Penobscot Mills (FERC No. 2458) hydroelectric projects, Maine. The FEIS is contained in two volumes. Volume 1 includes the text of the FEIS through Appendix D. Volume 2 is Appendix E, on the DEIS and Commission staff's responses to those comment. This FEIS was prepared pursuant to requirements of the National Environmental Policy Act (NEPA) and the Commission's regulations implementing NEPA (18 CFR Part 380).

The FEIS documents the views of government agencies, nongovernmental organizations, affected Indian tribes, the public, the license applicant, and the Commission's staff. It contains staff's recommendations about licensing the Ripogenus and Penobscot Mills projects in the upper Penobscot River Basin.

Any Commission order issued pursuant to this document will be subject to the Commission's rehearing process under 18 CFR Section 185.713. Requests for rehearing must be filed within 30 days of the date of issuance of the subject order.

Before the Commission makes a decision on relicensing these projects, it will take into account all concerns relevant to the public interest. This FEIS will be part of the record from which the Commission will make its decision.

Attachment

LETTERS OF COMMENT ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT AND FERC STAFF RESPONSES

The Notice of Availability of the draft environmental impact statement (DEIS) was published in the Federal Register on December 15, 1994. The DEIS was mailed to federal, state, and local agencies, and individuals for comments immediately prior to the public notice date.

All timely letters of comment that address specific analyses in the DEIS were reviewed by the FERC staff. Suggestions for correcting text or data and requests for further discussion of a subject have been given consideration. Those editorial changes and suggestions which were practicable, reasonable, and which improved the quality of the final environmental impact statement (FEIS) are incorporated herein. With some exceptions, as appropriate, attachments to comment letters have not been reproduced in the FEIS (Volume 1) because they don't provide specific commentary on the DEIS.

Constructive criticism presenting a major environmental point of view or one in opposition to the staff's, when persuasively supported, is treated by making revisions in the appropriate part of the FEIS. When the major point of view is not persuasive, reasons are given why the staff did not change its point of view in the space opposite the comment. The sections of the FEIS that have been modified as a result of comments that raised no questions concerning treatment of subject matter in the environmental impact statement have been identified in our responses.

The respondents and the page on which their letter occurs are:

Chester Rice	1/23/95	E-397
Robert Spear		E-398
Richard Stone	1/25/95	E-399
Joseph Taylor	1/20/95	E-400
Verdi Tripp	1/17/95	E-401
Robert Tufts	2/3/95	E-402
Marc Vique	1/17/95	E-403
Julie Winn	1/27/95	E-404

Group - B

Alex Agnew	1/25/95	E-407
Ann Badham	1/23/95	E-408
H.M. Bliss	1/23/95	E-410
Margery Blonder	2/1/95	E-412
Peter Boehmer	1/23/95	E-413
Philip Booth	1/23/95	E-414
Eileen Burnell	2/14/95	E-416
D.L. Caldwell	1/23/95	E-418
David Carle	2/2/95	E-420
Nancy Chandler	2/14/95	E-422
Colby Environmental Council	2/14/95	E-424
Richard and Lois Cole	1/26/95	E-425
Steven Corman	2/20/95	E-427
Leverett Davis	1/23/95	E-430
Sharon Drake	1/23/95	E-433
Stephen Drane	2/10/95	E-435
Frances Dunn	1/23/95	E-437
Robert Ewing	2/3/95	E-439
Virginia Hammond	1/26/95	E-441
Francis Hatch	1/30/95	E-442
Booth Hemingway	1/23/95	E-446
Horace Hildreth	1/25/95	E-448
Howard Jones	1/23/95	E-450
Charles Kitdin	1/23/95	E-456
Julie Khorana	2/7/95	E-452
Ernest and Coralie Kinney	2/21/95	E-454
Valarie Lamont	2/16/95	E-458
Lucinda Lang	1/23/95	E-459
Greenville Lloyd, Jr.	1/23/95	E-461
Kelly McClintock	2/10/95	E-463
Paul McPheters	1/25/95	E-464
Denn Maguire	1/23/95	E-465
Hugh Montgomery	1/23/95	E-467
Edward Myers	1/24/95	E-469
Peter Nessen	1/23/95	E-470
George O'Connell	1/23/95	E-472
Lucia and James Owen	2/15/95	E-473
Wayne Persons	1/26/95	E-475
Connie Peterson	2/19/95	E-476

Vernon Haines	1/23/95	E-543
Chester Hamm, Jr.	2/16/95	E-544
Arthur Hansen	2/16/95	E-545
Karen Hansen	2/16/95	E-546
Kenneth Hansen	2/16/95	E-547
Melanie Hansen	2/16/95	E-548
Michael Harney	1/29/95	E-549
Walter Heal	1/27/95	E-550
Dan and Deborah Hoffses	1/29/95	E-553
Dorathy Jamieson	2/16/95	E-554
Jon Jamieson	2/16/95	E-555
Carolyn Johnson	2/16/95	E-556
Donald Johnson	2/16/95	E-557
Donna Kelly	1/26/95	E-558
Dora Kelly	1/27/95	E-559
Kathy Kenneson	2/16/95	E-560
Linda Labby	2/16/95	E-561
Tom Lambert	1/29/95	E-562
Galen Lander	2/3/95	E-563
Lawrence Lankhorst, Jr.	1/20/95	E-565
Nathalie Leet	2/16/95	E-568
Carol Mackin	2/16/95	E-569
Lynn Mackin	2/16/95	E-570
Paul Main	2/16/95	E-571
Louisa P. & Joseph P. Malizia	1/23/95	E-572
Grace Maloney	1/29/95	E-573
Michael Maloney	1/29/95	E-574
Richard and Lenore Maloney	1/29/95	E-575
George H. Markel	1/29/95	E-576
Harold Mason	1/15/95	E-577
Bert McBurnie	2/2/95	E-578
Nadine McGibbon	2/16/95	E-579
Maurice McLean	1/20/95	E-580
Robert and Charlene Meininger	1/25/95	E-581
John Michaud	2/16/95	E-583
Lois Morin	3/11/95	E-584
Roger Morin	2/16/95	E-586
Robert Mosca	1/27/95	E-587
Charles Paul	1/29/95	E-588
Beverly Pelletier	2/16/95	E-589
Thomas Pelletier	1/25/95	E-590
Suzanne Peneau	2/16/95	E-591
Susan Praif	2/16/95	E-592
Philip and Carol Ramu	1/31/95	E-593
Conrad Rice	2/14/95	E-594
John Rouleau	1/25/95	E-596
A.L. de Saint-Rat	2/1/95	E-597
Patrick Santerre and Celeste Bard	1/21/95	E-598
Tom Sawyer	3/2/95	E-599

Wayne Scarano	2/16/95	E-601
Charles Shorter	1/21/95	E-603
Raymond Skoski	1/29/95	E-604
Doc Simmons	1/29/95	E-607
Thomas Simmons	1/29/95	E-608
Carolyn Simone	1/31/95	E-605
Fred and Marianne Smith	1/29/95	E-609
Richard and Jean Smith	1/29/95	E-610
Sandra Smith	1/29/95	E-611
Robert Speed	2/20/95	E-612
Thomas and Patricia St. John	2/3/95	E-613
Betty Tessman and Sandra Davenport	1/26/95	E-623
Glen Van Deventer	1/23/95	E-615
Robert Van Deventer	1/23/95	E-614
William Van Deventer	1/23/95	E-530
Robert Wells	1/29/95	E-616
Perley Wheaton	2/16/95	E-617
Richard Wheaton, Jr.	1/31/95	E-618
JoAnn Whitehead	2/16/95	E-620
David Whorf	1/29/95	E-621

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Penobscot River Basin EIS:	
In re Applications of Bowater/ Great Northern Paper, Inc. for New Hydropower Licenses, Ripogenus and Penobscot Mills Projects	Project Nos. 2458 and 2572

COMMENTS OF
AMERICAN RIVERS, AMERICAN WHITEWATER AFFILIATION,
APPALACHIAN MOUNTAIN CLUB, CONSERVATION LAW FOUNDATION
AND MAINE AUDUBON SOCIETY
ON DRAFT ENVIRONMENTAL IMPACT STATEMENT

CI-1 These comments on the Draft Environmental Impact Statement ("DEIS") are submitted by and on behalf of American Rivers, American Whitewater Affiliation, Appalachian Mountain Club, Conservation Law Foundation and Maine Audubon Society.[1]

Preliminary Statement

While FERC deserves credit for preparing an EIS as required under NEPA and for appropriately expanding project boundaries as required by law, many aspects of the DEIS fail to comport with the requirements of NEPA and the Federal Power Act and render the draft EIS defective as an information tool in making important resource decisions. Recommended Alternative 2:

CI-2
* allows for continued degradation of resources;
* fails to give equal consideration to power and non-power values;
* fails to address impacts in the basin; and
* uncritically relies on GNP for its conclusions.

A major defect of the DEIS is its reliance on the applicant's financial and socioeconomic claims to limit meaningful

[1] The DEIS refers to our organizations in various ways. We assume that the references to "CLF" are intended to reflect the joint positions submitted by our five organizations. However, the listing of acronyms does not reflect the coalition nature of our intervenor group. For clarity, we suggest that the references in the text to CLF be modified to reflect the fact that these positions are on behalf of the Conservation Intervenors, and that the definitions set forth on page xi be amended to include definitions for AMC (Appalachian Mountain Club), AWA (American Whitewater Affiliation) and Conservation Intervenors (American Rivers, AMC, AWA, CLF and Maine Audubon Society).

CI-1 Cont

E-1

CI-1 We have corrected the EIS and refer to the following organizations collectively as the Conservation Intervenors: American Rivers, American Whitewater Affiliation, Appalachian Mountain Club, Conservation Law Foundation and Maine Audubon Society.

CI-2 No response required. We provide detailed responses to your comments below.

CI-2 Cont

environmental improvements. By any objective measure, the flow modifications and other requests reviewed in Alternative 1 are: reasonable, constitute no more than 5-7% of the value of these licenses in the aggregate and, notwithstanding the unsubstantiated claims by the applicant to the contrary, are affordable by this applicant without detrimental socioeconomic impact.

In making claims of economic doom, Bowater faces a credibility gap which undermines its claims. Bowater acquired Great Northern in 1991/1992 to fulfill a long term strategic investment plan valued at nearly $1 billion. Yet, it asks the public to believe that energy cost increases equivalent to less than 1% of the price Bowater paid for GNP threatens its investment plan and could cause 15% of GNP's work force assigned to marginally profitable machines to be discharged.

These threats do not stand the test of common sense. Bowater is not some small, struggling company, as it would have the Commission believe:

CI-3

* Bowater is one of the major pulp and paper companies in the US and Canada. It is the largest supplier of newsprint in the United States. It's net assets approach $3 billion. Bowater's financial capability enabled it to recently install a $100 million recovery boiler at its Calhoun, Tennessee mill, to construct a $63 million deinking facility at its East Millinocket mill, to announce, last month, a $3.8 million investment in a new pulp process in Millinocket -- and to spend millions of dollars in legal and consulting fees contesting virtually every legitimate request of resource agencies and intervenor groups.

* While like almost all paper companies, Bowater endured a rough recession in the last three years, the recession is defiantly over. Bowater's most recent quarterly report in October states that "after nearly three years of recessionary conditions, industry recovery in newsprint, pulp and coated groundwood products appears to be well underway." The quarterly reports net income of over $10 million and pulp price increases of over 60%. The price of newsprint, Bowater's major product line, has escalated so dramatically since December that newspapers such as the Portland Press Herald are increasing prices. Bowater is raising prices for all its major products.

* These economic improvements are reflected in the nearly 60% increase of Bowater stock over the last year -- from

CI-3 The staff finds, based on our most recent economic analysis, that there is no conclusive evidence that either the Applicant's Proposal, or both versions of Alternative Two, would adversely affect the competitive position of the GNP's mills. This is because these alternatives would produce small percent increases in annual power costs, small percent declines in annual power output, and ultimately, that these small changes would not translate into a significant increase in the cost of production at the two mills. The staff also concludes that the negative annual net benefits under Alternative One would be large enough such that the competitiveness of the two mills is likely to be adversely affected.

CI-3 Cont

3

$20 share in early 1994 to over $31 share this month.[2]

The inconsistencies in the company's assertions loom large. For example, in the area of energy efficiency as a replacement power source for flow modifications:

CI-4

* GNP now claims to be a conservation leader: yet, has failed to capture the overwhelming bulk of conserved power at its facilities; only 1.5% of the conservation potential of the most likely area for efficiency improvements -- variable speed motor drives -- has been captured at the GNP facilities.

* GNP claims that "modernization" will increase electrical demand need, yet GNP has only invested in small amounts of selective demand side reduction; vast amounts of savings remain untapped; the company's claims conflict with the fact that merely in the replacement of groundwood pulp with recycled pulp, energy savings occurred.

* Bowater/GNP uses an arbitrary, internal corporate hurdle rate of return leaving most of the cost-effective conservation potential in the mills uncaptured. This may be fine for GNP's own purposes, but it is wholly inappropriate when the result is to exclude a cost-effective source of replacement power when making decisions over public resources: FERC cannot allow GNP to waste the very hydropower it claims is so essential to employment and future investments.

CI-5

On socioeconomic issues, Bowater/GNP claims that large job losses will occur if flows are provided in the Back Channel -- yet claims as confidential and refuses to share with any party including FERC the information which purportedly justifies this claim. On land issues, Bowater/GNP claims to be an outstanding steward of its land, yet in the last few months agreed to pay a penalty for some of the most egregious violations of state land use regulations seen in recent years.

Bowater/GNP has not hesitated to politicize the process by turning to state and federal legislators to change state laws or to

[2] The turnaround at Bowater is consistent with other paper companies doing business in Maine, including Boise Cascade (first quarterly profit in several years; stock price up nearly 60%); Champion International (stock price up 50% in one year); Scott Paper (stock price almost doubled in the past year); and International Paper (stock price up 33% in the past year). The long-term resource decisions addressed in the DEIS should not be determined on the basis of transitory economic conditions now past.

CI-4 Energy conservation was identified as an alternative during the scoping process. However, we concluded in the DEIS that energy savings gained through conservation have largely been offset by increased energy demand from GNP's plant modernization efforts. This conclusion was based upon our review of GNP's conservation and modernization programs, as documented in Exhibit H, and the memorandum of Owen Merrill of GNP, both of which are based upon actual plant data. The claim that there is an enormous conserved power potential in the GNP facilities by Conservation Intervenors, on the other hand, is based upon generic or theoretical evidence, which staff did not accord the same weight. The staff also notes that many of the arguments posed by the intervenors have been raised throughout this proceeding and have been addressed by the Applicant.

CI-5 Opinion noted.

CI-5 Cont

influence FERC's environmental review. Bowater's threats have exacerbated job anxieties in the local community arising from years of corporate ownership changes; it has not acted when it could to stop the flow of incorrect information about many of the issues raised in this proceeding, including most recently shoreland protection. The result has been to create a needlessly emotional environment over these licenses, particularly at the public meetings.

The FEIS must test and correct for Bowater's economic claims before the Commission can make informed, fair decisions on the future of the West Branch.

COMMENTS ON SPECIFIC PROVISIONS OF THE DEIS

I. Geographic Scope

As originally set forth in Scoping Document I, FERC proposed that the DEIS examine the impacts of the Ripogenus and Penobscot Mills project on the West Branch basin. The geographic scope of the EIS was narrowed in SD II to the area surrounding the Ripogenus and Penobscot Mills project. This has undermined the usefulness of the EIS in examining the environmental impacts of various alternatives on the basin. The GNP system has basin wide impacts: GNP is the sole owner and operator of the dozen or more unified hydropower projects in the West Branch. The refusal to examine the basinwide impacts of this basinwide hydropower system means that the EIS will fail to assess the true environmental impacts of these projects.

CI-6

Specifically, the DEIS wholly fails to consider the impact on the upper basins that the proposed operations of these projects will have. The upper basin are drawn down so as to provide water quantity's to enable the applicant to operate Ripogenus and Penobscot Mills. Without the water quantity provided from upstream impoundments, the operations proposed by the applicant, as well as those set forth in Alternative 2, would not be possible. The impoundment draw downs and operations have significant environmental impact in dewatering wetlands and littoral zones and impacting fish and wildlife values. Yet, the DEIS is silent on the environmental impacts of the drawdowns at the upper basins.

The DEIS asserts that a cumulative impact review upstream is not needed because the upper basins provide 19% of the total water quantity in the hydropower system. (DEIS at 3-5.) We submit that this contribution is significant. Without this water, power generation at the Ripogenus and Penobscot Mills projects would not be possible.

The omission of review of the upper storage area also undermines the range of reasonable alternative management modes in meeting the power and non-power needs of the system. By excluding

CI-6 The upper storage projects are included in GNP's water use model and the alternatives evaluated with that model, including additional model runs requested of GNP by FERC staff. These projects are not up for relicensing now but are included in the water use model as a combined input. This input was kept constant in developing the water use plan although the input could be varied in the model. We saw no need to do this however, since no one has suggested alternative management schemes for the upstream projects that would provide additional downstream benefits. In addition, GNP has agreed to inclusion of a reopener to allow modification of the water use plan, should analysis of the upper projects during relicensing result in unanticipated findings that desired changes could be made. We recommend the orders for both the Ripogenus and Penobscot Mills projects include an article containing a reopener clause for consideration of changes in water use in the West Branch when the upper storage projects are evaluated for relicensing.

CI-6 Cont

consideration of the upper basins, the DEIS treats the Ripogenus and Penobscot Mills projects in isolation for purposes of water quantity and power generation. Carving up the system in this manner denies the real world nature of the basin's ecosystem and the unified operations of the hydrosystem.

In lieu of a basin analysis, SD II declared FERC's intent to prepare a rigorous analysis of direct and cumulative impacts of specific resource issues. This approach provides far less value than a basin analysis. Yet, the DEIS fails to examine properly cumulative and direct impacts as outlined in SD II. For example, the DEIS fails to examine the decline of the brook trout fishery in the region as a cumulative impact of hydro operations. Nor does the DEIS examine the cumulative impacts of the hydropower system on landlocked salmon and Atlantic salmon at upstream or downstream projects excluded from the review in the DEIS, even though these species are of great importance to the region.

CI-7

Finally, the DEIS does not fulfill the requirement that FERC examine past as well as present and future impacts. There is little discussion of the losses of indigenous species, such as brook trout, in the project area and cumulatively in the basin. In discussing flow needs in areas like the Back Channel, the DEIS compares the potential fishery with flow improvements to existing conditions, even though existing conditions are the result of damage to the ecosystem caused by hydropower operations, such as flow diversions. This failure to examine past conditions should be corrected in the FEIS.

The DEIS fails to review the past, present and future impacts from the proposed operations of the Ripogenus and Penobscot Mills projects on the upper basins. The DEIS is therefore inadequate in examining the cumulative and direct impacts of the operations of these projects on the upper storage basins. The FEIS needs to examine these impacts in order to fulfill NEPA requirements.

II. Expansion of Project Shoreland Boundaries

The DEIS appropriately recognizes that project boundaries must be expanded to include shoreland set back and vegetation zones in fee or easement form to protect non-power values in this extraordinary area of Maine. The need for shoreland buffer zones within project boundaries is essential in fulfilling the Commission's statutory obligation to protect the aesthetic, recreational and ecological values of the project areas.

CI-8

A. Penobscot Mills

Alternative 2 calls for 200' non-development zones and 100' vegetation zones on GNP land only in the project area. Alternative 2 also allows Bowater/GNP to develop a Shoreland Management Plan ("SMP") in lieu of the set backs.

CI-7 Opinions noted. FERC has not changed its definition of baseline and no-action. Baseline conditions continue to be existing conditions, not pre-project conditions.

CI-8 The staff revised its land use assessment and recommendations in the FEIS (see section 4.9). We considered comments received during the DEIS comment period, GNP's proposed conservation easements for the Ripogenus Project area, updated land valuation information, and further assessment of LURC land use regulations. The staff proposes, for the Ripogenus project area, two options: (1) accepting the conservation easement proposed by GNP and the State of Maine; or (2) a 200-foot boundary expansion on GNP-owned lands. For the Penobscot Mills project area, the staff recommends a 200 foot expansion of the project boundaries on GNP owned lands. The staff recommends that existing structures would be grandfathered under any of the project boundary expansion alternatives. See section 4.9 and 5.3.4 for further discussion regarding proposed protection zones for the Ripogenus and Penobscot Mills Project areas.

We agree that the buffer and vegetation zones should only apply to Bowater/GNP land in the Penobscot Mills project. However:

1) The SMP should not apply to all areas of the Penobscot Mills project. The SMP option should apply to only those areas of the project area which are already developed and where proposed allowance for future additional development should be clustered. Areas in the project area which are currently entirely undeveloped and exhibit back country characteristics which should be preserved. These areas should have the set back and vegetation zones installed without allowing for diminution of the zones.

2) The geographic scope of the area covered by the zones should be clarified. Attachment A sets forth recommended boundaries.

B. Ripogenus

Unlike portions of the Penobscot Mills project, the Ripogenus project area is marked by only minimal existing development outside of Chesuncook Village. It is the absence of development on the overwhelming majority of shoreland that makes the non-power values of this project so high. For that reason, there is a need and opportunity, as expressed in the DEIS, to protect the entire shoreland of the project area that is currently undeveloped. In making this distinction between the Penobscot Mills and Ripogenus Projects, the DEIS has carved a rationale approach to the somewhat differing characteristics of the two projects.

E-6

CI-8
Cont

The need to protect as much of the undeveloped shoreline of the Ripogenus Project area is clear. If the 1/3 of shoreland not owned by Bowater/GNP is developed over the next 30 years, many of the non-power values of the entire area will be severely degraded. Accordingly, the DEIS recommendation that Bowater/GNP protect its own land and, in addition, seek easements or fee ownership on land it does not own reflects the needs of this project area.

The DEIS is relatively silent in specifying where project boundaries would be extended. Attachment A describes recommended boundaries.

A number of concerns have been raised about the recommendation to acquire easements or fee interest on land not owned by Bowater/GNP around Ripogenus. Some of these concerns are unfounded, others can be adequately addressed and still maintain the integrity of the set back and vegetation zones.

1) A representative of the State expressed concern that State of Maine land in the Ripogenus project area not be included in the boundary expansion. We believe that it is clear from the DEIS itself, as well as the entire record, that public lands are not part of the recommended project boundary expansion or buffer zones.

The FEIS should, apparently, make this clearer.

2) Concerns were raised at the public hearing that some shorefront owners may be unwilling to sell in fee or non-development easements to Great Northern. An unwilling seller, however, can only be known if an offer is made and then refused. There are many reasons why a shoreland owner would be a willing seller of an easement of even fee: the long-term interests of the owners in a protected reservoir would be maintained and the owner would received monetary compensation.

CI-8 Cont

Bowater should be required to make offers to non-GNP landowners in the project area. If owners appear who prove unwilling sellers, than Bowater/GNP should document the refusals. Bowater/GNP should be required to establish an escrow account to hold monies for future acquisition in the event the shorefront land becomes available.

Acreage Estimates and Land Valuation

We are unable to verify the estimates in the DEIS that 2000 acres of land not owned by the applicant would need to be acquired or protected through conservation easements in order to expand the project boundaries. At 200' setbacks, this estimate is equivalent to 82.5 miles of shoreline. By contrast, the Ripogenus application at Table A-7 states that the shoreline of the project is 118.3 miles. If correct, and Bowater/GNP owns 67% of the shoreland (DEIS at 4-57), then 33% or approximately 39 miles, of non-GNP land is involved. A 200' project boundary expansion on 39 miles would incorporate approximately 945 acres of land, not 2000 acres. A 500' project boundary expansion would require the project boundaries to incorporate approximately 2,364 acres of land, roughly consistent with the amount of acreage deemed affordable by the DEIS in Alternative 2.

CI-9

In terms of land values, using the Rangeley Lakes example of $1000/acre is a reasonable surrogate but may result in higher cost estimates than actual market purchase or easement agreements due to the fact that the Rangeley Lakes region, as with the Moosehead Lake area, has experienced significantly greater development pressures and real estate activity than the Upper Penobscot Region. Nonetheless, the valuations estimated in the DEIS appear to inflate the value of backland over shoreland. The DEIS assumes that all acreage, whether in the 200' zone or the 500' zone, is equivalent in value. The DEIS estimates that a 200' project boundary set back would cost $2 million for 2000 acres and that a 500' boundary set back would cost an additional $5 million for Ripogenus, based on 5000 additional acres, and $4.5 million for Penobscot Mills, based on 4500 additional acres. (DEIS at 4-60.) These values indicate that the land from the 201 foot mark to the 500 foot mark would cost $7.5 million, or nearly four times as much as the first 200 feet. Shorefront land is generally worth more than back land.

CI-10

CI-9 Under the revised land use alternatives, GNP would obtain conservation easements on non-GNP owned land and incur easement acquisition costs only under Alternative 1 (see section 4.9.2).

CI-10 The staff reviewed various cost estimates and appraisals to determine the potential effect of GNP acquiring shoreline conservation easements for the non-GNP owned lands under Alternative 1. Based on this review, staff estimated the potential costs for acquisition of conservation easements to be approximately $24.6 million (see section 4.12.2).

COMMENTS FROM CONSERVATION INTERVENORS ON UPPER PENOBSCOT RIVER BASIN DEIS

CI-10 Cont

Accordingly, it is likely that the estimate in the DEIS inflate the cost of a 500' buffer zone.

c. Issues Applicable to Both Projects

Easement Terms

CI-11

The terms set forth in the Upper Androscoggin EIS referred to in the DEIS would allow certain activities to occur in the zones which would frustrate the purpose of the zones. Instead, terms along the lines of those set forth in the Deerfield River Offer of Settlement filed with FERC, Docket No. LP 2323-012.

Buffer Zone Widths

The DEIS rejects 500' set back widths for two reasons: cost for non-Bowater land in the Ripogenus Project and the conclusion that the additional ecological protection gained with 500' zones is not worth the cost.

CI-12

We disagree with that view. First, as noted above, the costs for 500' zones should not be significantly higher than for 200' zones. Second, it is clear that the 500' zones provide a minimum level of protection for non-power values. That is why other non-development zones in the West Branch area and elsewhere in northern Maine have been set at 500'. This includes the 1981 500' wide easement given by GNP to the State of Maine on the West Branch itself. The Allagash non-development buffers are also 500', reflecting the minimum widths that are considered necessary to provide scenic and ecological protection.

Accordingly, the 500' width identified in Alternative 1 should be adopted in the FEIS, with the exception of lands which fall within the SMP option in the Penobscot Mills project.

Responding to Concerns Raised at the Hearing

CI-13

Several concerns regarding the recommendation for appropriate buffer and vegetation zones have been raised at the public hearing in Millinocket. Despite the assurances given by FERC personnel at the hearing, we expect that written comments from certain entities will continue to express these concerns.

Clarification on Exemptions

Concerns have been expressed by certain entities regarding the impact of the set back and vegetation zones on existing campowners. FEIS should incorporate the clarifications made by FERC personnel at the start of and during the public hearing, namely, that:

i) Existing structures are grandfathered;
ii) There will be no need for campowners to obtain FERC

RESPONSES TO CONSERVATION INTERVENORS ON UPPER PENOBSCOT RIVER BASIN DEIS

CI-11 The staff revised the location and terms of the proposed easements in the FEIS from those proposed in the DEIS. These revisions reflect assessment of GNP's proposed easements and further review of available information pertaining to this issue (see section 4.9).

CI-12 Our analysis (see section 4.9) indicates that the additional protection of the 500-foot expansion does not merit the much higher cost of that alternative ($24.6 million versus no direct costs in the other alternatives).

CI-13 The staff revised its land use assessment and recommendations in the FEIS (see section 4.9). Within the Ripogenus Project area, the recommended alternative proposes two options: (1) accepting the conservation easement proposed by GNP and the State of Maine; or (2) a 200-foot boundary expansion GNP-owned lands. Within the Penobscot Mills Project area, the recommended alternative proposes expansion of the project boundary on GNP-owned lands to 200-feet from the high water mark of the impoundments. We also recommend development of a Shoreline Management Plan for the boundary expansion areas in consultation with various resource agencies. See section 4.9.3 of the FEIS for further discussion regarding the land use regulations and management of lands within the proposed boundary expansion area.

CI-13 Cont

approval for bedroom expansion or other modifications to existing structures;

iii) There is no prohibition on Bowater/GNP electing to sell leased land; if a structure exists on the leased land to be sold, it will be grandfathered. If no structure exists, then the set backs would apply.

Economic Development

CI-14

It is most likely that the expansion of project boundaries will act to maintain the current aesthetic and environmental quality of the area and protect the attractiveness of the region. Claims that the modest boundary expansion will harm the economic development of the area are unfounded: the zones do not prohibit additional development, but merely establish minimum set back requirements. The SMP for Penobscot Mills can allow for additional development in appropriate areas. All of the land in which the boundaries are to be expanded in the Penobscot Mills projects are owned by GNP; GNP has had a non-binding moratorium in place for several years. It is difficult to understand how the project expansion would be economically harmful compared to the non-binding moratorium on any additional leasing in place over the last years.

Landowner Stewardship

CI-15

Some have expressed the view that existing landowners have been good stewards of the shoreland resources and have been responsible for the lack of extensive development on these waters.

We note that even as it prides its land management, Bowater/GNP recently admitted to a series of land use regulation violations spanning some 14 years, including on Third Debsconeag, a Class 1-A lake. (Information about these violations is attached.) The violations include construction of roads without permits; construction of roads in non-development zones; violations of timber harvesting rules; violations of regulation intended to protect high value lakes; and other violations. Bowater/GNP has acknowledged its embarrassment at these violations, and has agreed to take some remedial action, but the fact is that GNP has admitted to some of the most egregious violations in recent memory.[3]

More importantly, the public interest in protecting non-power values is not fulfilled by relying on the inclinations of landowners, including Bowater/GNP. Without long term protection, economic and other pressures could act to change the minds of landowners. Without project boundary expansion, Bowater could

[3] Importantly, the violations were brought to light by a third party; due to budget cutbacks, LURC's enforcement staff has been virtually eliminated, underscoring one of the uncertainties of relying on a zoning body for long-term protection.

CI-14 See responses CI-12 and CI-13.

CI-15 Staff acknowledge that land use regulations and land ownership could change over the term of the license. The recommended alternative (Alternative 2) includes measures to ensure protection of shoreland areas for the term of the license. For the Ripogenus Project area, Alternative 2 proposes the adoption of GNP's proposed conservation easements for the term of the license or 200-foot boundary expansion on GNP-owned lands for the proposed easement area. For the Penobscot Mills Project area, the recommended alternative proposes the expansion of the project boundary along approximately 70% of the project's shorelines (see section 4.9.3).

CI-15 Cont

elect to sell additional lots or land (as it has recently sold significant amounts of land in Maine and Canada); Bowater could sell GNP; Bowater could be acquired through a hostile tender offer. No more proof of the uncertainties of the future exists than the fact that there have been three owners of these assets in the last few years alone, the Bowater acquisition from Georgia-Pacific being the most recent change in corporate ownership; the hostile tender of Great Northern Nekoosa by G-P is evidence of the ownership changes that can occur.

LURC Sufficiency and Federal/State Jurisdiction

Many comments reiterated Bowater/GNP's position that state zoning regulations are sufficient to provide long-term protection as required by the Federal Power Act and implementing regulations. Without repeating our prior arguments, it is important to note that no party or commentator provided any rebuttal of the factual information submitted by the Coalition that thousands of units could theoretically be built; that the areas most susceptible to development are the shoreland zones of high value waters; that the purpose of LURC zones is to control and monitor development over time, not provide the same level of long-term protection that expanded project boundaries provide.

These comments also confuse the issues. If zoning was adequate for long-term protection, then there was no need for GNP to grant easements to the state on the West Branch, East Branch and portions of Lobster Lake in 1981. There would be no need for the important efforts of land trusts to acquire high value land in northern Maine. There would be no need for the Land for Maine's Future Board and the Forest Legacy program. All of these activities exist in areas where there is current LURC zoning, but there is an obvious recognition that easements and fee ownership provide a much more significant and necessary form of long-term protection.

CI-16

As for references to State rights, the question here involves longstanding federal obligations on Bowater/GNP as a hydropower developer and owner. The State makes its positions known through comprehensive plans filed with FERC and through water quality certification. Maine has an interest in public use of waterways and there is no inconsistency between the expansion of project boundaries and any Comprehensive Plan.[4]

[4] Although the applicant now relies on LURC regulations to avoid its shoreline protection obligations, Bowater/GNP opposed consideration of LURC shoreland standards during the Ripogenus water quality certification process and the State explicitly refused to consider shoreland issues in the Ripogenus Project. (See LURC Decision, Dec. 23, 1992 at 3.)

CI-16 Further staff review of LURC land use regulatory requirements resulted in revised land use assessment and recommendations (see section 4.9). The staff proposes, for the Ripogenus project area, two options: (1) accepting the conservation easement proposed by GNP and the State of Maine; or (2) a 200-foot boundary expansion on GNP-owned lands. For the Penobscot Mills project area, the staff recommends a 200-foot expansion of the project boundaries on GNP owned lands. The staff recommends that existing structures would be grandfathered under any of the project boundary expansion alternatives. Under the recommended alternative, the proposed conservation easements and boundary expansion would provide long term protection of valuable shoreland resources (see section 4.9.3).

Bowater/GNP Alternative Shoreland Proposals

Perhaps Bowater/GNP will accept the recommendations of Alternative 2 in its comments. We would expect, however, that Bowater/GNP requested an extension of time to comment in order to prepare an alternative to the recommendations in the DEIS. We would expect Bowater/GNP to file comments, and organize comments by others, claiming that the easement acquisition in the Ripogenus Project will cost a multiple of the estimate in the DEIS, and suggest a less costly mechanism to ostensibly achieve the goals of the boundary expansion.

CI-17

FERC should look upon such information submitted and any alternative proposed by Bowater with great skepticism. The recommendation in the DEIS is extremely low in cost: there is no cost for the boundary expansion in the Penobscot Mills project. The only cost in the Ripogenus Project is on non-GNP lands, and is modest. Most importantly, expansion of project boundaries through easements and fee is the only legally binding mechanism that will protect non-power values. Commitments to maintain the moratorium on new leases, for example, are not binding. Nor should FERC accept some expansion of the SMP concept to the Ripogenus Project. The SMP option should be strictly limited to portions of the Penobscot Mills project; the SMP has the potential to undermine the goals of project boundary expansion.

II. Water Use Issues and Replacement Power Costs

As the DEIS points out, the central issue in this proceeding is the question of flows in the Back Channel. In addition, there are continuing concerns by our organizations with regard to the recommendations in Alternative 2 on summer recreational flows in the Upper Gorge, winter flows in Millinocket Stream and late summer evening flows below McKay Station.

CI-18

1. Flow Recommendations

a) Back Channel: Habitat and Recreational Potential

The staff recommends that the flow recommendation of Alternative 1, 350cfs in the Back Channel, be rejected for three reasons: that the habitat value will not be significant; that the costs of replacement power will be high; and that the socioeconomic impacts on employment in the local area could be significant and would outweigh any habitat gain. The DEIS's view on each of these points is erroneous and based on inadequate information.

CI-19

The DEIS should have considered a range of flow options beyond 350cfs. The DEIS excluded consideration of the environmental and recreational values of higher flows for economic reasons. That exclusion is unwarranted. Data in the record indicates that flows as high as 945cfs could provide significant benefits. The

CI-17 See response CI-8.

CI-18 Responses to specific comments are provided below.

CI-19 We did not evaluate flows greater than 350 cfs to the Back Channel since there would be few fish produced in these areas even with this level of flow, relative to the costs due to lost power and within the context of fisheries within the region. The 945 cfs recommended by Interior is the aquatic baseflow value to be used when site-specific information is not available. Since a site- specific IFIM study was conducted with resource-agency participation, the ABF flow is irrelevant. The IFIM study indicated a maximum habitat value in the range of 350-500 cfs. There is no evidence in the record suggesting that flows greater than this range would provide greater benefit. We used the lower end of that range to examine flow feasibility and economic consequences relative to the environmental benefit. We found that the environmental benefit was not worth the cost in terms of lost power and therefore did not consider higher flows, since most of the environmental benefit is obtained in the first 350 cfs.

CI-19 Cont.

ecological values of flows in ranges higher than 350 cfs should be reviewed and considered in the FEIS.

The DEIS argues that the habitat which might be created by minimum year round flows of 165 or 350 cfs would be marginal and that there is ample existing fishery and recreational opportunities in the West Branch. The view set forth in the DEIS conflicts with that of expert resource agencies, particularly the U.S. Fish & Wildlife Service, private fishery advocates and conservation and recreational organizations. Alternative 2 sacrifices the potential to restore both the aquatic integrity and cold water fisheries that historically thrived, the cultural value of a restored Back Channel to the Penobscot Indian Nation, and the recreational opportunities in this reach. PIN has requested flows sufficient to meet tribal cultural needs for canoe passage into the headwaters of the West Branch of the Penobscot, as well as to protect the future possibility of the return of anadromous fish runs to which they have treaty rights.

CI-20

The Back Channel Has Significant Habitat Potential

Because of its current flow regime, it is true that the Back Channel contains very little fish habitat. But as the DEIS points out, the potential habitat is extensive. (DEIS §3.5.2.12.) Studies have indicated that there is significant potential for improving fisheries by enhancing year round flows. An IFIM study indicated that enhanced flows could significantly increase habitat quantity for all life stages of landlocked salmon except adults. Additionally, as noted in the DEIS, "species other than salmon, such as brook trout and a variety of sucker species, would benefit from the flow increase as would the macroinvertebrate community." (DEIS §4.4.2.4.)

The US FWS, US EPA, Penobscot Indian Nation, Trout Unlimited and the Conservation Intervenors have all requested that flows sufficient to meet fishery needs be provided in the Back Channel. The Maine Department of Inland Fisheries and Wildlife original position was that increased flows in both the Millinocket Stream and the Back Channel would significantly enhance salmon production in the Millinocket Stream-Back Channel-Dolby Reservoir reach of the river, which could be managed as a unit. No information has yet been presented to disprove this original position. There are no obvious biological or physical habitat conditions that would preclude a healthy salmon population from being established. (Penobscot Mills Application, Vol. IX at 193.)

CI-21

The DEIS correctly acknowledges that there is sufficient water to provide a fishery flow in the Back Channel:

> We [FERC] disagree with GNP's contention, therefore, and conclude that sufficient water is available to attain flow releases within other water management constraints

CI-20 The staff reviewed available information regarding the Penobscot Indian Nation's claims to lands and rights within the Branches of the Penobscot River and concurs with the decision of the Maine State Department of the Attorney General (see section 4.11.1.2). The staff finds that consideration of the Penobscot Indian Nation's traditional practices within the project area are outside the scope of Section 106 review. The staff, therefore does not recommend the Penobscot Indian Nation to be included as a concurring party to the Programmatic Agreement associated with the Ripogenus and Penobscot Mills projects. The staff acknowledges, however, the interest of Penobscot Indian Nation in the management of historic properties potentially eligible for listing in the National Register of Historic Places within the project areas. Accordingly, the staff recommends the Penobscot Indian Nation be consulted during the development of the revised Cultural Resource Management Plans for the Penobscot Mills and Ripogenus Projects. Regarding anadromous fish, no state or federal plans identify restoration in the West Branch as being a goal or objective anytime in the future. However, Interior has reserved authority to issue Section 18 prescriptions for the projects. This issue can be addressed in the event that anadromous fish restoration is planned for the project area.

CI-21 We agree that there is habitat potential in the Back Channel. However, within the context of similar available habitat in the region, there is little unique habitat in the Back Channel that warrants the cost in lost power and socioeconomic benefits that would result in requiring minimum flows there. See also our response to PIN-35.

(with some slight modification) under all alternatives.

(DEIS at 5-7.) The DEIS, however, then dismisses the US FWS recommended minimum flow of 500 cfs in the Back Channel on the unsubstantiated grounds of cost without properly evaluating the effectiveness of a 500cfs flow to protect and improve aquatic resources.

The DEIS asserts that the US FWS recommended flow of 350 to 500 cfs would not provide sufficient habitat for a meaningful salmon fishery because:

(1) Grand Falls impedes fish passage, allowing for limited habitat;
(2) predation of young salmon by bass and pickerel; and
(3) the warm waters in Shad and Dolby Pond are sub-optimal for salmon.

CI-21 Cont

At very low flows it is true that Grand Falls would impede fish passage. But the DEIS's conclusion that Grand Falls is impassable to salmon is false, is not supported by the US Fish and Wildlife Service, is contradicted by the historic record; and rather is based on field observations during unnaturally low flow conditions.

Historically, natural flows over Grand Falls provided sufficient flow to permit salmonid passage and migration well upriver of the Back Channel. Records depict accounts of salmon traversing Grand Falls and migrating to the tributary spawning streams of the Ripogenus Impoundment. (See "US Commission of Fish and Fisheries Report of the Commissioner for 1872 and 1873, An Inquiry into the Decrease of the Food-fishes with Supplementary Papers," Washington: Government Printing Office at 394 (1874), attached.) This report notes that "the West Branch gradually changes its character...and the uniformity of its current is interrupted by numerous falls and extensive lakes; but there is no natural obstacles to the ascent of salmon throughout the entire length; and the dams at North Twin and Chesuncook do not wholly prevent salmon reaching the upper waters. At both these dams they are frequently seen and sometimes caught." In fact, Grand Falls offers the best of both worlds in that sufficient flows would provide cold water fish passage, while inhibiting the passage of warm water species such as the smallmouth bass.

The assumption that competition with smallmouth bass would prevent a successful cold water fisheries below Grand Falls is also unproven. Smallmouth bass and salmonid fisheries co-exist in the same river reaches in many areas in Maine, including on the mainstem of the Kennebec River, where 37% of the salmonid catch in the reach between the Wyman Reservoir and the Williams Projects are brook trout; smallmouth bass inhabit this reach. (Wyman Application, FERC No. 2329, v. 1 §E3.1-2.) Smallmouth bass were

illegally introduced into Moosehead Lake in 1974: this has not eliminated the salmonid fisheries in the East and West Outlets of Moosehead Lake which have high quality brook trout and landlocked salmon fisheries. (Kennebec River Resource Management Plan, Maine State Planning Office, Feb. 1993.)

The amount of spawning and incubation habitat in the Back Channel is underestimated in the application. The IFIM model used by the applicant treats substrate as a static parameter (Penobscot Mills Vol. X, App. Q, p. 24) and assumes that no changes in substrate would occur when discharges from Stone Dam increased. Almost 100 years of dewatering have degraded potential spawning areas, with finer particles in the dry riverbed being currently bound in the root systems of encroaching riparian vegetation. Provisions for continuous, adequate flows in the Back Channel would eliminate the encroaching riparian vegetation in the riverbed and these finer substrates would eventually be released, thereby opening up far more salmon spawning habitat in the Back Channel reach. The applicant and the DEIS ignore this reality which needs to be remedied in the FEIS.

CI-21 Cont

The assertion that only limited spawning and incubation habitat could exists for a salmonid fishery is also flawed for it assumes that downstream immigration would not be a significant factor. Downstream passage of salmon into the Back Channel already occurs when water passes over Stone Dam during high flow periods, which could be greatly enhanced with modification of the Stone Dam to permit downstream passage during minimum flow releases.

Moreover, the FEIS also needs to correct the unproven assumption in the DEIS that sub-optimal summer temperature conditions would inhibit the establishment of a quality cold water fisheries in Shad Pond, Dolby Pond and the Back Channel. Sufficient flows over Grand Falls would permit salmon to access pools in the upper 2.7 miles of the Back Channel, where cooler water temperatures with better oxygenation could provide summer riverine refuges. In fact the application (Penobscot Mills, Vol. XIII, AIR response #2, Table 3) shows that during test flow releases at Stone Dam going from 7 to 50 cfs, the water temperature in the Back Channel dropped from 20° C to a more optimal cold water fisheries 16.3° C, while the DO level increased by over 0.5 ppm for a period mean of 8.47 ppm (ibid., Table 1). At just 7 cfs the summertime dissolved oxygen content exceeded 7.2 ppm, well above the threshold for a cold water fisheries during the non-spawning season. The temperature reduction and DO enhancement effect should be even greater using the higher flows requested by the US FWS.

The DEIS also acknowledges that a rich forage base of smelt exists in Dolby Pond for salmon and brook trout: "In 1986, for example, the total smelt drift at Dolby between March and December was estimated at 20,370 pounds." (DEIS at 3-16.) Smelt drift below the Ripogenus Project where a very high quality salmon

CI-21 Cont

fishery exists averages 28,085 pounds. Therefore from a food source perspective, in the Back Channel/Dolby Pond reach the potential for the production of a salmon and trout fishery harboring large sized, quality fish could be very substantial.

In addition to the potential for a salmon fishery, the DEIS acknowledges that "Although not addressed in the IFIM study, species other than salmon, such as brook trout and a variety of minnow and sucker species, would benefit from the flow increase, as would the macroinvertebrate community..." (DEIS at 4-28.) The FEIS should include a review and flow alternative for the Back Channel based on a brook trout rather than a salmon fishery. A brook trout fishery would require less flow than an Atlantic salmon fishery. Brook trout are documented to already spawn in the tributaries including Comstock Brook (Penobscot Mills Application Vol. IX, p. 160) to the Back Channel. To select the needed flows for a brook trout fishery, the IFIM field data already exists, and the computer simulations can be run using brook trout Habitat Suitability Indices (HSI), with little additional burden in time. Assumptions and corrections of improved spawning and incubation habitat due to improved substrate conditions should be made in such analyses, which were not done in the original IFIM runs for salmon.

CI-22

The brook trout fishery in the region was the native fishery until it was decimated by the development and operation of the hydro facilities on the West Branch watershed. It is estimated that a flow range of approximately 165 cfs might meet the needs of a brook trout fishery. This flow range is slightly higher than the historic 7Q10 flow rate, hardly an economic burden on the applicant. The study should also verify if this flow range would meet the cultural needs for canoe passage by the Penobscot Indian Nation. Furthermore as noted in the DEIS, providing 165 cfs in the Back Channel is easily achievable: "Results of 165 cfs in Back Channel show little or no difference from the GNP Water Use Plan during the wet and average years (Appendix D, figures D-14 and D-15), and all other enhancements could be achieved as proposed" (DEIS at 4-6) and "Under Alternative 2, available water would be sufficient to provide all proposed flow enhancements , including flows up to 165 cfs in the Back Channel, except during very dry years." (DEIS at 4-8.)

CI-23

The DEIS also admits that water quality in the Back Channel would also be improved by enhanced flows. "Any flow higher than leakage would increase flushing rate and aeration in Back Channel and, thus, protect against water quality degradation during worst-case summer and early fall conditions." (DEIS §4.3.3.3.)[5]

[5] The DEIS accepts the Applicant's false conclusion (at page 2-14 of the DEIS) that the Back Channel does not have to meet water quality standards because it is not classified by the State. The DEIS incorrectly states (at 3-9): "Riverine segments of the

CI-22 State and federal resource agencies had the opportunity during initial stage consultation to recommend species to be considered. The state and Interior chose not to consider brook trout in the Back Channel. Restoration of native species was not a goal established by MDIFW, which is the agency with management responsibility for the state's two inland waters. FERC is not a fisheries management agency but seeks only balance. We view among various public interests MDIFW management plans as reflecting the public fisheries interest, thus we did not consider brook trout in our analysis.

CI-23 We stand by our statement that the project meets or exceeds the numerical standards, based on available information.

The legal status of the Back Channel relative to Maine's 401 WQC will be addressed in the order for the project.

In short what prevents the entire Back Channel reach from providing spawning habitat and serving as a refuge from warm summer temperatures in Dolby and Shad Pond is the lack of water due to project operations. The FEIS needs to incorporate the full record and not selectively use information to draw false conclusions.[6]

CI-23 Cont

Penobscot Mills Project all met or exceeded the respective water quality standards." This is incorrect. The DEIS fails to present the record and acknowledge that the state waived its rights to certify the Back Channel for water quality (Letter form Dean Marriott of ME DEP to Lois Cashell of FERC, April, 22, 1993), in large part because the leakage flow recommended by the Applicant would not meet Class C water quality standards, which require that

> Discharges to Class C waters may cause some changes to aquatic life, provided that the receiving water shall be of sufficient quality to support all species of fish indigenous to the receiving waters and maintain the structure and function of the resident biological community.

One cannot rationally argue that a dryway can support indigenous fish or maintain the structure and function of the resident biological community. Furthermore the ME DEP's 1994 Water Quality Assessment for Maine lists the four mile stretch below Stone Dam as not attaining the aquatic life standard for classification (Class C) because of dewatering due to hydroelectric power generation. The State "passed the buck" due to pressure from Bowater/GNP; FERC, however, has a responsibility to give equal consideration to providing sufficient flows to meet aquatic and fishery needs in the Back Channel in the FEIS.

[6] Furthermore, resolution of the dissolved oxygen (DO) deficit problem in Dolby Pond would greatly enhance the overall mix of habitat available in the Back Channel and Dolby Pond for brook trout and salmon. The DO problem Dolby Pond currently experiences due to excessive BOD loads from the mill, compounded by the presence of this impoundment used for hydroelectric generation, is a solvable problem during the term of the license. Both the State of Maine Water Quality Certification and the DEIS acknowledge the issue of a DO problem in Dolby Pond and its requirement to be remedied (see DEIS at page 4-12). The Company's pollution control facility is located just above Shad Pond and the effects of the treatment are basically not realized by the river until Dolby Pond. The ME DEP 401 Certification for this project acknowledges that corrective action may be needed with the next renewal of the Waste Discharge License for the Millinocket Mill. An option being the possible relocation of the applicant's minimum flow and discharge compliance site to avoid flow or discharge violations. This potential solution during the course of this hydro license would greatly enhance the water quality of Shad and Dolby Pond, providing additional quality habitat for a successful cold water fisheries.

CI-24

CI-24 There is currently no evidence to show that project operations affect DO in Dolby Pond. DO problems resulting from BOD loads from the mill are not within FERC jurisdiction; this issue will be discussed further in the license order for the project.

High Recreational Demand Exists in the West Branch

The DEIS's conclusions that a fishery that may be created in the Back Channel would not be world class and therefore is of little value conflicts with other findings that the recreational resources of the West Branch region are reaching saturation point. The DEIS erroneously concludes that "High quality recreational fishing waters are abundant in the project region....and that riverine habitat in Upper Gorge, Millinocket Stream and Back Channel (Alternative 1), is not required to meet increasing recreational fishing demand, even if the additional habitat enhanced regional fishing stocks." (DEIS at xvii.)

This statement is inaccurate and contradicts the current condition where fishing pressure (and other recreational uses of the area) on existing resources is high and demand is growing. In fact, fishing pressure on existing resources is so high that the Maine DIFW is evaluating implementation of revised catch and length limits in the West Branch to protect existing fisheries from existing fishing pressure. Attached is ME DIFW Quality Fisheries Initiative Public Hearing testimony in Millinocket, ME, 12/2/94, which addresses the problem of overfishing and demand control.

CI-25

The DEIS also fails to acknowledge and estimate fishery needs in the area throughout the term of the license. The evidence supports the view that increased pressure will be substantial. In 1993, use on the West Branch between Ripogenus Dam and Abol exceeded 10,000 days of fishing during the summer season, up from fewer than 5,000 days per summer in 1975 - a doubling in 18 years. (ME DIFW Quality Fisheries Initiative Public Hearing Testimony at 8.) This rate of increase over the term of the license would put the fishing pressure at upwards to 40,000 days in just that reach alone. The FEIS should describe the projected increased fishing pressure in the region over the term of the license and address ways to meet increased pressure through other fisheries, such as restore fish habitat degraded by hydro operations in the Back Channel. A Back Channel fishery, even if only of regional attraction, would be a significant enhancement to the area, one that may be essential given future demands on existing resources.

Finally, the DEIS erroneously states that no study of whitewater boating potential was requested on the Back Channel, despite the request having been made by several groups years ago. Specifically, the DEIS claims that no whitewater boating organization requested a study. That is incorrect. In our coalition's August 20, 1992 Motion to Intervene, American Whitewater Affiliation together with other members of the Conservation Coalition requested that such a study be performed. Moreover, in February 19, 1992, the letter of deficiency filed by AMC, American Rivers, CLF and Maine Audubon Society clearly requested that a study be performed on the recreational potential of the Back Channel which FERC rejected. These organizations

CI-26

CI-25 GNP's proposed actions would improve recreational fisheries in the Upper Gorge, West Branch and Millinocket Stream (see section 4.8.1.3). Staff determined that additional flows of 350 cfs in the Back Channel would provide no significant improvement to recreational fisheries, and that significant flows in the Back Channel could jeopardize other environmental enhancements (see section 4.8.2.3 and 4.4).

CI-26 Back Channel would only provide an approximately 4.5-mile-long boating trip in a less aesthetically pleasing setting than along the West Branch. We conclude in Section 4.8.1.1 that neither commercial nor local private whitewater boating groups expressed interest in expanding whitewater boating opportunities in Back Channel, that significant opportunities exist within the project area to meet recreational boating demand, and that the significant flows that would be required to enable recreational boating activities would jeopardize other environmental enhancements.

CI-26 Cont

include recreational users among their members: the application, record and now DEIS is deficient due to the failure to prepare a whitewater boating study in the Back Channel.

CI-27

There is ample evidence to support the view that increased recreational boating demand will occur on the West Branch over the course of the license period. The DEIS appears to accept Bowater/GNP's conclusions that recreational boating demand has peaked. (DEIS at 3-38 and 3-40.) We dispute the contention that canoeing and whitewater recreational boating will decline in the future. National data show that there is a steady growth in these activities. According to the President's Commission on the Outdoors, paddlesports have grown 515% between 1960 and 1987. More recently, a 1992 Canoe Magazine survey calculates a 33% growth in paddlesports (canoes, kayaks, rafts) since 1988. The growth rate is particularly strong among private boaters.

Applicant data the DEIS apparently relies upon to support the prediction of level demand is also questionable because the survey data took place during a deep and difficult recession in New England. As the national data cited above shows, rating in other US markets and in specialty niches continues to grow. The State Bureau of Parks and Recreation has identified the West Branch as the most intensively used, multiple use river in Maine.

CI-28

With adequate summer flows, a whitewater boating opportunity could be developed in the Back Channel. The applicant has acknowledged the presence of Class III and IV rapids on this river stretch (Penobscot Mills Application at E5-32). The Appalachian Mountain Club Maine River Guide reports that Class IV rapids occur in the Back Channel during spillage at Stone Dam. The applicant's own studies indicate that "improvements in recreation opportunity" would occur with an increase in flows to the Back Channel to meet aquatic habitat requirements. (Penobscot Mills Application at E5-69.) Though neither Bowater/GNP or the DEIS adequately or fairly examine the recreational and cultural boating potential of the Back Channel, the FEIS should.

b) Millinocket Stream

As documented in our previous filings, the brook trout fishery in the West Branch of the Penobscot region has declined dramatically due to hydro operations. It is also a resource dwindling both in the state and region. The loss will only be felt more in the future as the demand for this resource continues to expand over the course of the license.

CI-29

The DEIS analysis for the 7.9 mile Millinocket Stream is focused on providing salmon habitat (DEIS at 4-28) yet acknowledges that brook trout is the dominant and native game fish. (DEIS at 3-20.) The DEIS recommends that flows of 60 cfs and 30 cfs be maintained in Millinocket Stream from March 1 to September 15 and

CI-27 We agree that recreational boating demand will increase on the West Branch during the license period. The State of Maine's cap of 560 commercial passengers per day on the West Branch will limit recreational use. We do not believe, however, that the Back Channel would serve as an alternative to the West Branch.

CI-28 See response CI-26 and CI-27.

CI-29 Based on the IFIM study for Millinocket Stream, which included brook trout, a year-round flow of 60 to 80 cfs would provide optimal habitat for this species. Following a 10(j) meeting with the Department of the Interior, we have adopted a year-round flow of 60 cfs or inflow, whichever is less, for Millinocket Stream.

from September 16 to April 30, respectively. Although this recommendation would provide some enhancement beyond that provided by GNP's proposal, the flows remain inadequate. In fact, the DEIS acknowledges that habitat values would be improved with higher, year round flows. As indicated in the DEIS, the 60 cfs winter flow would likely enhance overwintering populations of juvenile and adult life stages of salmon. The higher winter flow also "would protect redds from ice formation and, thus, improve the reproductive success of salmon in Millinocket stream." (DEIS §4.4.2.3.) The ABF that has been determined for Millinocket Stream is 37 cfs. (DEIS at §4.4.1.3.)

The DEIS recognizes that the Water Use Plan cannot differentiate the impact of winter flows for Millinocket Stream and concludes that a year round flow of 60 cfs "is feasible within the context of the of overall water use." (DEIS at 4-4.) The DEIS falsely assumes that the impact of increased flows for Millinocket Stream would be increased drawdowns in the reservoirs to supply equivalent amounts of power, but fails to acknowledge that energy conservation coupled with the shutdown of part of the Millinocket Mill in 1994 could provide for the needed year round flows in Millinocket Stream without further impacting the reservoirs. Year round flows of 60 to 80 cfs to reduce desiccation and freezing should greatly enhance the reproduction capabilities of this stream over existing conditions.

CI-29 Cont

The rationale that summer water temperatures eliminate the possibility of a year round native brook trout population is entirely questionable. Salmon, which have a lower threshold for warm water temperatures and require higher flows than do brook trout, currently survive and reproduce in Millinocket Stream, as documented in the application. In fact the Bowater/GNP application defines insufficient water depths in Millinocket Stream as a major cold water fishery limiting factor. The increase in water depth from higher flows should also lower summer temperatures to more suitable levels. This is more than conjecture; in a Back Channel test when the flow was increased from 25 to 50 cfs, the water temperature dropped from an average 18.60 to 16.30 C. (Penobscot Mills, Vol. XIII, Air Response §2, Table 3.) The current flow in the Back Channel is 20 cfs, and less when water is "not available", while projected summer flows are now 60 cfs, indicating that similar drops in temperature are to be expected.

The FEIS should conduct IFIM analysis of flow needs for brook trout in Millinocket Stream, including spawning and incubation flow needs over the non-summer period in the range of 60 cfs or higher. The computer simulations can be easily run as the field data has already been collected. The final management of Millinocket Stream should be based on a year round native fishery, not a sub-standard and very seasonal put and take fishery.

CI-30

c) Upper Gorge

CI-30 Comment noted. Both the state of Maine in its 401 WQC for the Ripogenus Project and the Department of the Interior have accepted a seasonal flow of 100 cfs in the Upper Gorge from July 1 through September 30.

CI-30 Cont

The Upper Gorge, the historical river channel between Ripogenus Dam and McKay station, extends approximately 3,900 feet and now receives either minimal flows (very low flows) or spillage (very high flows). Under this flow management regime habitat is marginal; many of its pools provide suitable habitat for salmon and trout only at certain flows. (DEIS at §3.5.2.2.) Although a winter flow greater than leakage would protect these values, the proposed Holbrook spawning area as mitigation for inadequate winter flows will provide ecological benefits.

CI-31

The summer flows recommended in the DEIS are adequate for habitat protection, but insufficient for recreational use, particularly private, whitewater boating. Alternative 2 recommends two weekends in May (9 hours/day) of flows between 1000 and 2000 cfs be provided. Optimal flows for whitewater boating cannot be determined based on existing information. The DEIS states that the "Upper Gorge has been rafted successfully at flows as low as 1100 cfs." (DEIS at 4-48.) During spillage events in 1994, however, hard-boats were able to navigate the gorge at flows thought to be well below the 1100 cfs range, as low as 400 cfs. This discrepancy could provide for additional days in which boating releases could be accommodated.

CI-32

In order to determine the actual flows needed to provide boating flows in the gorge, the FEIS should require a post-licensing study, in conjunction with AWA and other interested parties. The recommendation in Alternative 2 of two weekend release events should be subject to change depending on the outcome of the post-licensing study, including dates and hours for flow releases. All such release events would be coordinated to avoid conflicts with fishery and habitat management goals.

d) McKay Station

The DEIS refers to the settlement agreement between GNP and the Maine Professional River Outfitters approving the agreement's flow regime below McKay Station. Although the minimum flows set forth in the agreement are acceptable to private boaters, the agreement addresses the needs of commercial boaters, not the private boating community. More varied flows, however, would provide opportunities for private boaters with diverse skills to utilize the resource.

CI-33

Under the recommendation in the DEIS, flows are only provided for between 8am and 5pm, to provide optimal flows for commercial trips. Private boaters utilize this resource well past 5pm during summer months. In order to provide diverse flows for these users, the FEIS should require flows to be maintained at 1800 cfs by 5 pm until 9pm on weekdays, weekends and holidays throughout the whitewater season. These flows will provide several benefits. First, private boaters will be able to experience less crowded conditions, more diverse boating experiences and manageable river

CI-31 See section 4.8.3.1. The staff recommends that GNP consult with whitewater interest groups regarding appropriate flows for the recommended releases in the West Branch during two weekends in May.

CI-32 We are recommending that GNP notify AWA and local whitewater boating interests seven days in advance of planned spillage events during the month of May.

CI-33 As stated in section 4.8.1, GNP would provide minimum flows from McKay Station during daytime hours. GNP usually maintains flows at or above 1800 cfs throughout the year, therefore, evening flows may be reduced or varied. The reduced or varied evening flows would provide additional opportunities for less experienced paddlers or those desiring a diversified experience.

levels (particularly at the Cribworks). This flow will allow short evening runs on a very popular section of the river. The DEIS states that "increased minimum flows for recreation are not likely to attract significant new numbers of customers." (DEIS at 4-48.) This statement may be true for commercial rafting, but not for private boaters. AWA members, who reflect a dramatically growing segment of the recreational boating population on the West Branch, would be greatly attracted to these manageable flows.

CI-33 Cont

2. Replacement Power Costs for Flow Modifications

Scoping Document II stated that the DEIS would examine alternative source of replacement power to purchased power from Bangor-Hydro Electric Company, included energy conservation and other alternatives. Yet, the DEIS utterly fails to examine these alternatives in any reasonable degree of detail.

Squarely put, the issue is this: Bowater claims that the cost of replacing hydropower lost to year round flows in the Back Channel would be so costly that several paper machines which produced lightweight coated paper may be subject to closure, requiring the termination of 238 jobs. The cost estimate is based on purchased power from Bangor Hydro Electric at $83/MWh, for a total estimated cost of $900,000 to $1.8 million year over the proposed water use plan at a year round flow of 350cfs, and an increment from $1.4 to $2.6 million at a flow of 500cfs.

CI-34

Yet, the cost estimates used by Bowater/GNP are inflated. There are other power sources that could provide replacement electricity for less than half the cost estimated by Bowater and relied upon in the DEIS. FERC cannot balance power and non-power values with respect to the cost of flows in the Back Channel unless accurate information is obtained on the true least-cost source of replacement power. The DEIS simply fails to examine the least-cost alternative sources.

Energy Conservation

Energy conservation is a significant source of power available to utilities and large industrial facilities. Energy conservation is more than load management. It is a power source that can be obtained to avoid new power plant or hydroelectric construction; to avoid additional purchases of electricity; to meet growing demand; to bring off line existing power sources.

CI-35

The question of conserved power as a replacement source is not limited to regional electric grid planning or whether an industrial facility such as GNP is investing at all in conservation. The question is one of replacement power needs when examining a flow recommendation sought by intervenor organizations and expert federal resource agencies.

CI-34 The staff's analysis indicated that purchasing firm power from BHE is the least-cost source of alternative power. Table 2-9 of the FEIS shows that the cost of power production under the three alternatives would range between 34.1 mills/kWh under the Applicant's Proposal up to 38.67 mills/kWh under Alternative #1. We used a value of $73.92/MWh in our analysis, which includes purchases of energy and capacity. Based on these figures, the preferred Alternative Two (final recommendation) would have a cost of power about half that of the least-cost alternative.

CI-35 See response CI-4.

The amount of power that can be obtained through conservation or efficiency upgrades depends upon the current efficiency level of the industrial facility (or service territory, in the case of a utility) and avoided costs estimates. As explained in the attached affidavit of Paul Chernick, a key factor involved in assessing whether conserved power can be obtained in a cost-effective manner is the payback or "hurdle" rate used to estimate the time return on capital spent on the efficiency upgrade.

The evidence in the record in this proceeding indicates two key points:

* there is an enormous conserved power potential in the GNP facilities; and

* Bowater/GNP has failed to examine whether the efficiency potential could be captured to replace energy lost to flow improvements. Bowater/GNP greatly limits the amount of conserved power it chooses to obtain by requiring efficiency investments to pass an arbitrarily high payback rate which forecloses most of the cost-effective conserved power potential in the facilities. As a result, Bowater's claim that modernization will only result in increased electrical demand -- a claim repeated without analysis in the DEIS -- is incorrect.

CI-35
Cont

Amount of Conserved Power Potential

In 1985, when Great Northern sought to construct a new 40MW dam on the West Branch, expert testimony submitted by CLF indicated that the mills were so inefficient that as much power could be obtained at a fraction of the cost of the new dam if the company implemented an energy conservation program. In other words, conserved power was a viable, least-cost source of replacement to the proposed hydroelectric facility.[7] Expert testimony identified

[7] As Amory Lovins testified, "My analysis reveals that Great Northern has far more effective and higher-return investment opportunities than the Big "A" dam, and that these opportunities can meet the Company's present and long-term electrical needs at lower cost and higher reliability than the proposed dam. I shall show that the systematic and comprehensive use of proven, practical, cost-effective electricity-savings devices in Great Northern's mills...can save more electricity, at far lower cost, than Big "A" could provide. I believe that this "best-buys-first" approach can not only make it unnecessary and uneconomic to build the Big "A"; it can also improve Great Northern's competitiveness and profitability and hence contribute to the sound economic development of central Maine." Lovins Testimony at 6 (1985), excerpts of which are attached. Mr. Lovins' testimony was not rebutted successfully during those proceedings.

from 29.2 to 58.4 MW of conserved power potential at a cost of about 1 cent/kwh. (See Affidavit of Paul Chernick.) Bowater/GNP claims that it has invested in efficiency improvements at the East Millinocket mill, although as we have repeatedly pointed out, only about 6.5MW of power is identified as being captured. GNP has identified virtually no conserved power at the Millinocket mill.

CI-35 Cont

The overwhelming use of electricity by GNP is to drive electric motors making that end use one of the single largest opportunities for obtaining conserved power is installing variable speed drives on alternating current (AC) motors. (See Affidavit of Steven Buchsbaum, attached.) After reviewing the memorandum of Owen Merrill of GNP, one point is crystal clear: GNP has 320,000 horsepower of connected AC motor load. Only 4,200 horsepower of this AC motor load has variable speed drives -- about 1.5%. The remaining motor load represents a vast source of conserved power potential. By all accounts in the record, the amount of conserved power potential in the GNP facilities now vastly exceeds any power requirement for Back Channel flows. (See Affidavit of Steven Buchsbaum.)

The Question of Payback Rates

Determining the amount of the conserved power potential in the GNP facilities that is cost-effective to capture is dependent upon the payback criteria and costs of avoided power used; an investment is cost-effective if the energy saved pays for the investment in an acceptable period of time. If purchased power from Bangor-Hydro is the power source avoided through the conservation investment, then the avoided costs used in the calculation would be the cost of purchased power. We have repeatedly requested that FERC obtain information on the payback period used by Bowater/GNP; FERC has not obtained that information.

In the absence of specific information, we assume that Bowater/GNP is using a payback rate typical of other large industrial facilities, which is about 1-2 years. (See Affidavit of Paul Chernick.) Generally, corporations for internal purposes will not approve a capital investment in energy efficiency unless the cost of the investment can be recaptured in a brief period of time. The effect of these short payback periods leaves uncaptured substantial amounts of conserved power, cost-effective at a 3, 4 or 5 year payback period. Based on experience at other industrial facilities, it is likely that using a payback formula of even only four years, would capture at least 5% of the mills' electrical demand -- and more likely 10-20% of the demand, for more than is needed to not only implement a year round flow in the Back Channel, but to meet virtually all of the flow changes set forth in Alternative 1, including those GNP is willing to make in its proposed water use plan. (See Affidavit of Steven Buchsbaum.)

CI-36

Without information from GNP on payback criteria, it is not

CI-36 The staff is not able to comment on the financial criteria used by GNP in evaluating the feasibility of investing in conservation. We agree that longer analysis periods may be needed to capture all of the cost savings produced by a conservation project. GNP, operating as a private for-profit enterprise, would have a strong economic incentive to maximize savings from conservation and not waste electric power, particularly as it manufactures an energy-intensive product, one of whose major cost components is electric power. We agree that the proper economic approach to evaluating a conservation improvement is to compare the cost of making it with the value of the power saved as measured by the cost of obtaining it from the least-cost alternative. This is precisely the approach that the staff used in determining the annual net economic benefits of the four alternatives.

The reference to conservation as a "nonexclusionary" alternative to hydropower does not mean that conservation was not considered. Since the entire output from the two projects supplies only a portion of GNP's total annual power needs, the remaining needed power is obtained from sources that use fossil-fuels. As a result, conservation is used to displace higher-cost fossil fuel power. Conservation projects can be implemented in addition to obtaining power from a hydroelectric facility, as sufficient economic incentives would still exist to obtain conservation savings. This is particularly true where the least-cost power being displaced by conservation has a cost of $73.92/MWh. Since conservation is not an alternative to hydropower, the least-cost source for GNP in evaluating conservation projects is purchasing replacement power from BHE.

possible to assess accurately the cost of conserved power. Typically, though, conserved power can cost as little as $10 or $20/MWh. Even at a cost of $35 - $50/MWh, conserved power would be far less costly than purchased power from Bangor-Hydro. Equally important, these costs would not be incurred annually but rather only over the period of the payback -- 3, 5 or 7 years. If utilized, these source could replace lost power in the Back Channel at a cost at far less than half the estimate used by Bowater/GNP.

CI-36 Cont

The failure in the DEIS to examine energy conservation as a source of replacement power is troubling for several reasons. By not examining this power source, the DEIS is basing public resource decisions on inaccurate information. If accepted by the Commission, then FERC will have allowed the internal capital return requirements of a private corporation to control the decisionmaking process over an important public resource. FERC will be allowing an applicant to waste electricity through inefficient end use while claiming that it cannot afford to lose 2% of its current hydropower generation without severe socioeconomic impacts. Decisions on a public resource cannot be limited by a private corporations' internal capital investment formulas which waste electricity that could be captured cost-effectively. If GNP is allowed to waste electricity by maintaining a highly inefficient plant, then the hydropower produced from the GNP system is simply being wasted.

CI-37

Inaccurate Predictions of Effect of "Modernization"

The DEIS admits that energy conservation is a possible option for replacing lost power, but then rejects this alternative on the assumption that modernization results in higher energy costs. This assertion is flawed for several reasons. Bowater/GNP's discussion of energy conservation at the mills reflects the company's historic efficiency investments. These investments have been selective; the company has simply not attempted to capture vast amounts of untapped efficiency potential in the mills. In fact, it is likely that the overwhelming amount of conserved power potential at the mills remains wholly untapped. No trend can be drawn from the selective efficiency investments made by GNP, which excludes the bulk of the conserved power potential, are flawed; an accurate trend would need to be based on total treatment of the facility.[8] Moreover, a great deal of conservation potential is cost-effective without modernization and can be captured cost-effectively now. FERC is making decisions now, based on the current status of power needs and resource values. Finally, although Bowater has claimed that it will modernize, there is nothing in the record detailing what the company's modernization plans are, when it might modernize

CI-38

[8] GNP's overall demand for electricity has actually declined from 1.410 million MWh/yr in 1985 to 1.2 million MWh/yr in 1994. (1994 figure is prior to closure of the Millinocket grinder facility.)

CI-37 See response CI-36. The staff used current market-based financial parameters to conduct its evaluation; criteria specific to the applicant's likely source of funds were used since the applicant will be the one providing the capital to pay for the improvements.

CI-38 The staff identified five alternative power sources in the DEIS: improvements in the efficiency of existing hydropower generation, wind generation, reduction of conservation voltage, refuse-fueled generation, and fuel cells. In evaluating these alternatives, the staff considered the first three to be non-exclusionary because these sources have low marginal costs and, as such, would displace higher cost fossil fuel generation. As non-exclusionary resources, they are not considered to be reasonable alternatives to hydropower and therefore we eliminated them from the analysis. Refuse-fueled generation and fuel cells were rejected for both operational and environmental reasons (see section 2.0). The staff determined the only other power source currently available to GNP to be Bangor Hydro-Electric; GNP does not have access to wholesale power in NEPOOL.

The staff does not have evidence of large amounts of potential energy savings that could be obtained at GNP's mills. To the contrary, the applicant has submitted documentation describing the conservation measures they have implemented. As noted above, there are strong economic incentives for GNP to economize on energy use rather than waste it, particularly when energy is a major cost input. The staff finds that more conservation projects are likely to be found cost-effective if their savings are valued at the cost of obtaining replacement power from BHE, than if they are valued at the much lower cost of hydropower. We agree that conservation under some circumstance may be the least-cost source of power other than hydropower.

and how much of the plant will be modernized; there is no commitment by Bowater to actually invest in modernization.[9]

The DEIS also appears to accept GNP's view that any source of power that "does not burn fossil fuels" is "non-exclusionary" and therefore "eliminated from further analysis". (DEIS at 2-30.) The term "non-exclusionary" is not defined in the DEIS. The DEIS on the Lower Penobscot states that "non-exclusionary energy sources" are those that "would be constructed or implemented in addition to hydropower rather than replace hydropower, and vice versa, because all such energy sources have low marginal costs and would be used to displace higher cost fossil fueled generation rather than to displace each other in actual practice. Nonexclusionary resources, therefore, are not reasonable alternatives to each other..." (DEIS, Lower Penobscot River Basin, FERC/DEIS-0082, at 2-25.)

This explanation relies upon an inaccurate assumption and also asks the wrong question. The inaccurate assumption is that nonexclusionary sources will be captured in addition to hydropower development. GNP has proven that this assumption is not true; the fact is that vast amounts of conserved power exist untapped in the GNP system because Bowater enforces an arbitrarily high payback rate. As in the case of the Big A Dam proposal, energy conservation, which would be characterized as a "nonexclusionary resource" under this definition, was not captured in addition to hydropower production. (See attached affidavits of Amory Lovins.)

CI-38
Cont

More fundamentally, however, FERC's position is based on the wrong question. The question with regard to the Back Channel is whether the costs estimated by GNP for replacement power are accurate as a least-cost source of power. We submit that they are not, that the enormous conserved power potential provides a much less expensive source of replacement power. The question is, therefore, is not simply whether hydropower can be displaced by conservation, but whether conservation is the least-cost source of power <u>other</u> than hydropower, and whether it is cost-effective to capture the conserved power based on fairer payback periods. Conservation may displace oil in some cases; it may displace purchased power in other cases; it may displace hydropower in some cases. But when it is cost-effective, it is the least cost source.

<u>Other Power Sources</u>

Much has and is happening in the wholesale and retail power markets in the four years since GNP estimated that purchased power

[9] Modernization, of course, is the fastest route to substantial employment reductions due to intensive reliance on mechanization rather than labor, as can be seen from the example of modernized pulp and paper plants in the US, as well as other manufacturing sectors such as steel and automobiles.

CI-38 Cont

would cost $83/MWh. Currently, market costs are in the $30 for short term power and $50 for long term power. (See Affidavit of Paul Chernick.) There is no evidence that GNP has attempted to capture these benefits.

Grinder Closure

In the summer of 1994, Bowater/GNP closed its grinder pulp facility at the Millinocket mill. This facility had been in use for 90 years. The diversion of water out of the Back Channel and into the Millinocket Mill was done to provide hydromechanical power to turn these now closed grindstones. In the past decades, electric motor/generators were installed to turn the grindstones and, when not in use, to generate electricity. As best as we can determine, the closed grindstone pulp facility consumed some 20% of all of GNP's total electrical needs.

CI-39

Clearly, the closure of the grindstones raises a host of fundamental questions with respect to flows in the Back Channel. GNP has reduced its power demand by 20% and, instead of consuming electricity at this facility, is now producing electricity. On August 19, 1994, the Conservation Intervenors filed a Motion with FERC raising questions about this closure and its implications for issues under review in the DEIS. FERC has not acted upon our motion. On September 2, 1994, GNP responded to our motion but did not address any of the substantive points or resolve any of the questions raised by the motion and rather invited comments on this issue during the DEIS process.

A 20% reduction in overall demand, with increased generation, clearly affects the issues surrounding the ability and costs to GNP of provided year round flows in the Back Channel and GNP's need for power. The closure could provide more than sufficient water to meet the requested flow needs for fisheries, recreation and cultural needs in the Back Channel, which can now be diverted from the Millinocket Mill over Stone Dam at no additional cost to the applicant. The DEIS itself fails to incorporate this major and fundamental change in the GNP system. Instead, the DEIS incorrectly and inappropriately treats the grinder facility as if it were still on line. (DEIS at 1-3, 2-3, 2-6, 2-10.) By treating the grinder facility as if it were still on line, the DEIS is based on a fundamentally flawed assumption which affects the heart of many issues in this proceeding. The FEIS must amend the DEIS to reflect the changes wrought by the closure of the Millinocket grinder facility and examine the impact of the closure on these issues. Without an accurate analysis of this closure, the DEIS is fundamentally flawed.

3. Socioeconomic Implications

CI-40

The DEIS recommends against implementation of certain environmental and recreational improvements, most prominently year

CI-39 Closure of the Millinocket grinder room has not released water flows for non-generational purposes since the existing synchronous grinder motors are now used to generate electric power for the modernized East Millinocket grinder room. The staff does not consider these changes in operations to be either major or fundamental, nor is the analysis flawed because of them.

The re-diversion of water from the Millinocket mill into the Back Channel would impose a power loss on GNP. The existing turbines formerly produced power that was used on-site for the grinder pulp facility. These turbines are still producing the same amount of power, but it is now used in the modernized East Millinocket Grinder room. GNP's need for hydroelectric power has not declined as you stated. The diversion of water into the Back Channel is not cost-free, and the resulting decrease in power production should be valued at the cost of obtaining it from the least-cost alternative source. This is the approach that was used in our economic analysis.

CI-40 The staff agrees that the preferred Alternative Two (final recommendation) would not adversely affect the competitive position of the mills, and would not translate into a significant increase in the cost of production at the two mills. The staff also concludes that the negative annual net benefiits under Alternative One would be large enough such that the competitiveness of the two mills is likely to be adversely affected.

round flows in the Back Channel, because of the claimed impact on employment in the region and Bowater's threat not to invest in GNP if flows are provided in the Back Channel. (DEIS at 5-15.)

No parties, including our organizations, support measures which would cause such dire employment reductions. But neither is it acceptable or responsible for a federal licensing agency to accept the unsubstantiated threats of this company. Bowater/GNP, although willing to play the "jobs card," has been unwilling to provide information to support its claims of 238 job losses should flows be restored to the Back Channel. Rather, common sense and the history of this company tell that it is questionable whether flow changes would indeed cause such dire socioeconomic impacts:

CI-40 Cont

* A flow of 350cfs in the Back Channel would create power losses equivalent to 1.8% of GNP's total electrical demand and 3% of GNP's total hydropower production. This hardly seems sufficient to require the loss of 15-20% of GNP workers -- or to forestall any planned investments by Bowater in the GNP facilities. Clearly, as noted below, there is abundant conservation potential in the mill systems to provide 2% more power at a fraction of the cost used by GNP to estimate job losses and relied upon by FERC.

* If these machines are so marginal, then it is most likely that they will be shut down by Bowater, for reasons having nothing to do with hydroelectric generation. (See Affidavit of Paul Chernick.)

* If Bowater/GNP is devoting low cost hydropower to the most marginal machines, then the company is failing to maximize the profitability of its best machines. In other words, a rational manager would devote the least cost power source to the most profitable machines; it would not be economically rationale to send high cost power to machines with high profit margins and low cost hydropower to machines with low profit margins. (See Affidavit of Paul Chernick.)

It is even more puzzling that Bowater would claim that the need to replace 2% of hydropower would jeopardize a claimed planned investment in the mills of $600 million. Bowater claims that the reason it purchased the Great Northern assets from Georgia-Pacific was to diversify its product mix from dominant reliance on newsprint to more profitable products such as lightweight coated magazine paper. For that reason, it spent $322 million to acquire the Millinocket and East Millinocket mills; the largest privately used hydropower system in the United States; and 2.1 million acres of Maine land. Bowater has already proceeded to invest over $60 million in a deinking plant (with State subsidized loans) and, in January 1995 announced plans to invest an additional $3.8 million

in a peroxide bleaching system.

It defies common sense to claim that an increase of $1-2 million in energy costs -- less than 1% of the GNP asset purchase price -- would cause Bowater to back off from its billion dollar strategic acquisition and investment plan for GNP.

CI-40 Cont

There is no viable evidence supporting claimed job losses

The "evidence" that (i) existing, marginal paper machines will be closed due to flow changes and (ii) that Bowater may refuse to follow through on planned investments in the mills consists of the following:

* Proprietary, "confidential" information, known only to Bowater/GNP, information not in FERC's possession and not supplied to any parties;

* Excerpts -- selected by Bowater -- from a proprietary consultant report paid for by Bowater/GNP (Jaakko-Poyry Consulting, Inc.) regarding overall costs of productions at GNP facilities; GNP has refused to even supply FERC or parties to this docket with the full report.

The DEIS admits that "Because GNP's data about corporate economic status is proprietary, we could not verify GNP's estimates of the economic effect of production cutbacks." (DEIS at 5-15.) The DEIS also states that:

CI-41

> GNP contends that flows in excess of 50cfs in the Back Channel would result in the loss of approximately 238 jobs. (GNP, 1991b). We have no way to independently evaluate this estimate, but we assume that it is a high end estimate. Using the Maine Department of Labor employment multiplier, the indirect effect of these lost jobs is 283 jobs...

(DEIS at 4-72, emphases added.) Yet, the DEIS later inconsistently adopts Bowater/GNP contention that 238 mill and 1200 regional jobs could be lost. (DEIS at 5-15.)

FERC did request that Bowater/GNP substantiate its assertions that 238 jobs would be lost at the lightweight coated paper complex in Additional Information Request 5 of October 28, 1993. AIR 5 asked for specific information: the operating costs for paper machines 7 and 8 and the blade coater at Millinocket; current and anticipated profitability of these machines; and current and anticipated profitability of the Millinocket pulp and paper operations compared to other Bowater facilities. Bowater/GNP refused to supply answers to any of these questions. Rather, in its response to AIR 5, the company submitted selected excerpts from a report by its paid consultant. These excerpts were intended to

CI-41 The staff carefully examined the evidence submitted by GNP and determined it was sufficient to conclude that, relative to other producers, GNP's costs are high and that further cost increases could reduce the company's competitiveness. The staff trusted GNP's estimate of job losses as a worst case estimate (as detailed in Exhibit H). The staff revised the multiplier effects (see section 5.3.5).

CI-41 Cont

show that GNP experiences higher costs in the aggregate than other mills in North America. No information specific to the lightweight coated paper machines as requested in AIR 5 was provided. Bowater/GNP refused to even provide the full Jaakko-Poyry report to the Commission or intervenors under a claim of confidentiality. (See Letter from Thomas E. Mark to Daniel L. Sosland, February 1, 1994 at 2: the J-P document "is a highly sensitive business analysis that was prepared for Bowater under a condition of confidentiality. It has not been made available to the public, the Commission or its consultants. Due to its confidential and sensitive nature, Great Northern will not provide copies to CLF.") General information on GNP's competitive position does not begin to address issues related to the threat to close specific, individual machines due to a 2% increase in power costs.

CI-42

The DEIS also states that "our assessment of the paper industry confirms GNP's contention that its present costs are high and that further cost increases could reduce the company's competitiveness." (Ibid.) No citation to any portion of the record is made for this assessment and no analysis or summary of FERC staff's assessment is provided. Any independent staff assessment of employment losses should be provided together with source material. If the assessment referred to are excerpts from the Jaakko-Poyry report, then the assessment is fundamentally flawed. It is not appropriate and is, we believe, a violation of NEPA and the Federal Power Act for FERC to base a resource decision on confidential information to which FERC has not had access.

FERC must do more than simply accept and repeat Bowater's threats. The DEIS uncritically accepts the assertions of the applicant that economic doom could be caused by implementing year round flows in the Back Channel. These assertions have been accepted equally uncritically by the local communities[10] and business interests which depend upon and have transactions with Bowater/GNP. Bowater/GNP's forecast of economic doom do not pass the straight face test and the DEIS is faulty for relying on them.

4. Resource Values

CI-43

In reviewing each alternative and in finalizing

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[10] At the public hearing on the DEIS, the official representative of the Town of Millinocket, a party to this proceeding, made a statement regarding conversations with staff over the Town's views of the socioeconomic implications of year round flows in the Back Channel. Such conversations from a party consistent inappropriate ex parte contacts. To the extent that these conversations took place, FERC should enumerate the dates and contents of such conversations and provide an opportunity for response by any other party to this proceeding, in order to ensure that the FEIS is fairly prepared.

CI-42 Cont

CI-42 Staff is not aware of any ex parte communications with any party to this proceeding. All communications have been made through official and open channels available to all parties.

CI-43 The staff's resource balancing in Chapter 5.0 of the FEIS notes the recreational benefits that would accompany the increase in recreational opportunities at the two projects. GNP's survey-based information was the most accurate data available to us, and our knowledge of other recreational use studies indicated to us that its values were appropriate for use in the FEIS. We conclude in Section 4.8.1.1 that neither commercial nor local private whitewater boating groups expressed interest in expanding whitewater boating opportunities in Back Channel and that high-quality recreational fishing waters are abundant in the project region. We also conclude that increasing flows in Millinocket Stream and Back Channel to make it navigable could jeopardize other environmental enhancements and would not result in any significant benefits to recreational fishery resources.

recommendations, the DEIS fails to model accurately the economic value of increased fishing and recreational opportunities in the West Branch. (DEIS at §4.12.1.1.) The DEIS relies on GNP survey for its conclusions on recreational demand and economic values. As pointed out in our Letter of Deficiency, Motion to Intervene and proposed Terms and Conditions, we believe that GNP's figures are low in assessing how fishing and whitewater recreation on the West Branch benefits the local economy. The data relied upon is limited to commercial rafting. Commercial rafting operations represent only one section of the boating public. Private boaters represent a users segment which make multiple trips to the area, sometimes weekly throughout the boating season. In fact, most trips on the Penobscot are day trips. An accurate assessment of the economic value of these users must be included in the economic estimates.

CI-43 Cont

As we have repeatedly pointed out since our February 1992 filing, the economic potential of controlled, additional recreational resource in the Back Channel and elsewhere is high. The DEIS fails to consider the potential economic value of these enhancements to the regional and state economies.

5. Water Use Model

As the DEIS notes, our coalition submitted extensive criticisms of the Bowater/GNP water use model. Our criticisms go to three general main concerns. First, that the claim by GNP that there is insufficient water quantity in the system is erroneous and that, in fact, the model is too simplistic to accurately predict the implications of various flow changes. Second, that the model excluded methods of forecasting energy losses, making FERC and the parties unable to substantiate Bowater/GNP's estimates of power losses. Third, that by excluding upper basins which are operated so as to provide water quantities to support the proposed and existing operations of the Ripogenus and Penobscot Mills projects, environmental impacts upstream directly created by these project operations are absent from basin water models.[11]

CI-44

We agree with the conclusions set forth in the DEIS that the question of fulfilling agency and intervenor flow requests is not limited by water availability or quantity. In doing so, the DEIS rejects the applicant's position that water quantity constrains additional flow improvements. However, we disagree with the conclusions in the DEIS that GNP's water use model is appropriate for evaluating streamflow issues at the Ripogenus and Penobscot Mills projects because the model developed by GNP is based on

[11] The Conservation Coalition provided a discussion of other deficiencies of the GNP water use model during the scoping process for the EIS. FERC responded to some of these criticisms in Appendix D of the DEIS. We have responded to the DEIS' description of our concerns in Attachment B.

CI-44 Opinion noted. We provide responses to specific comments on the water use model below.

CI-44 Cont

problematic assumptions and is too simplistic to represent the complex system being studied. (DEIS §4.2.) Given the scale and scope of the project, and the benefits that would accrue to all parties from optimizing operational flexibility, the existing model cannot be used to make long-term resource decisions.

* The model is intrinsically biased toward power production.

CI-45

The model developed by the GNP is a simulation of the way that the hydropower system has been managed in past years. GNP's system has historically been operated to maximize power for mill operations, and GNP used a historically derived rule curve to determine reservoir operations for this purpose. In this way, the assumptions which underlie the historic rule curve are embedded in the model. Maximizing energy production is a key element of the model. In effect the model answers the question "What opportunities for changes in water use exist given the current energy production management plan," instead of "What opportunities for changes in water use exist independent of any initial value judgments?"

* The model excludes reservoirs other than North Twin and Ripogenus and is therefore incapable of evaluating the cumulative effects of the project on the basin.

GNP's operations on the upper Penobscot River involve the operation of multiple impoundments and generating systems. Yet, GNP's water use model represents the entire system as only three elements. This approach a priori forecloses upon undetermined and potentially significant operational flexibility. In order to model and route flows through the basin, the upstream reservoirs should be considered individually so that it is possible to determine how changes in the management of these reservoirs could influence the basin-wide water balance.

CI-46

GNP dismisses the need to more accurately portray the system by asserting that upstream impoundments have no "significant storage". Yet GNP provides no explanation of what constitutes "significant storage." The upstream impoundments in question represent nearly 20% of the total storage of the system. (DEIS at D-27.) We assert that this storage is "significant." The DEIS should address this issue. Additionally, GNP asserts that the operation of the upstream impoundments is "unaffected by downstream processes." This claim requires explanation. If the operation of the Ripogenus impoundment were changed, there would certainly be opportunities to change the operation of, and therefore the environmental effects of the project on, the upstream ponds.

FERC's acceptance of GNP's assertion that upstream impoundments need not be studied or modelled is troubling. The scope of this project is very significant and the precedent set by

CI-45 We disagree that GNP's water use model is biased toward power production. As we used the model for evaluation of alternatives in the EIS, energy production was not a factor at all. The model is simply a water-accounting model, developed from historical impoundment elevations and flows. There is nothing inherent in the model that prevents it from being used to evaluate any flow and lake level management alternatives.

CI-46 The upper storage projects are included in GNP's water use model and the alternatives evaluated with that model, including additional model runs requested of GNP by FERC staff. These projects are not up for relicensing now but are included in the water use model as a combined input. This input was kept constant in developing the water use plan although input could be varied in the model. We saw no need to do this however, since no one has suggested alternative management schemes for the upstream projects that would provide additional downstream benefits. In addition, GNP has agreed to inclusion of a reopener to allow modification of the water use plan, should analysis of the upper projects during relicensing result in unanticipated findings that desired changes could be made. We recommend the orders for both the Ripogenus and Penobscot Mills projects include an article containing a reopener clause for consideration of changes in water use in the West Branch when the upper storage projects are evaluated for relicensing.

this decision will be important. An incomplete study is not acceptable. Certainly GNP has the data necessary to include additional elements of the complex system in its model. These elements should be included individually and their worth should be quantitatively evaluated.

CI-46 Cont

In the DEIS, FERC indicates that these system elements need not be explicitly considered because they are not included in the current license proceedings. In fact, as explained by the Conservation Coalition in many previous filings, FERC has the authority and the responsibility to review the cumulative effects of the entire system.

* The model uses an inadequate timestep.

The weekly timestep used in GNP's model does not adequately represent system operations. The record indicates that there is often a tremendous amount of variability over the course of a week or day that would affect GNP's ability to provide certain benefits.

Meeting a minimum flow average over the course of a week is no guarantee that the minimum is met during every day of that week. For example, in 1984 within the week from April 13 to April 19 the "Natural Inflow" at Ripogenus ranged from 5,062 cfs to 22,777 cfs, a range of 17,715 cfs. The average for the week is 10,729 cfs. The large range of flows is lost in the average. It would, therefore, be impossible to tell from such an average whether there were significant low flow days or floods during that week. Without at least a daily time step -- which is commonly used in modelling operations such as this -- it is not possible to accurately predict what benefits are provided or compromised at any given time.

CI-47

Knowledge of daily fluctuations may be critical to the evaluation of some aquatic resource issues. The goal of sustaining minimum flows is to provide habitat in which aquatic species can survive. If minimum flows are sustained only on average and not continuously, this goal can not be achieved. In effect, modeling minimum flows on a weekly timestep does not ensure that those flows can be met continuously and, thus, severely undermines the goal of the effort. Additionally, since white water boating usually takes place for several hours a day, weekly average data is not sufficient for evaluating the impacts of various flow alternatives on this activity.

In the DEIS, FERC stated that "Because GNP operates its system for continuous production rather than for peaking operation, large changes in flow within a day do not occur due to project operation and thus do not require simulation to determine water usage." (DEIS at D-27.) This statement is misleading. Large changes in flow which occur within a week or within a day may not be due to GNP's operation, but they occur nevertheless and should influence GNP's operations. Furthermore, the system is already being managed

CI-47 We disagree that GNP's model uses an inadequate timestep. We used the model to evaluate whether there was sufficient water storage and flow within the river system to provide various flow and lake level enhancements on a seasonal to annual basis. The smaller timesteps you suggest would allow evaluation of within week and diurnal changes in flows, but this is not necessary for the broad flow-related alternatives we evaluated in the EIS.

for variation within each day of week since there are diurnal fluctuations in releases below McKay Station.

CI-47 Cont

The water use model should operate on an hourly or daily timestep. The coarse weekly time step does not resolve existing variabilities on the time scale of a day and does not permit proper evaluation of optimization measures which could allow for appropriate enhancement flows. Certainly GNP has all of the data necessary to make this important change in the model.

* The DEIS does not adequately evaluate the accuracy of the GNP water use model.

CI-48

Nowhere in the DEIS is the accuracy of GNP's water use model evaluated. The DEIS should include a comparison of model predicted power generation and actual power generation for every time period modeled, a discussion of model error and accuracy, and a complete sensitivity analysis. Without such an evaluation, model results can not be responsibly accepted because there is no proof that the scenario being studied actually accurately portrays the system. If, for instance, the model underpredicts power generation, then the model results are seriously misleading and there is yet undiscovered operational flexibility in the system. Applicant estimates of energy losses at the Back Channel alone vary by at least 10%. (See AIR response 4 (at 28), which indicates that energy losses at Stone Dam approximate 22,559 MWh/yr; Penobscot Mills application states that the losses would be 20,800 MWh/yr, about 10% less.)

For these reasons, the water use model developed by GNP does not provide an adequate basis on which to make long-term resource decisions.

IV. Water Quality: Toxins

CI-49

The DEIS acknowledges that elevated levels of mercury exist in project waters but then concludes, mirroring the position of the applicant, that "all available information leads us to conclude that project operations probably are not the cause of elevated mercury concentrations." (DEIS at 4-11.) The DEIS's analysis and conclusions are not supported and in fact are contrary to data in the record.

CI-50

* The application treats elevated mercury levels in sediment at Dolby Pond as not significant -- although these levels are almost 5 times greater than in control reference lakes. (See Penobscot Mills Application, Vol. XIII, § 8). The DEIS fails to acknowledge this anomaly and fails to review obvious links between hydropower operations and elevated sediment levels. For example, the applicant's mills and other operations likely emitted mercury as part of its industrial processes. The hydroelectric reservoir created at Dolby Pond would be the immediate and obvious sediment

CI-48 We did not use the water used model to predict power generation or losses of generation under various alternatives.

CI-49 Elevated levels of mercury were only found in the sediments of Dolby pond (which does not experience periodic draw-downs) and in Lake Trout in the draw-down reservoirs. All other samples (sediments, water column and tissues of mussels and other fish) were similar between project waters and control lakes. Statistical tests were conducted for top predatory species since bioaccumulation would be expected for these higher organisms. After adjusting the data for differences in fish length, significantly higher mercury concentrations in draw-down reservoirs were found for Lake Trout between draw-down and non-draw-down lakes using Scheffe's Multiple Comparison test. However, because similar mercury concentrations were found for other predatory fish, bottom feeding fish, and freshwater mussels between project lakes and reference lakes, we concluded that the higher concentrations in Lake Trout was not related to reservoir draw-down. Due to Lake Trout's top predator status and the abundance of rainbow smelt prey in the project impoundments we agreed with GNP's explanation that the higher concentrations in the Lake trout in project water relative to control lakes was due to heavy predation on rainbow smelt.

CI-50 Higher levels of mercury in Dolby pond sediments are probably the result of historic discharges from the mill operations (which discharges into the upper portion of the Dolby impoundment) and not a result of the fluctuating water levels in the reservoir. Controls of mercury concentrations in the mill's effluent is established in the NPDES permitting system.

CI-50 Cont

trap for any mercury laden effluent from the mill.

CI-51

* The DEIS fails to acknowledge and examine errors in study protocols. For example, the applicant did not sample the number and size of fish as outlined in the original mercury study design. The smaller sample makes it more difficult to detect differences between reservoirs and control lakes. At Tables 3-7 and 4-3 the DEIS compares average mercury concentrations found in fish from reservoirs and reference lakes. Comparisons based on lake averages have questionable validity as it is well known that mercury bioaccumulation in fish is related to the size of the fish. The DEIS never make the necessary fish size to mercury fish tissue concentration adjustments, considered a standard protocol for any such comparisons. When Terry Haines of the US FWS made such a size adjustment by weight, the results show statistically higher mercury levels in the impoundments compared to control lakes for lake trout and smelt. (Letter of 12/30/92 from T. Haines to K. Kimball.)

CI-52

Protocol errors call into question mercury levels in sampled waters reported in these applications. Again, when reviewed in an independent analysis by Terry Haines of the USFWS, an acknowledged expert in mercury, Dr. Haines concluded that the GNP/Bowater "mercury data in water are analytical artifacts, which result because trace metal-free collection and analysis protocols were not used." The DEIS fails to acknowledge such data inadequacies.

CI-53

* The DEIS accepts almost verbatim the applicant's conclusion that project operations are not the cause of elevated mercury concentrations. (DEIS at page 4-11.) In doing so, the DEIS ignores the rich scientific literature base which shows that comparative studies of mercury bioaccumulation between lakes should be based on top predators. Organisms lower on the food chain, such as the mussel, are inappropriate for such purposes. The applicant has provided data on top predatory game fish, the lake trout. Mercury levels in lake trout from drawdown reservoirs are statistically much higher than from similar fish from control lakes. This was verified by independent, recognized experts and been reported by both our coalition and natural resource agencies. The same holds for rainbow smelt, a species intermediate on the food chain and the principal forage species for lake trout.

The absence of significant differences of mercury levels in species low on the food chain, such as the white sucker and mussel, has little bearing on the question of the contribution of hydropower operations to mercury contamination as it is well known that mercury which bioaccumulates will likely not show such differences at lower levels in the food chain. Similarly in previous filings the US Fish and Wildlife Service has shown that in fish eating birds, such as the endangered species the bald eagle, mercury levels in both feather and blood samples of eaglets within the project area exceeded mean levels reported for other lacustrine nesting eagles in Maine and for other parts of the country. It is

CI-51 The number and types of fish outlined in the study plan was the target for the study. We recognize that field conditions (i.e., the type and number of fish available) ultimately dictate the number and suite of species that are included in testing of this nature.

GNP's study included adjustments based on fish size for the statistical tests with predatory fish. This analysis indicated that mercury concentrations were significantly higher in draw-down reservoirs for Lake Trout.

CI-52 The field and laboratory methods used in the GNP study were developed in consultation with the resources agencies involved with the project, including the detection limits for the various media to be tested.

CI-53 The selection of fish species (predatory, forage, and bottom feeders), invertebrates (mussels), sediment and the water column was developed in consultation with the resources agencies involved with the project.

Statistically higher levels of mercury were found in Lake Trout in draw-down reservoirs (approximately 2.5 times higher). However, given that there were no differences in the mercury concentrations in mussels, sediment, and tissues of bottom feeding fish species, project operations do not appear to be the cause of the higher levels in Lake Trout. Differences in mercury concentrations in rainbow smelt were not evident in the GNP study, and you presented no quantitative results indicating that size adjusted rainbow smelt concentrations were statistically higher in project waters.

CI-53 Cont

also well known that reservoir operations greatly accelerate the bioaccumulation of mercury, particularly in newer reservoirs.

The DEIS, while relying on the conclusion that there is no reservoir connection to elevated mercury levels, then attempts to rely on state ordered studies requirements. (Table 5-6, 5-7, and 5-8). These studies, however, are not intended to address the specific issue of whether the GNP hydropower operations contribute to elevated mercury levels in impoundment waters. The mercury studies requested by the State:

* only require the applicant to "cooperate in a study to be conducted by the Department and the Environmental Protection Agency to determine the interrelationship and impacts of atmospheric deposition and water level fluctuations on concentrations of mercury, cadmium, lead and other metals on aquatic life in the project waters." (ME DEP 401 Water Quality Certification at page 18). This condition shifts the responsibility for determining the contribution of hydropower operations from GNP, where it properly belongs, to the State. It leaves unanswered what will happen if the State does not find the moneys needed to conduct such studies. Most importantly, the potential study relies in part on the EPA and State of Maine Environmental Monitoring and Assessment Program (EMAP) -- which EPA has acknowledges was not designed to answer the question of whether reservoir drawdowns enhance the rate of bioaccumulation of mercury.

CI-54

In short, there is substantial indicia in the record that mercury levels in top predators in hydropower impoundments exhibit elevated mercury levels compared to non-hydropower control reservoirs. The DEIS fails to examine the link between hydropower operations and elevated mercury levels. The FEIS and final licenses should be conditioned upon the filing within five months after the date of issuance of the license with the Commission of a plan to analyze the severity of the mercury problem in a predatory game fish, the bald eagle and the common loon in their reservoirs and riverine stretches downstream of the reservoirs that are part of the West Branch of the Penobscot. The plan should be designed by an independent group of mercury experts agreed to by FERC, the US Fish & Wildlife Service, the Penobscot Indian Nation, Maine DEP and Maine DIFW. The plan shall include a description of species and the desired size of the specimens to be sampled and the analytical methods used. All sampling protocol should meet US EPA and US Fish & Wildlife Service quality control and assurance criteria for mercury testing. The study plan should be designed to determine the role reservoir operations have on the mobility and bioaccumulation of mercury in the West Branch as influenced by the GNP/Bowater water use plan; whether human health is at risk; and whether the reproductive success of bald eagles and loons which are predatory fish eaters are at risk from mercury contamination.

The mercury study should be completed within five years

CI-54 It is true that the 401 WQC study stipulated for the Penobscot project only requires cooperation with studies to determine the interrelationships and impacts of atmospheric deposition and water level fluctuation on concentrations of metals. However, the 401 WQC studies for the Ripogenus projects also requires that the applicant "conduct a study similar in scope to that conducted by the applicant for Millinocket Lake in 1992 to assess mercury concentrations in aquatic life in the Ripogenus impoundment and the West Branch.... A work plan and proposed schedule for the study shall be submitted to the Commission [FERC] for its review and approval within 90 days of the effective date of this certification". Therefore, additional studies designed to investigate the effects of periodic draw-downs on mercury accumulation will be conducted in the project area.

The cooperation with the atmospheric deposition study and the additional study to be conducted in the Ripogenus project waters should be sufficient to further investigate whether fluctuating reservoir levels are related to bioaccumulation in fish. If the state does not fund the atmospheric study, the mercury contamination study in the Ripogenus project water will still be conducted at GNP's expense.

Neither the record for the Ripogenus and Penobscot Mills projects nor the scientific literature contain substantial evidence linking hydroelectric reservoirs with increased mercury levels. Although the potential link is currently unproven, additional research has been adequately mandated by the 401 WQC for both projects.

However, we are not requiring that terrestrial wildlife be studied under either of the plans. As we stated in the DEIS, there is no conclusive evidence to date that the fecundity of the eagle populations at the Ripogenus and Penobscot Mills projects is affected by project operations. No data is currently available in the record indicated that project operation could affect the reproductive success of the common loon.

CI-54 Cont

following relicensing. Provisions in the FEIS and license should specifically provide for changes in reservoir operations if the mercury study concludes that they need to be altered to reduce any verified mercury contamination problems by the study.

V. Wetlands

CI-55

Although the DEIS acknowledges that the applicant's proposed operations will degrade wetlands in project areas, the DEIS fails to adequately estimate the correct number of wetlands impacted by the proposed operations. The DEIS also fails to specify the means by which wetlands mitigation will be implemented with sufficient certainty.

CI-56

In describing the number of wetlands impacted by proposed project operations, the DEIS adopts verbatim without any apparent additional review the applicant's estimates of acres of wetlands detrimentally impacted.[12] The DEIS fails to acknowledge that the acreage estimated by the applicant represents only marginal wetlands which have survived a regime of extensive annual drawdowns for decades. Annual drawdowns, however, expose vegetation to desiccation along much larger portions of the shoreline than would occur under non-fluctuating conditions. During reflooding, these drawdowns resuspend and winnow away the finer sediments that provide more suitable substrate for wetland vegetation. Fluctuations reduce the diversity and quality of existing wetland communities and prevent the establishment of wetland vegetation in other areas now lacking it and therefore affect far more wetlands acres than estimated by the applicant and accepted by the DEIS.

The extensive impact of large drawdowns on wetlands has been recognized and documented in other licensing proceedings now underway in northern Maine. Central Maine Power Company's study on the Brassau Reservoir, which has a similar size and annual drawdown (31 feet) as the reservoirs in these licensings. In its report "Monitoring and Assessment of Lake Level Fluctuation Effects on Fish, Wildlife and Wetland Resources at Brassau Reservoir" (1994), CMP recognized that major annual drawdowns diminish wetland development; cause scouring, freezing and desiccation; reduce waterfowl and furbearers due to nest flooding, dewatering and

[12] The DEIS concludes that there are only 1,251 acres of wetlands associated with the Ripogenus impoundment, 296 acres with the North Twin Reservoir and 709 acres with the Millinocket Lake (DEIS at Section 3.6). The DEIS then narrows the scope of affected acres of wetlands by arbitrarily estimating that 20% of the Ripogenus wetlands, or 250 acres, are at least hydrologically dependent on impoundment levels. The DEIS is even more vague about the number of acres of wetlands impacted in the North Twin and Millinocket Reservoirs due to annual water drawdowns. (DEIS at Section 4.5)

CI-55 Our estimate of the acreage of potentially impacted wetlands at Ripogenus in the DEIS was based on data presented by the applicant in Volume II of the Ripogenus Project license application and from a site visit in August 1993. No other data have been presented to date by the applicant or the intervenors that would refute these figures. The FEIS includes an estimate of the quantity of affected shoreline wetlands at North Twin.

The means and costs of the wetlands enhancements were presented as part of the record in response to AIR #2, October 28, 1993. We subsequently determined that this information was sufficient to make decisions concerning the enhancements.

CI-56 The wetlands acreages presented in the DEIS, i.e., 1,251 acres at Ripogenus, 296 acres at North Twin, and 709 acres at Millinocket Lake, are the total acreages of wetlands at each of the reservoirs, including both affected and unaffected wetlands.

There is no data currently existing in the record that suggests more wetlands are affected by impoundment fluctuations at the projects than has been indicated by the applicant and also observed by Staff during a field visit in August 1993.

CI-56 Cont

increased predation; and kill benthic organisms. The kinds of causal factors recognized as severely impacting wetlands on Brassau Reservoir are treated as virtually non-existent by the DEIS on the Upper Penobscot River wetlands.

CI-57

The DEIS fails to address questions over the scope of wetlands impacts in the data submitted by the applicant. The US FWS has questioned the company's wetland calculations and assumptions in numerous filings. Far more wetlands would exist in project waters with a less dramatic drawdown regime. (See Conservation Intervenors Motion to Intervene, August 20, 1992, at 25-28.) The DEIS fails to document how it determined that 80% of the Ripogenus Impoundment's 1,251 acres of wetlands are hydrologically independent of the reservoir and therefore not impacted by the extensive annual drawdowns experienced annually. Similarly, the DEIS fails to provide evidence as to how the DEIS calculated which wetlands on Millinocket Lake and North Twin Reservoir are and are not impacted by annual drawdowns.

CI-58

The DEIS (at 5-10) boldly goes even further to point out that the Alternative 1 wetland mitigation package of approximately 380 acres (at 5-9) would be in excess of those negatively impacted by the drawdowns, and on this basis eliminates the wetlands mitigation recommendation set forth in Alternative One. The assumption that 380 acres would be sufficient wetland mitigation is too low. Such conclusions are neither warranted nor documented; they need to be corrected and addressed in the FEIS.

CI-59

The DEIS accepts the development of 280 acres of wetlands at Black Pond, Deep Cove East and West as providing approximately 1:1 mitigation. At the same time, the DEIS recognizes that the necessary federal and state permits may not even be obtained to create these "mitigated wetlands." (DEIS at 4-40.) If the necessary permits are not obtained, the DEIS is unclear as to what provisions should be implemented to ensure that an adequate wetland mitigation is accomplished.

CI-60

The FEIS needs correct the defects in the DEIS by: (i) seriously considering modifications to water level fluctuations to better manage project wetlands; (ii) developing more appropriate estimates of the amount of acres of wetlands impacted and create a more representative wetland mitigation package; and (iii) reviewing potential off-site wetland mitigation, including wetland and buffer zone protection around other important wetlands in the immediate watershed of the reservoirs, for example Pine Stream Flowage and Passamagamet Lake.

VI. Access and Access Fees

CI-61

The settlement agreement reached between Bowater/GNP and the Fin & Feather Club is a positive step in the right direction of ensuring free access to Maine residents to these public waters. To

CI-56 Cont We considered most of the water level fluctuation-related factors to which you refer, i.e, diminished wetlands development, freezing and thawing, and effects on wildlife in the DEIS. Scouring and desiccation, which were not mentioned as possible effects in the DEIS, have been included in the FEIS.

CI-57 No other definitive data currently exists in the record that estimate wetlands impacts at the projects. There is also no data in the record that indicates far more wetlands would exist at the projects under a regime of less dramatic drawdowns. Site visits by Staff during a dry period in August 1993 helped to determine that roughly 80% (250 acres) of the wetlands around the Ripogenus impoundment are at least partially hydrologically independent of the impoundment, owing to deep peat wetland substrates and/or inflow from adjacent tributaries.

The FEIS includes an estimate of the quantity of impacted shoreline wetlands at the North Twin impoundment. Based on site visits by Staff during a dry period in August 1993, we estimate that approximately 75% (222 acres) of the wetlands at the North Twin impoundment are partially or wholly independent of the impoundment fluctuations, owing to deep peat wetland substrates and/or inflow from adjacent tributaries. From the same field visits, and the information presented by the applicant, we estimate that virtually all of the wetlands at Millinocket Lake are independent of the impoundment fluctuations, for the same reasons. As we indicated in the DEIS, continued run-of-river operation at the Millinocket Lake development would maintain *status quo* wetlands conditions.

CI-58 Approximately 250 acres of wetlands are affected by drawdowns at Ripogenus impoundment, and a smaller amount are affected at the North Twin Development. Wetlands enhancements recommended for the Ripogenus and Penobscot Mills projects would result in enhancement of approximately 280 acres of wetlands. We emphasize that shoreline wetlands at the projects still function under existing operations as wetlands prior to any enhancements. No wetlands are proposed to be filled or otherwise destroyed by the proposed

CI-58 cont operation of the projects. In addition, wetlands are an extremely abundant resource in the area of the project. For these reasons, we maintain that Alternative 2 is the most appropriate alternative.

CI-59 We recommend that GNP prepare the restoration plans after consultation with the Corps of Engineers, the Fish and Wildlife Service, and the Maine Department of Inland Fisheries and Wildlife. No restoration activities will begin until the plans are approved and GNP is notified by the Commission.

CI-60 Modification of water level fluctuation was considered as part of the planning for balancing of several issues at the projects. In essence, the required wetlands enhancements will serve to moderate water level fluctuations in strategic areas of project wetlands. The wetlands to be enhanced are adjacent to existing higher quality wetlands, with the purpose of expanding areas of such higher quality wetlands. It is most appropriate to provide onsite enhancements because these sites could increase the total acreage of project wetlands that possess high functional and wildlife values.

CI-61 Opinion noted. This comment wil be addressed in any order issued for the project.

fulfill the need for free access by all persons, however, the FEIS should include a license term which provides for the removal of access fees for all persons regardless of state residency.

CI-61 Cont

First, imposition of fees act to restrict access. The DEIS in effect acknowledges this by describing the "number of visitor-days dropped in 1987 after GNP instituted access fees." (DEIS at 3-34.) Second, basing the fee structure on state residency is inappropriate. The waters of the Penobscot River are public waters to be used and enjoyed by all citizens. Restrictions based on state residency conflicts with the need to provide non-discriminatory access to those involved in river recreation. Discrimination based on state residency violates Constitutional protections. Finally, without providing for free access regardless of state residency, the applicant is in the position of setting a fee structure that requires non-Maine residents to subsidize the activities of others. The FEIS should prevent this fundamentally unfair result by extending the concept underlying the access agreement to cover access by residents of all states.

CI-62

The DEIS is vague in defining the responsibilities that the applicant has in providing information through a toll-free telephone flow information service. At a minimum, the applicant has a responsibility to inform the public free of charge about daily flow release schedules for all boatable stretches in the West Branch where flows are controlled by the applicant. The areas that should be included in the toll-free service include all river stretches affected by the proposed water use plan, not limited to the section below McKay Station. In addition, user safety is dependent upon access to flow gauges and on private boater take-out and put-in access.

The FEIS should address these issues and include in the recommended alternative, the following conditions. (We note that some of these provisions may have been incorporated in the GNP/MEPRO agreement; however, that agreement has not been circulated to the parties and it does not appear to be part of the record. We therefore rely upon the representations in the DEIS.)

CI-63

* Ripogenus Dam. An accessible, safe put-in point and parking facility for private boaters running the Upper Gorge;

CI-64

* McKay Station. A drive-in location for boat unloading adjacent to the river at McKay Station for private boaters, and parking within a reasonable walking distance. Installation of rustic, environmentally compatible, gender separate changing rooms and toilet facilities to accommodate the significant numbers of existing users and protect the health and sanitary conditions of the surrounding area.

CI-65

* Flow information. Require, at the applicant's expense, installation of a toll-free telephone answering service to provide

CI-62 We recommend that GNP establish a telephone message system that would be updated twice daily to provide information about flow conditions at several points along the West Branch and scheduled releases from Ripogenus dam.

CI-63 We believe the existing parking and boat unloading areas are adequate at this time. The recommended alternative would require monitoring of recreational facilities every 6 years and would allow for potential improvements to recreational facilities as recreational demand so warrants.

CI-64 We believe that the existing parking and boat unloading areas are adequate. GNP proposes two concrete vault privies at McKay Station.

CI-65 As part of the settlement agreement with MEPRO, GNP would establish and maintain a telephone message system to provide information about flow conditions along the West Branch and scheduled releases from Ripogenus dam. GNP would also notify a designated representative of MEPRO of any unscheduled releases from Ripogenus Dam.

CI-65 Cont

updated information on flows, access, notification of deep gate releases and other relevant information. The discussion and recommendation in the DEIS needs to be made more specific and clear that the obligation to provide the service rests on the applicant and that the information provided be more extensive than merely flows below McKay Station. (DEIS at 2-16.)

CI-66

* Staff gauges. Provide readily accessible and visible staff gauges calibrated to river flow levels at the put-in below Ripogenus Dam, at McKay Station, the cribworks, Abol Bridge and the Back Channel.

VIII. Water Quality Certification

CI-67

The DEIS recommends that conditions 5 and 6 of the Section 401 Water Quality Certificate for the Ripogenus Project be omitted from the final license on the authority of Tunbridge Mill Corp., 68 FERC ¶61,078 (1994). (DEIS at 5-18.) The Tunbridge Mill decision is currently under review for rehearing. The decision reverses a longstanding FERC policy that the Commission does not have authority to reject specific conditions set forth in 401 certificates. FERC's decision to reverse its own policy is contrary to CWA §401(d) which provides that a certification "shall become a condition of a Federal license." See Escondito Mut. Water Co. v. La Jolla Indians, 466 US 765,772 (1984). Jurisdiction for a challenge to a CWA §401 condition lies in state court. Roosevelt Campobello International Park v. US EPA, 604 F.2d 1041, 1056 (1st Cir. 1982). Accordingly, FERC does not have authority to reject conditions set forth in the Ripogenus 401 certificate.

Conclusion

CI-68

The Draft EIS should be modified so that (i) the recommended Alternative includes expansion of project boundaries to 500', as detailed in this filing; that a year round flow of 60cfs is provided in Millinocket Stream; that additional summer flow releases for whitewater boating are provided for in the Upper Gorge; that a year round minimum flow of at least 350-500cfs is provided for in the Back Channel; that the cumulative impacts of the proposed action on the upper basins should be assessed and of specific resource up and downstream of the projects; that the amount of wetlands acres to be mitigated approaches the number impacted by the project operations; that a post-licensing study of the potential connection between mercury contamination in project waters and project operations is prepared; that access fees be removed for all users; and for such other and further modifications as set forth in this filing.

CI-66 As part of the settlement agreement with MEPRO, GNP would provide readily visible staff gauges calibrated to river flow levels at McKay Station, the cribworks, and Abol Bridge. We do not recommend gauges below Ripogenus dam or in Back Channel.

CI-67 Opinion noted. The legal status of conditions contained within Maine's 401 WQC will be addressed in the orders for the projects.

CI-68 Opinion noted.

Dated: February 21, 1995
Rockland, ME

Respectfully submitted,

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ATTACHMENT A -- Recommended Project Boundaries

Ripogenus Project

a) Lands on the Ripogenus impoundment not owned by GNP/Bowater: These areas include the northern tip of Black Pond in Township T6 R14; a small segment (ca. 0.5 miles) of the shorefront approximately 1 - 2 miles south of the State of Maine Chesuncook Village property on the west shore of Chesuncook Lake (in Township T4 R13); portions of the west shoreline of Chesuncook Lake and the north end of Caribou Lake in Township T3 R13; lands on the south end of Caribou Lake; lands on the south end of Chesuncook Lake and on Ripogenus Lake; and lands on Moose Pond/Chesuncook Lake in Township T5R12 as identified in Exhibit G, Sheet 2 of 5 in the Ripogenus Application. For these areas, the applicant should:

- to make a fair market offer to the owner for either a 500 conservation easement or the land in outright purchase;
- to set aside a dedicated buffer zone trust fund sufficient to purchase a 500 foot buffer on these shorefront properties, should an owner be unwilling to sell at the time of the offer, to be used in the event that the shoreland property becomes available during the during the course of the license.

CI-A

b) On the portion of Black Pond, which Bowater has divided interest on the shoreline property (Exhibit G, sheet 2 of 5 in Ripogenus application), the applicant should place a 500 foot shoreline conservation easement, or purchase such rights from the co-owner.

c) Gero Island and the western shorefront of Chesuncook Lake immediately south of the West Branch of the Penobscot River inlet to approximately the border of Townships T5 R13 and T4 R13 (the Chesuncook Village region) are owned and managed by the State of Maine and need no further shorefront buffer zone protection responsibilities by the applicant. The private holdings within Chesuncook Village should also be exempt from GNP/Bowater responsibilities.

d) Existing commercial and private leases with buildings (primarily in the LURC zoned D-RS portions of Caribou Lake and the commercial lease in the LURC zoned D-GN on Ripogenus Lake identified in Fig. E6-2 in Ripogenus Application) for the Ripogenus Project as identified in the DEIS on page 3-47 should be honored and be renewable, subject to LURC zoning regulations. Bowater/GNP should repurchase leases which do not have buildings on them. The sale of new leases or private shorefront properties by Bowater/GNP should be specifically disallowed during the course of the license.

e) For all lands owned by Bowater on the Ripogenus impoundment and not noted previously in this section, a 500 foot no development conservation easement, with no timber harvesting in the first 100 foot zone would apply.

CI-A Comment noted. See CI-8.

Penobscot Mills Project

1) Millinocket Lake Shoreline

a) For land on the Millinocket Lake Storage Development not owned by GNP/Bowater, identified as an approximately 1/2 mile stretch on the southwest shoreline (Exhibit G, Sheet 4 of 12, Penobscot Mills application), and zoned by LURC as D-RS (see Figure E6-3, Penobscot Mills application), the applicant should not be required to institute a shoreline conservation easement.

b) On the north and northeast shoreline of Millinocket Lake where GNP/Bowater has divided interests on the shoreline property (identified in Exhibit G, sheet 4 of 12 in the Penobscot Mills Application), the applicant should put in place a 500 foot shoreline conservation easement with no timber harvesting in the first 100 foot zone, or purchase such rights from the co-owner.

CI-A Cont

c) GNP's existing commercial and private leases with buildings, as identified in the DEIS at page 3-48, should be honored and be renewable subject to LURC zoning regulations. These are mostly in the LURC zoned D-RS and D-GN shorefront in the vicinity of the Golden Road on the west shoreline and the LURC zoned DR-S in the vicinity of the Millinocket Lake Dam at the Millinocket Stream outlet, identified in Fig. E6-3 in the Penobscot Mills Application. The LURC zoned development shoreline represents 13% of the shorefront as listed in Table 3-9 of the DEIS. The selling of new leases or private shorefront properties by GNP/Bowater would not be permitted during the term of the license.

d) For all lands owned by GNP/Bowater on the Millinocket Lake Storage Reservoir and not noted previously in this section, a 500 foot no development conservation easement, with no timber harvesting in the first 100 foot zone, would apply.

2) Elbow, North and South Twin, Pemadumcook and Ambajejus Lakes ("Upper Penobscot Mills")

a) For all lands not owned by GNP/Bowater (identified as the south shoreline on Elbow Lake in Exhibit G, sheet 3 of 12 in the Penobscot Mills Application), the applicant would not be required to provide for a shoreline conservation easement.

b) All existing commercial and private leases issued by Bowater (primarily in the LURC zoned D-RS and D-GN shorefront and islands of these five connected lakes and identified in Figure E6-2 of the Penobscot Mills Application) as identified in the DEIS at 3-48 should be honored and renewed, subject to LURC regulations.

c) For all lands owned by Bowater on the Upper Penobscot Mills Reservoir and not noted previously in this section, a 500' no development conservation easement, with no timber harvesting in the

first 100 foot zone would apply. To permit limited new development while still preserving the unique backcountry resources, an exception could allow for the sale of additional leases in those areas currently zoned D-RS and D-GN by LURC as defined in Figure E6-2 of the Penobscot Mills Application, which have not been build out to their maximum development under current LURC zoning. This represents 60% of Ambajejus, 33% of North Twin, 10% of Pemadumcook, and 15% of the South Twin Lake shoreline (see Table 3-9 in the DEIS). In this way the conditions of the Shoreline Management Plan in the licensing process are defined and appropriately focus new development in areas where it has already occurred while not encouraging its spread. Any new development in these currently zoned development areas (D-RS and D-GN) could not be used as a catalyst to rezone adjacent lands for further development under the "adjacency" rezoning LURC regulations.

3) Quakish Lake and Ferguson Pond

a) Exhibit G Sheet 3 of 12 of the Penobscot Mills Project application indicates that GNP/Bowater owns all of the shorelands on Quakish Lake and Ferguson Pond. In the LURC zoned portion of Quakish Lake (Township T3 Indian Purchase) any existing leases should be honored and be renewable. The selling of new leases or private shorefront properties by Bowater would not be permitted during the course of the license in this township. GNP/Bowater would place a 500 conservation easement no timber harvest within the first 100 feet restriction on the LURC zoned properties within Township T3 Indian Purchase, with appropriate Rights of Way for Route 11. The shorefront on Quakish Lake and Ferguson Pond in the Town of Millinocket would be subject to the zoning and development regulations of the town.

CI-A Cont

4) Dolby Pond, Shad Pond and East Millinocket River Reservoir

a) The applicant owns lands principally on the southeastern shoreline of Dolby Pond (Exhibit G, Sheet 5 of 12, Penobscot Mills application). All existing private or commercial leases with buildings on GNP/Bowater Dolby Pond property would be honored and be renewable, but no new leases would be permitted during the course of the license. Existing leases with no buildings would be repurchased by GNP/Bowater. The applicant would not have responsibility for additional shoreline conservation easements on non-GNP/Bowater properties on Dolby Pond.

b) The applicant owns all lands on Shad Pond and the East Millinocket River Reservoir (Exhibit G, Sheet 5 of 12, Penobscot Mills Project application). All existing development and private or commercial leases on these two waterbodies would be honored and be renewable. A 500 foot conservation easement with no timbering within 100 feet of the shoreline would apply to the south shoreline of the East Millinocket Reservoir and all of the Shad Pond shoreline, with exceptions being made for rights of ways.

Attachment B

Water Use Model Limitations

In addition to the limitation noted in the text of our comments, the water use model developed by GNP has additional limitations.

CI-B

1. The model fails to include watershed scale processes.

The Conservation Coalition has repeatedly stressed the importance of watershed scale processes. In the DEIS, FERC stated that staff is uncertain what this means.

GNP controls not only the system of dams and impoundments in the Penobscot River basin, but the basin itself. This is important in the context of the relicensing procedure because timber operations have indirect effects which should be included when considering non-power values. Evapotranspiration and runoff rates, very important elements of the water balance, are directly affected by timber management.

In order to truly analyze the implications of system management on the non-power values of the basin, it is necessary to discuss flows in terms of all impoundments and flow routes through the basin (in a manner more specific than that of current model) and to consider the relation between timber management practices and water availability. FERC has addressed the second of these two needs to some extent by requiring land protection in the form of building setbacks. As already discussed, however, by accepting GNP's water use model, FERC fails to consider the importance of all of the waterbodies in the system and, thus, still fails to adequately consider watershed scale processes.

2. The model uses uncalibrated data.

The Conservation Coalition has expressed concern about the data used by GNP to develop its model. In the DEIS, FERC stated that staff is unsure what this means.

GNP created synthetic 'typical' years to represent average conditions and worst-case, or minimum available water, conditions by using the average and driest individual weeks, respectively within the period of record. FERC addressed this issue in the DEIS when it stated that "Because it consists of the data from the driest weeks within the 15-year period of record, the worst-case year represents more extreme conditions than the single driest year within that record." DEIS D-11.

The scenarios modelled by GNP are interesting but are without context since is impossible how often annual flows like the ones they 'constructed' will occur. The use of a probability or flow duration analysis would be more informative. A flow duration curve for the period of record and for each year would show the

CI-B We already provided responses to these concerns in Appendix D of the DEIS. In response to these comments and others, we have revised Appendix D to further clarify our responses. We have concluded that GNP's water use model is not a central issue, since water availability is not a central issue. The main issue in this proceeding is whether additional flows to the Back Channel are worth the cost in lost power and socioeconomic benefits as compared with the relatively small environmental benefits that would be gained.

probability of a given flow being equalled or exceeded. To establish the feasibility of an alternative with regard to the typical, wet and dry years it is important to know the probability of these conditions occurring and therefore to know the probability of being subjected to stress as a result of the water use option under consideration.

3. The model excludes over-year storage.

The model considers each year independently, and outflows are adjusted to provide the same storage at the end of the year as existed at the beginning. Single-year simulations of this sort are overly restrictive and preclude the possibility of over-year storage which could be used to optimize operations.

FERC acknowledged this criticism of the model in the DEIS, but failed to directly address it. DEIS D-32. As FERC noted, GNP did, in fact, simulate all fifteen years individually as part of their study. This does not, however, change the fact that there has been no simulation that encompasses the fifteen year period in a continuous manner.

CI-B Cont

Reservoir operations modeling typically involve continuous modelling over the period of record in order to make use of over-year storage. The fifteen-year data set should be used for a continuous model instead of simulating each year in isolation.

4. The model is unable to consider conservation measures in the economic analysis.

FERC responded to this concern in the DEIS by stating that "The water-use model itself is not used to evaluate the affects [sic] of flow alternatives on project economics, so this concern is not relevant." DEIS D-32.

The economic analysis is based projected diminished power generation flows and head as 'predicted' by the simulation model. In this way, the water use model is an integral part of the economic analysis.

If valuable water savings can be achieved by updating equipment or implementing new water conservation practices, then such improvements would have to be accounted for somehow in the flow information upon which the economic analysis is based. These possibilities must be fully explored.

5. General Comments on the Model's Limitations

It is important to recognize the significant limitations of the current model. Even if it were refined in the ways suggested above important limitations would remain.

The GNP water use model is a simulation model. It is designed to simulate reality based on past operations -- not to predict and not to optimize benefits. The model allows for an evaluation of what was -- in terms of water availability in the West Branch of the Penobscot -- but not of the possibilities of what could be under other, new circumstances.

CI-B Cont

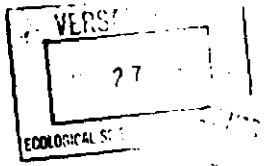
Any discussion of the limitations of the GNP water use model raises the question of whether a more sophisticated model would produce different results. The appropriate answer to that question is twofold. First, refinement of the existing model, along the lines suggested above, may produce different results. There is any opportunity to increase the specificity of the model with out increasing the uncertainty of the model since many of the refinements suggested would involve data sets already being used in the model and would introduce no new error. Changing the time step would, for instance, involve using the daily flow data for elements of the hydropower system instead of what is used now- the weekly average of that daily flow data.

Second, the model should be refined whether or not such a refinement will produce different results. This project involves the largest private hydropower system in the country. The value of the licenses to Bowater/GNP and the worth of the natural resources involved to the general public are extremely significant. A decision of this sort should not be based in any way, upon an overly simplistic model. FERC should be wary of setting such a precedent.

The existing model should be significantly refined or a new model should be developed if the model is to be used as a basin upon which to make long-term licensing decisions.

COMMENTS FROM CONSERVATION INTERVENORS
ON MEMORANDUM OF UNDERSTANDING
ON UPPER PENOBSCOT RIVER BASIN DEIS

CLF Conservation Law Foundation



March 15, 1995

Lois D. Cashell
Secretary, Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington D.C. 20426

Penobscot Basin EIS, FERC Nos. 2572 and 2458
Ripogenus and Penobscot Mills Projects

Dear Secretary Cashell:

E-49

CIMOU-1

On February 23, 1995, the day after the close of the comment period on the draft EIS in the above proceedings, Bowater/GNP and the Governor of Maine held a joint press conference to announce an agreement negotiated in secret during the comment period between the State and the applicant on the issue of shoreland protection and project boundaries in the above-referenced proceeding. In conjunction with the press conference held in Maine, Bowater issued a national press release on February 23 in which it announced the "donation" of conservation easements to the State of Maine, together with a program to repurchase or call $200 million of outstanding corporate bonds and the election of the company's president as its Chief Executive Officer. (See attached Bowater wire service version of the Bowater press release.)

Of course, the need to expand project boundaries is a key issue in these proceedings and is discussed at length in the draft EIS. This is an issue that intervenors Conservation Law Foundation, Appalachian Mountain Club, Maine Audubon Society and American Whitewater Affiliation have commented on extensively to FERC. By this letter, these organizations wish to provide FERC with comments on the substance of the agreement announced at the press event (the "MOA"). Because we are commenting on the terms of the public announcement and MOA made public only after the close of the comment period, we do not believe that leave is required to include our comments in the record.

Nonetheless, if the Commission determines that leave is required, we respectfully request leave to include our comments into the record.[1] Good cause exists to grant our request. We do not think it incidental that the announcement of the MOA occurred the day after the closure of the comment period. Both the State and the applicant were well aware of the terms of their agreement

[1] We do not seek leave to respond to the comments submitted by the State, the applicant or others. In fact, as of the date of this letter, the State had not served any of our organizations with its comments.

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RESPONSES TO CONSERVATION INTERVENORS
ON MEMORANDUM OF UNDERSTANDING
ON UPPER PENOBSCOT RIVER BASIN DEIS

CIMOU-1 No response needed.

CIMOU-2 Opinion noted.

COMMENTS FROM CONSERVATION INTERVENORS ON MEMORANDUM OF UNDERSTANDING ON UPPER PENOBSCOT RIVER BASIN DEIS

much earlier than February 23. The letter from the governor summarizing the agreement to FERC is dated February 16; the MOA itself is dated February 17, 1995. Because neither the State nor the applicant announced the agreement when it was reached on Feb. 16 and 17, did not notify other parties to this docket of their discussions but rather chose to delay the announcement until after the comment period ended, the applicant and the State removed the ability of our parties in these proceedings to comment on the MOA during the official comment period. We believe that it is important that the Commission have available to it the comments of our organizations that have advocated for the appropriate expansion of project boundaries to include shoreland areas. The timing of the MOA announcement should not be allowed to preclude comment by our organizations.

CIMOU-1 Cont

The State-Applicant MOA is Fundamentally Flawed and Cannot Be Accepted by FERC in Lieu Of Alternatives 1 or 2

The purpose of the MOA is to provide a substitute for the expansion of project boundaries as recommended in the DEIS. Under the MOA, the applicant would "donate" 250' wide easements (500' easements, on certain water bodies), on (i) land it currently owns and (ii) only in the Ripogenus Project. The MOA excludes the entire Penobscot Mills Project; shoreland not currently owned by GNP; and does not include vegetation zones or other provisions set forth in the DEIS.

CIMOU-2

As a result, the MOA negotiated by the applicant fails to provide a substitute for the expanded project boundaries recommended in Alternatives 1, which we continue to support, or even Alternative 2. Rather, the MOA is a transparent attempt by the applicant to avoid the more rigorous mandates of either Alternative 1 or 2 and effect an end-run around the obligations the company bears to protect these shoreland. As more fully discussed below, FERC should not and cannot rely on the MOA as a substitute for the expansion of project boundaries.

I. The Agreement Excludes Critical Areas from Protection

A. There is No Factual or Legal Basis for Excluding the Penobscot Mills Project from Shoreland Protection

The MOA excludes the entire Penobscot Mills Project from the benefits of shoreland protection. Yet, there is no basis on which to exempt wholesale the Penobscot Mills Project from expanded project boundaries. Most of the Project exhibits back country, relatively remote, undeveloped, high value characteristics similar to the Ripogenus Project, including largely undeveloped Class 1-A lakes. Recreational use by the public on these lakes is high and the Project includes areas which support unique, multiday, back country canoeing. The Project includes miles of undeveloped, high value shoreland and important fisheries. The need for shoreland

CIMOU-3

RESPONSES TO CONSERVATION INTERVENORS ON MEMORANDUM OF UNDERSTANDING ON UPPER PENOBSCOT RIVER BASIN DEIS

CIMOU-3 Comment noted. While the Penobscot Project area is more developed than the Ripogenus Project area and the same level and type of protection may not be appropriate, staff determined that some protection was necessary to protect the aesthetic and recreational resources of the shoreland areas directly adjacent to the project impoundments. Staff reviewed comments received during the DEIS comment period, GNP's proposed conservation easements for the Ripogenus Project area, updated land valuation information, and further assessment of LURC land use regulations. We still recommend protection measures for the Penobscot Mills shorelines. See section 4.9 for further discussion regarding shoreland protection zones.

COMMENTS FROM CONSERVATION INTERVENORS ON MEMORANDUM OF UNDERSTANDING ON UPPER PENOBSCOT RIVER BASIN DEIS

protection in these undeveloped portions of the Penobscot Mills Project is just as high as in the Ripogenus Project.

Yet, the MOA excludes entirely protection of these high value lakes. There simply is no logical basis on which to draw a wholesale distinction between the Ripogenus and the Penobscot Mills Project. The same aesthetic, wildlife, water quality, recreational values that GNP has finally agreed should be protected at Ripogenus as a part of these proceedings also need to be protected at the Penobscot Mills Project. Nor is there a legal basis for drawing a wholesale distinction between projects. FERC shoreland protection regulations and the obligation to ensure an appropriate balance between power and non-power values apply equally to the Ripogenus and Penobscot Mills Projects.

CIMOU-3 Cont

It is true that the Penobscot Mills Project includes areas with developed shorelands, more so than Ripogenus. As the DEIS acknowledges, and as our organizations agree, it is appropriate to permit additional, clustered development in these locations. The Shoreland Management Plan, properly structured, would allow for additional development in these areas.

B. The Agreement Avoids GNP's Obligation to Adequately Protect Lakes in the Ripogenus Project

One obvious goal of Bowater/GNP in entering into the MOA is to avoid any financial obligations associated with protecting the Ripogenus Project. To that end, the MOA is glaringly transparent in its effort to avoid the need for the applicant to obtain from willing sellers, in fee or easement, shoreland property not currently owned by Bowater/GNP.

Bowater's major objection to the requirement to protect non-GNP land appears to be cost, an objection the State has accepted as a limiting factor. There is no basis, however, on which to conclude that the cost of obtaining protection in the Ripogenus Project would do more than add a nearly incalculably small cost to the company. As the DEIS makes clear, the $2-4 million estimate would increase the cost of generating electricity by a tiny fraction. This is a reasonable estimate and imposes a lenient obligation on the applicant. We fail to understand why these costs would be so crippling.[2]

CIMOU-4

[2] There is a fundamental inconsistency reflected in the State/applicant announcement. On the one hand, the State and the applicant assert that the land does not face a significant risk of development; on the other, they limit the amount of shoreland protection in the MOA largely due to an assertion that the current development value of the lands is so high that GNP cannot incur the cost of protecting the land without some dire, unspecific socioeconomic impacts.

RESPONSES TO CONSERVATION INTERVENORS ON MEMORANDUM OF UNDERSTANDING ON UPPER PENOBSCOT RIVER BASIN DEIS

CIMOU-4 The staff revised potential cost estimates for the shoreline easements upon review of comments received during the DEIS comment period and updated land valuation information. Staff determined the potential costs, based on waterfront footage for the easements proposed in Alternative 1, approximately $24.6 million, would be greater than previously estimated in the DEIS. Our qualitative evaluation of benefits suggests that the additional protection of the 500-foot expansion does not merit the much higher cost of that alternative as compared to the recommended alternative ($24.6 million versus no direct costs). See section 4.9 for further discussion.

COMMENTS FROM CONSERVATION INTERVENORS ON MEMORANDUM OF UNDERSTANDING ON UPPER PENOBSCOT RIVER BASIN DEIS

II. The MOA is Unilaterally Voidable By the Applicant

CIMOU-5

Under the express terms of the MOA, the applicant retains the unilateral right to void the agreement if the Commission orders project boundaries other than those accepted by GNP in the Agreement.

This places FERC in an untenable position. In the case where FERC adheres to the legal obligation to expand the project boundaries at Penobscot Mills, GNP retains the right under the MOA to void its Ripogenus shoreland protection agreement at its unilateral discretion.

Because there is no factual or legal basis to exclude Penobscot Mills or non-GNP land from the need for project boundary expansion, the effect of the MOA is to create two, rather stark choices. One, which the applicant and the State propose, is to accept shoreland protection only as provided in the MOA, even though that would violate the Federal Power Act and FERC regulations because of the omission of the Penobscot Mills Project or non-GNP land. Or, two, as we suggest, maintain the appropriate recommendation to expand project boundaries at both projects and on non-GNP land as set forth in the DEIS. Because the Bowater/State MOA alternative violates FERC's own mandates and regulations, only option 2 is viable and legal.

III. The Terms of the Shoreland Protection are Vague And Do Not Provide the Level of Protection that FERC Regulations Would

A. The MOA Fails to Provide An Equivalent Level of Protection as the DEIS for Vegetation Zones

CIMOU-6

The MOA proposes to establish as the terms of the easements the provisions of the 1981 easements on the West Branch. The terms of the 1981 easements do not provide for any vegetation zones. Under P-SL1 and P-SL2, ch. 10 of LURC's rules and regulations, timber harvesting is permitted to the watermark with certain restrictions, most importantly a preclusion against clearcutting within 50' of the high water mark in the shoreland zone. In the remaining 200' back, small clearcuts otherwise known as patchcuts are permitted as long as they are smaller than 14,000 square feet.

Alternative 2 in the DEIS includes a no-cut, vegetation zone of 100' within the expanded project boundaries. Although we continue to believe that the 250' vegetation (no-cut) zone in Alternative 1 is preferable, even the terms of Alternative 2's 100' no-cut zones are far more protective of non-power values than the MOA and as the DEIS correctly notes, the 100' zone is more protective of non-power values than LURC zoning. Moreover, incorporation of standardized no-cut zones in project boundaries provides, as with non-development zones, an entirely different and needed level of protection for these resources than zoning.

RESPONSES TO CONSERVATION INTERVENORS ON MEMORANDUM OF UNDERSTANDING ON UPPER PENOBSCOT RIVER BASIN DEIS

CIMOU-5 In the Applicant's Proposed Alternative, staff incorporated GNP's proposed conservation easements for the Ripogenus Project area under the terms described in the MOU (see section 4.9.1). In Alternative 2 (recommended alternative), staff proposed for the Ripogenus Project area two options: (1) accepting the conservation easement proposed by GNP and the State of Maine; or (2) a 200-foot boundary expansion on GNP-owned lands (see section 4.9.3). For the Penobscot Mills Project area, State recommended a 200-foot boundary expansion on GNP-owned lands. The staff determined the recommended alternative provides long term protection of valuable shoreland resources (see section 5.3.4).

CIMOU-6 See comment above. In the recommended alternative, GNP would be responsible for recreational facilities and potential enhancements or mitigation of recreational resources in association with project operations or license conditions (see section 4.9.3).

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CIMOU-6 Cont

In addition, under the terms of the 1981 easements, the State is required to bear the costs of any recreational improvements, relieving Bowater/GNP of any financial obligation to provide for recreational needs, a critical non-power value, even as GNP retained the right to approve recreational uses. The MOA clearly contemplates the same arrangement. The 1981 easements also allow for a multitude of uses inconsistent with the goals of shoreland protection, such as mineral extraction, new access roads and new hydroelectric dams.

In sum, the 1981 easements do not impose any additional restrictions on timber harvesting and relieve GNP of responsibility for recreational management in the shoreland zones, shifting the financial obligation to the State. Bowater/GNP is clearly seeking the same arrangement under the MOA. These terms are inadequate and fail to attain the goals that the DEIS establishes.

B. The Limitations in the MOA Are Based On False Assumptions

CIMOU-7

The parties to the MOA accept uncritically Bowater's assertions as a basis on which to limit the kind and scope of protection for non-power values. In addition to claims of economic doom, the State appears to adhere to the view that FERC is proposing that Maine be required to sell State land against its will to GNP, so that GNP can then protect the land. The State repeats its threat of litigation on behalf of all unwilling sellers.

FERC has attempted to clarify this issue. The State appears to prefer to maintain this strawman, a strawman that provides no basis on which to reject the requirement that Bowater seek to obtain, from willing sellers, shorefront land. As Bowater now accepts the legitimacy of protecting shoreland outside of project boundaries, FERC should require the company to seek to protect non-project lands if landowners in the Ripogenus Project prove unwilling to sell.

IV. The Agreement and its Terms are Non-enforceable

CIMOU-8

There is a fundamental distinction from an enforcement perspective between including shoreland areas in project boundaries and the terms of the easements as proposed in the MOA. The former provides much improved opportunities for public input if concern arises about potential violations of the shoreland areas by the applicant. Under the MOA, only the State and the applicant have enforceable legal obligations to each other; the public, resource agencies and FERC have no standing and are excluded from any forum within which to raise concerns.

V. The Bowater/GNP Credibility Gap Grows

CIMOU-9

Although it is clear that FERC cannot rely on the MOA as a

RESPONSES TO CONSERVATION INTERVENORS ON MEMORANDUM OF UNDERSTANDING ON UPPER PENOBSCOT RIVER BASIN DEIS

CIMOU-7 The staff revised its land use assessment and recommendations in the FEIS (see section 4.9). Under the recommended alternative, the proposed conservation easements and project boundary expansion would be solely on GNP owned land and purchase of non-GNP owned properties would not be required (see section 4.9.3).

CIMOU-8 Opinion noted.

CIMOU-9 Opinion noted.

COMMENTS FROM CONSERVATION INTERVENORS ON MEMORANDUM OF UNDERSTANDING ON UPPER PENOBSCOT RIVER BASIN DEIS

substitute for either Alternative 1 or 2 as set forth in the DEIS, it is equally clear that the Bowater/State MOA demonstrates yet again the inconsistencies and credibility gaps of this applicant. For example, the company has aggressively argued against the need for any form of term or permanent shoreland protection, relying on LURC zoning. Under the MOA, however, it accepts the need for more significant forms of protection than zoning provides. In the past, Bowater/GNP argued that LURC non-development zones of 75' or 100' were adequate and that even 200' zones were burdensome. Now, it proposes 250' easements for much of the Ripogenus Project area and 500' zones easements elsewhere -- far more protection than LURC zones provide and greater widths than even Alternative 2 contemplates. In the past, Bowater/GNP has lashed out at our organizations for proposing mitigation and enhancement measures outside of strictly defined project boundaries -- and has opposed review by FERC of environmental impacts outside of project boundaries. Under the MOA, the company itself now proposes shoreland protection outside of project boundaries.

CIMOU-9 Cont

It is telling that even as the public hearing was taking place on January 25, Bowater/GNP evidently conceived of the proposal contained in the MOA, even as it railed against shoreland protection at the public hearing in Millinocket. Within days of the hearing, on January 30, Bowater requested an extension of time to comment, so that it could finalize its pending agreement with the State. This pattern of behavior, consistent with the company's past practices, continues to provide grounds to call into question the validity of its assertions and credibility.

E-54

Conclusion

It is perhaps not difficult to understand why the applicant would rush to the State to propose an agreement along the terms of the MOA. In contrast to either shoreland protection proposal reviewed in the DEIS, the MOA excludes from protection the entire Penobscot Mills Project, including remote, undeveloped shoreland of high value; would relieve Bowater/GNP of any obligation to seek to protect shoreland it does not currently own in the Ripogenus Project; is voidable -- at Bowater/GNP's unilateral discretion; is vague on the terms governing the easements; omits the any vegetation zone; and relieves Bowater/GNP of any concern that violations of the terms of the easements would be enforceable as part of its hydropower licenses. Because of these defects, the MOA, by its terms it fails to provide the same level and quality of protection as either Alternative 1 or 2 in the DEIS.

CIMOU-10

Yet, despite these crippling deficiencies, the MOA does signify several important elements. One, the applicant has validated our view that zoning regulations do not provide the same level of long-term protection as fee or easements. Two, by proposing easement zones of 250' to 500', the MOA supports our view that 200' wide zones are not adequate for protection. Three, by

RESPONSES TO CONSERVATION INTERVENORS ON MEMORANDUM OF UNDERSTANDING ON UPPER PENOBSCOT RIVER BASIN DEIS

CIMOU-10 Opinion noted.

CIMOU-10
Cont

proposing to protect shoreland outside of project boundaries, the parties to the MOA accept the concept that mitigation and enhancements outside of project boundaries are acceptable and legitimate.

Properly constituted easements held by the State may be a fine way to protect shoreland values. But "easements" negotiated in secret as an end run around FERC provisions, which fail to provide an equivalent or adequate level of protection as Alternatives 1 and 2, do not meet the goals set forth in the DEIS and the protection of non-power values.

FERC should reject the applicant's attempt to once again write its own permit conditions with the assistance of the State, -- as it has in changing the water quality law applicable to Ripogenus and in inducing the State to waive water quality standards at Penobscot Mills. FERC should accept Alternative 1 with the clarifications set forth in our comments filed in a timely manner on February 22.

Thank you for your attention.

Respectfully submitted,

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COMMENTS FROM CONSERVATION INTERVENORS ON MEMORANDUM OF UNDERSTANDING ON UPPER PENOBSCOT RIVER BASIN DEIS

Business Wire

February 23, 1995, Thursday DISTRIBUTION: Business Editors LENGTH: 591 words HEADLINE: BOWATER ELECTS NEMIROW CHIEF EXECUTIVE OFFICER; DEBT TENDER OFFER AND CONSERVATION GRANT PROPOSAL ANNOUNCED DATELINE: GREENVILLE, S.C. BODY:

Feb. 23, 1995 -- Bowater Incorporated (NYSE:BOW) today announced the election of Arnold M. Nemirow, 51, as Chief Executive Officer, effective March 1, 1995. Mr. Nemirow already holds the title of President. In keeping with a previously announced transition, Mr. Nemirow will assume the duties of Chief Executive from Anthony P. Gammie, 60, who has held that position since January 1983. Mr. Gammie will remain as Chairman until March 1996. Nemirow has been President and Chief Operating Officer of Bowater Incorporated since joining the company in September 1994, from Wausau Paper Mills Company, where he was President and Chief Executive Officer. Earlier, he served in senior positions with Great Northern Nekoosa Corporation, including Chairman, President and Chief Executive Officer of Nekoosa Papers Inc. from 1988 to 1990.

Additionally, Donald G. McNeil, 44, was elected Senior Vice President. Mr. McNeil serves as President of Bowater's Great Northern Paper Division based in East Millinocket, Maine. Earlier, Mr. McNeil held the position of President and General Manager of Bowater Mersey Paper Co., Ltd., in Liverpool, Nova Scotia, Canada.

The company also announced the commencement of an offer to purchase its outstanding 8.5% Notes due 2001 having a face value of $200 million. The offer begins on February 24, 1995, and will expire on March 7, 1995. The purchase price for the 8.5% Notes will be determined by using a yield to maturity of the 7.5% Treasury Note due November 15, 2001 at the time the holder agrees to tender the bonds plus a fixed spread of .375 percent. Merrill Lynch & Co. will serve as the exclusive dealer manager of the offering and Morrow & Co., Inc. will serve as information agent.

Bowater additionally stated that it yesterday filed with the Federal Energy Regulatory Commission (FERC) a Memorandum of Understanding between Bowater's Great Northern Paper Division and the State of Maine wherein the company proposes to convey to the state a conservation easement protecting approximately 80 miles of shoreline along the West Branch of the Penobscot River. The easement would be conveyed upon successful FERC relicensing of Great Northern Paper's Ripogenus and Penobscot Mills hydroelectric projects and is intended to expand the shoreline protection and expedite relicensing. Nemirow said, "I am confident that Bowater's continued cost reduction efforts and balance sheet improvements will position us for higher levels of financial performance. I look forward to the opportunity to lead Bowater." Bowater Incorporated is a manufacturer of virgin and recycled fiber newsprint, coated and uncoated virgin fiber and recycled groundwood publication papers, bleached kraft market pulp and lumber. It is

RESPONSES TO CONSERVATION INTERVENORS ON MEMORANDUM OF UNDERSTANDING ON UPPER PENOBSCOT RIVER BASIN DEIS

also a converter of communication papers for computer forms and other business applications. Bowater Incorporated common stock is listed on the New York Stock Exchange, U.S. regional exchanges, the London Stock Exchange and the Swiss Stock Exchanges.

CONTACT: Bowater Inc. Media contacts: Robert D. Leahy 803/282-9571 (Office), 803/234-0941 (Home) William B. Kearney 803/282-9593 (Office), 803/458-9817 (Home) Analyst contact: SuAnne B. Aune 803/282-9560 (Office), 803/879-1877 (Home) LANGUAGE: ENGLISH LOAD-DATE-MDC: February 24, 1995

COMMENTS FROM US DEPARTMENT OF THE INTERIOR ON UPPER PENOBSCOT RIVER BASIN DEIS

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
408 Atlantic Avenue - Room 142
Boston, Massachusetts 02210-3334

In Reply Refer To: FERC #2572-005
FERC #2458-001
Penobscot River Basin DEIS
ER 94/937

February 21, 1995

Honorable Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426

Dear Ms. Cashell:

DOI-1 This document contains the United States Department of the Interior's (Department) comments on the Draft Environmental Impact Statement (DEIS) for the Penobscot River Basin, Piscataquis and Penobscot Counties, Maine, and covering the following licensed hydroelectric projects: Ripogenus, FERC No. 2572; and Penobscot Mills, FERC No. 2458. The DEIS was prepared by the Federal Energy Regulatory Commission (Commission) pursuant to the National Environmental Policy Act (NEPA), based on the finding that the proposed licensing actions would have a significant impact on the quality of the human environment.

The following comments are provided in three parts: first, we give an overall assessment of the adequacy of the DEIS in addressing issues of concern to this Department; second, Attachment A is a section-by-section analysis of the DEIS; and, third, Attachment B contains updated and/or modified recommendations and fishway prescriptions, that have been previously provided by the Department pursuant to Sections 10(j) and 18 of the Federal Power Act (FPA).

GENERAL COMMENTS

DOI-2 The DEIS fails to give equal consideration to fish and wildlife resources, potential recreational needs, and to tribal issues that have been raised during these licensing proceedings by the Department and the Penobscot Indian Nation (PIN). As discussed in greater detail in Attachment A, the Commission has given undue weight to the economic interests of the applicant in the analysis of impacts to fish and wildlife resources, including endangered species, for which this Department is responsible. The Commission has also

DOI-3 arbitrarily dismissed important alternatives to the proposed action, such as conservation. Some of these alternatives could help achieve the applicant's stated energy capacity needs, while at the same time avoiding and reversing environmental harm to local and regional natural resources.

RESPONSES TO US DEPARTMENT OF THE INTERIOR ON UPPER PENOBSCOT RIVER BASIN DEIS

DOI-1 No response needed.

DOI-2 The staff reviewed available information regarding the Penobscot Indian Nation's claims to lands and rights within the branches of the Penobscot River and concurs with the decision of the Maine State Department of the Attorney General (see section 4.11.1.2). The staff finds that consideration of the Penobscot Indian Nation's traditional practices within the project area are outside the scope of Section 106. The staff, therefore, does not recommend including the Penobscot Indian Nation as a concurring party to the Programmatic Agreement associated with the Ripogenus and Penobscot Mills projects. The staff acknowledges Penobscot Indian Nation's interest in the management of historic properties potentially eligible for listing in the National Register of Historic Places within the project areas. Accordingly, the staff recommends that GNP consult the Penobscot Indian Nation during the development of the revised Cultural Resource Management Plans for the Penobscot Mills and Ripogenus Projects.

DOI-3 Energy conservation was identified as an alternative during the scoping process; however, we concluded in the DEIS that energy savings gained through conservation have largely been offset by increased energy demand from GNP's efforts to modernize its plants. This conclusion was based upon our review of GNP's conservation and modernization programs, as documented in Exhibit H, and the memorandum of Owen Merrill of GNP, both of which are based on actual plant data. The Conservation Intervenors' claim that there is an enormous conserved power potential in the GNP facilities is based upon generic or theoretical evidence, which the staff did not accord the same weight. The staff also notes that many of the arguments posed by the intervenors have been raised throughout this proceeding and have been addressed by the applicant. Detailed responses to additional comments on economics and effects on fish and wildlife resources are provided below.

In the DEIS, the Commission fails to recognize and to properly account for its trust responsibility to the Penobscot Indian Nation (PIN), a Federally recognized Indian Tribe. In dealing with Indian Tribes, the Federal government is judged by the most exacting fiduciary standards. Seminole Nation v. United States, 316 U.S. 286, 297 (1942). As an agency of the Federal government, the Commission is charged with the United States' fiduciary responsibilities towards Indian Tribes. Coyalo Indian Community v. FERC, 895 F.2d 581, 586 (9th Cir. 1990). Moreover, any Federal action is subject to this fiduciary responsibility towards Indian Tribes. Nance v. Environmental Protection Agency, 645 F.2d 701, 711, cert. denied, 454 U.S. 1081 (1981). This duty must be fulfilled both procedurally and substantively.

While the DEIS briefly mentions the PIN in its section dealing with Cultural Resources (Section 4.11), the Commission fails to recognize and protect the PIN's rights and trust resources, including its property interest in the fishery reaource of the Penobscot River. The Commission has ignored and disregarded the comments proffered by the BIA and the PIN during the scoping process, and thus neglects to consider tribal interests in issues of importance in this DEIS, such as water quality, toxics, stream flows, fishery resources, and cultural resources. These specific issues are addressed in Attachment A.

DOI-4

The Department further points out that the Commission's treatment of tribal rights and interests in these proceedings is contrary to the provisions of the President's Memorandum dated April 29, 1994, entitled "Government-to-Government Relations With Native American Tribal Governments." Pursuant to this Memorandum, each executive department and agency "shall assess the impact of Federal Government plans, projects, programs, and activities on tribal trust resources and assure that tribal government rights and concerns are considered during the development of such plans, projects, programs, and activities." The proposed issuance of Federal licenses for hydroelectric developments is certainly the type of activity for which such assessments and consideration of tribal interests are required. However, in this situation, the Commission has failed to do so.

The shortcomings in the DEIS must be remedied prior to the Commission reaching final licensing decisions on these projects. The Department is prepared to assist the Commission and its staff in producing an improved EIS, and looks forward to additional consultation on the issues discussed herein.

Thank you for the opportunity to comment on this DEIS.

Sincerely,

Andrew L. Raddant
Regional Environmental Officer

DOI-4 See response to DOI-2

COMMENTS FROM US DEPARTMENT OF THE INTERIOR ON UPPER PENOBSCOT RIVER BASIN DEIS

REF: FERC # 2572, 2458

ATTACHMENT A:
SECTION BY SECTION ANALYSIS OF THE
PENOBSCOT RIVER BASIN DEIS

PURPOSE AND NEED

The Council on Environmental Quality's (CEQ) National Environmental Policy Act (NEPA) Regulations require that an environmental impact statement (EIS) contain a statement on the underlying purpose and need to which the agency is responding in proposing the alternatives, including the proposed action (40 CFR Sec. 1502.13). This portion of the document is crucial in that it forms the foundation upon which the alternatives requirement of NEPA can be met.

The Penobscot River Basin DEIS does not contain a clear description of the underlying "purpose and need," as required by NEPA. Although the DEIS describes the "action" as the potential issuance of new long-term licenses for the two projects, and discusses how the document will be used to "evaluate potentially significant environmental and development effects of the projects," the overall/basic project purpose(s) and need(s) are not clearly defined.

E-61

DOI-5

The DEIS does cite to Section 10(a) of the FPA regarding the Commission's requirement to license only projects that are best adapted to a comprehensive plan for improving or developing a waterway for various beneficial public uses in addition to waterpower development: interstate commerce (i.e., tourism); protection, mitigation and enhancement of fish and wildlife (including spawning grounds and habitat); and, recreation. Section 10(a) establishes that a variety of needs specific to the Penobscot River Basin can be identified in the EIS, and that the purpose of the Federal action can be to satisfy those needs as much as possible in order to ensure that comprehensive river basin development is achieved. However, this implies that there may be a variety of project purposes and needs, specific to the Penobscot River Basin. This portion of the DEIS does not elaborate on what the specific needs and purposes are that should be addressed in order to ensure that comprehensive river basin development is achieved.

The issue is further obscured because, in the Purpose and Need section (1.0), the DEIS only identifies a single need, that being the applicant's (Great Northern Paper, Inc.) need to remain competitive in the pulp and paper industry by having a reliable source of inexpensive electric power. A secondary need for economic prosperity and continued employment in the project locale and elsewhere in northern Maine is expressed in subsequent portions of the document.

A clear statement on underlying, basic project purpose is also critical in the context of subsequent action by the U.S. Army Corps of Engineers (Corps) under Sec. 404 of the Clean Water Act (CWA). The Corps will need to authorize the filling of wetlands and impacts associated with the enhancement measures recommended in the DEIS. In accordance with CWA regulations (40 CFR 230), the project purpose must be clearly identified prior to analyzing the proposed action and alternatives.

RESPONSES TO US DEPARTMENT OF THE INTERIOR ON UPPER PENOBSCOT RIVER BASIN DEIS

DOI-5 We disagree. The EIS clearly states in section 1.1 that the project purpose is the relicensing of two hydroeleclectric projects on the West Branch of the Penobscot River. Section 10(a) of the FPA provides the context within which the Commission bases its decision, but the beneficial public uses described in section 10(a) do not represent the "project" purpose or need.

The project "need" is the applicant's need for power, which is described in section 1.2. We evaluated need in the context of the competitive nature of the pulp and paper industry and the applicant's need for inexpensive electricity, as well as its requirement for 40-hertz energy.

COMMENTS FROM US DEPARTMENT OF THE INTERIOR ON UPPER PENOBSCOT RIVER BASIN DEIS

DOI-5 Cont

We recommend that the Commission staff revise this portion of the DEIS to identify the purpose(s) and need(s) to which they are responding in these licensing proceedings. The DEIS should also state whether the applicant's basic project purpose (e.g., competitive pulp and paper operations) is different from that of the Commission under the FPA (e.g., comprehensive river basin development accommodating multiple beneficial public uses).

DOI-6

We also recommend that needs beyond increased generating capacity and economic growth be included in this portion of the DEIS in order to satisfy the comprehensive development requirement (multiple beneficial public uses) contained in the FPA. As stated in the Department's comments during scoping for this DEIS, the need to protect, restore and enhance fish and wildlife resources, and the need to protect Penobscot Indian Nation rights should also be identified at the outset of the document. (See the Fish and Wildlife Service's (FWS) September 2, 1993 letter to the Commission (hereafter FWS scoping comments); and the Bureau of Indian Affairs' (BIA) September 8, 1993, letter to the Commission (hereafter BIA scoping comments).)

DOI-7

In addition, it is unclear how the Federal Energy Regulatory Commission (FERC) staff reached the conclusion at page 1-3 that Great Northern Paper's (GNP) competitive position, which is dependent upon a reliable source of inexpensive power, is related to the fact that GNP's capacity *outstrips* its demand for products in most of its *markets*. It would seem logical that if GNP were to reduce its level of production, and consequently its need for electric power, the company would benefit economically by reducing ongoing losses caused in part by producing a product for which there is limited demand.

SCOPE OF THE EIS

The DEIS states that the Commission was requested to combine into one environmental document all licensing actions involving the Penobscot River Basin, including its West Branch, that are currently pending or will soon be before the Commission. This includes applications for relicensing the Great Northern Storage Project, located upstream from *Ripogenus*, and the *hydroelectric facilities* that are being addressed in the Lower *Penobscot* River Basin DEIS, issued in November 1994.

DOI-8

As stated in the DEIS the Commission has decided not to address the upriver storage projects, which had been recommended by several intervenors. Instead, the Commission opted to deal with cumulative impact issues that may be germane throughout the West Branch, such as the effects of hydropower development on fishery resources. We believe that this approach is short-sighted, and will limit the Commission's ability to arrive at the best comprehensive plan for the basin. The applicant currently operates 12 storage facilities on the West Branch of the Penobscot, aside from those at Ripogenus and Penobscot Mills. Given the absence of generating facilities at any of these projects, the applicant could alter current plant operations in order to utilize the upriver facilities for power generation. This change in operations could address the basic project purpose of providing a reliable source of inexpensive electric power to ensure competitive pulp and paper operations, while allowing for greater allocation of water resources for habitat protection and other environmental values at the Ripogenus and Penobscot Mills Project.

RESPONSES TO US DEPARTMENT OF THE INTERIOR ON UPPER PENOBSCOT RIVER BASIN DEIS

DOI-6 See response to DOI-2.

DOI-7 The staff finds that Alternative 2 (final recommendation) would increase the cost of power from the two projects by about one percent. We conclude that the competitive position of the two mills would not be adversely affected as their total costs of production would increase only minimally (i.e., less than one percent depending on the proportion of total production costs that are accounted for by electric power). The current market supply and demand conditions are the dominant influences on GNP's competitive position.

DOI-8 GNP has agreed to the inclusion of a reopener to allow modification of the water use plan, if analysis of the upper projects during relicensing produces unanticipated findings that require changes. We recommend the orders for both the Ripogenus and Penobscot Mills projects include an article containing a reopener clause for consideration of changes in water use in the West Branch when the upper storage projects are evaluated for relicensing.

COMMENTS FROM US DEPARTMENT OF THE INTERIOR ON UPPER PENOBSCOT RIVER BASIN DEIS

DOI-9

We also note that the Commission has not succeeded in the DEIS in its intent to fully address cumulative impacts to natural resources within the West Branch. The document does not address the impacts to landlocked salmon, brook trout and anadromous species (principally sea run Atlantic salmon) at the upstream and downstream projects, including those on the main stem, that were intentionally excluded from the DEIS. Further, the Commission fails to consider the cumulative impacts of the West Branch projects on the rights and Federal trust resources of the Penobscot Indian Nation.

DOI-10

Regarding the Commission's rationale for using separate NEPA documents for the lower basin projects and those on the West Branch, we believe that the linkage and similarities may be greater than is presented in the DEIS. First, the upper basin projects regulate and augment water flows throughout the remainder of the river, such that the feasibility of continued operation of existing, as well as construction of any new, hydroelectric facilities downstream would likely be compromised if more natural river flows were to return. (This is a possible outcome, based on agency and PIN recommendations for restored aquatic habitats at the West Branch Projects.) Second, the West Branch historically supported runs of anadromous Atlantic salmon, and provided spiritual and physical sustenance as well as a means of transportation and trade for native peoples inhabiting the basin. Both are important issues to the Department in the licensing proceedings in the lower river basin.

The Commission's charge under Sec. 10(a) of the FPA is in terms of a single comprehensive plan for the waterway(s), which in this case includes the entire Penobscot River Basin. Accordingly, decisions reached in each DEIS should not be made in a piecemeal fashion, but rather reflect a consideration of cumulative impacts, resource needs and balance throughout the basin.

PROPOSED ACTION AND ALTERNATIVES

DOI-11

In the DEIS, the Commission considers a narrow range of alternatives in evaluating whether to issue new licenses for the Ripogenus and Penobscot Mills projects on the West Branch. This includes the applicant's proposal, and operational alternatives that have been recommended by the Commission staff, Penobscot Indian Nation (PIN), resource agencies, and conservation intervenors. Absent from the analysis are any alternative actions that could be taken by the applicant to improve competitiveness and preserve jobs in its paper mills (presumably the underlying and basic project purposes) that do not involve hydropower operations at the two projects. By doing so the Commission staff could have identified additional alternatives that met the basic project purpose(s) and also improved environmental conditions at the projects.

As was stated in the FWS scoping comments, additional alternatives should have been considered in the DEIS that involve installation of generating facilities at the applicant's dams on the West Branch of the Penobscot River. This consideration should include the licensed and unlicensed dams mentioned above, and also several storage/diversion dams at the Penobscot Mills and Ripogenus projects, specifically Ripogenus Dam, Stone Dam, and Millinocket Lake Dam. Retrofitting these dams with generating facilities could offset some of the power losses associated with the environmental measures evaluated elsewhere in the DEIS.

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DOI-9 See response to DOI-8, with respect to cumulative effects and the upstream projects. Restoration of anadromous species to the West Branch of the Penobscot River has not been proposed in any current plans and is therefore not a reasonably foreseeable action that can be considered in this EIS. See response to DOI-2.

DOI-10 We have included analysis of the effects of relicensing of the projects in the West Branch of the Penobscot River on the projects in the lower Penobscot River. See also our responses to DOI-9 and DOI-2.

DOI-11 See response to DOI-8. Installation of new generation facilities at the upstream projects is not a reasonably foreseeable action at this time but could be considered during relicensing of those projects. The feasibility of additional generating facilities at other developments within the Ripogenus and Penobscot Mills projects has already been evaluated by the applicant. Specifically with respect to Stone Dam, a new generation facility to provide flows to the Back Channel would not be economically feasible (see GNP's responses to FERC's October 28, 1993 Additional Information Request No. 4).

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DOI-12

We also believe that the Commission should have more fully considered alternative water level regimes in the West Branch, including an independent modeling of streamflow. Although the applicant prepared a Water Use Plan (WUP), based on its data and perceived demands for water, and used this as a basis for subsequent streamflow/lake level recommendations in the application for new licenses, the FWS also recommended additional analyses. (See FWS scoping comments.) The Commission addressed some of the issues raised by the FWS in Appendix D of the DEIS, but did not pursue any of these as alternatives, nor did it include an evaluation of whether the applicant's basic project purposes could be met.

We note that in the Lower Penobscot River DEIS, the Commission made an independent analysis of alternatives using the FWS' Atlantic salmon model, ASAL, after modifying inputs that had been developed by a team of interagency, tribal and other interests. It appears that the Commission has been less willing to attempt to replicate the applicant's WUP, or to modify it to address other issues, as has been recommended by the FWS and others. (In contrast to the ASAL model runs, the WUP was entirely applied by the applicant without assistance from the agencies or other interests.)

Other Issues Involving Alternatives

DOI-13

1. Use of economic analyses in evaluating alternatives. Under Alternatives 1 and 2 the Commission considers, but dismisses a number of potential environmental improvements due largely to economic consequences. The Commission is reminded that:

> Reasonable alternatives include those that are practical and feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant.[1]

It appears that the Commission has given undue weight to inappropriate economic factors in deciding whether a particular alternative should be considered. The Commission should provide a more thorough explanation of the methodology and rationale it applied in factoring project economics into its alternatives analysis, and should illustrate that the methodology is consistent with the FPA and a revised definition of project needs and purposes.

DOI-14

2. No Action Alternative. Under NEPA the Commission must include a "No Action" alternative in this and other EIS documents. According to the DEIS for the Penobscot River Basin, "no action" is considered to be the issuance of annual licenses for the next 30 to 50 years, with no change in current operations, including modifications to benefit fish and wildlife and other environmental values.

[1]CEQ Memorandum: Questions and Answers About the NEPA Regulations

RESPONSES TO US DEPARTMENT OF THE INTERIOR ON UPPER PENOBSCOT RIVER BASIN DEIS

DOI-12 We have used the applicant's water use model to evaluate additional alternatives beyond those proposed by the applicant. Some of these model runs were made by the applicant at FERC's request; however, we have independently evaluated the model and concluded it is adequate to evaluate flow needs in the areas affected by the projects. We have fully addressed issues raised about the model in Appendix D and we have revised that appendix to address additional comments by various parties on the DEIS.

DOI-13 The Commission has changed its approach to economic analysis to better reflect the changing conditions in the electric power market brought about by deregulation. We have adopted a current cost approach under which a project's cost of producing power and the value of its output (i.e., the cost of acquiring a project's output from the least-cost alternative) are based on current market costs and prices. We identified the most feasible least-cost source of alternative power for GNP; it was found to be firm purchases from Bangor Hydro-Electric (BHE).

The staff assumes that there will be no inflation and escalation of capital costs fuel prices, operating and maintenance costs, and power prices over the 30 year analysis period. Current year capital costs are amortized over the 30 year financing period at the cost of capital appropriate for the applicant. No future inflation or escalation is assumed beyond the license issuance date, and no long-term levelized values for energy and capacity are used (i.e., their use implicitly incorporates assumptions about long-term inflation and escalation rates into an analysis). The staff's position is that our revised approach to economic analysis explicitly includes the appropriate economic factors, and accurately reflects the current conditions in the electric power industry. All the economic

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This view of the "No Action" alternative is incorrect. The issuance of an interim, annual license for the pending projects represents an "action" by the Commission. If the Commission's proposed "No Action" alternative was the preferred federal action, the Commission would also be carrying out other actions on these projects including its safety and compliance inspections, collection of annual charges, and other administrative duties. If threats to public safety are discovered in the inspection process, including possible dam safety problems, or violations of the existing terms and conditions in the licenses become apparent, the Commission staff would not hesitate to take a variety of actions, including ordering major repairs or implementation of enforcement proceedings.

DOI-14 Cont

The "No Action" alternative is clearer when the licensing action involves a proposed new dam or modification of an existing facility; that is, the application for an original license or modification is denied, the new project does not go on-line, and associated environmental impacts do not occur. The same is not true for hydroelectric projects that are reauthorized by the Commission on a yearly basis while relicensing decisions are pending. Impacts due to impeded fish passage, degraded habitat, and impaired public access continue, and are sanctioned through the annual licensing process. As a result, the project is effectively provided regulatory relief and shelter from the amended FPA while an improved environment and other benefits are denied the public.

The Commission must redefine the "No Action" alternative when relicensing is involved. An analysis similar to that used for new projects must apply for applications for a new license for an existing project; i.e., the requested action, licensing, does not occur. The "No-Action" alternative means denying the license.

In the case of relicensing, the Commission could exercise its authority to decommission the project through the "No-Action" alternative. All hydroelectric operations would terminate. The Commission would remain involved to oversee site restoration until decommissioning is accomplished at the licensee's expense.

Accordingly, we recommend that the Commission modify its description of the "No Action" alternative in the DEIS as discussed above. Issuance of annual licenses (over the 30- to 50- year license term) is not a reasonable action for the Commission to consider under NEPA. Annual licenses may only be issued under Section 15 of the FPA on an interim basis, until the Commission takes action on the application, either through issuance or denial of a new license, or the Federal government takes over the project.

DOI-15

The DEIS also discusses (but does not seriously consider in terms of meeting basic project purposes) additional structural and non-structural alternatives to the applicant's proposal, including conservation and windpower. Use of other technology to satisfy future demand for energy, as considered in this part of the DEIS, could result in a variety of significant "actions" for the existing dams and project works, including decommissioning and removal.

DOI-13 Cont. analyses in Sections 2.4 and 5.1 of the FEIS have been redone using our revised methodology. The staff's position is that our revised economic methodology is consistent with the FPA.

DOI-14 FERC has not changed its definition of baseline and no-action. Baseline conditions continue to be existing conditions, not pre-project conditions. No-action refers to continued project operation under the existing license.

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DOI-15 Cont

3. Dismissal of "nonexclusionary" alternatives, including conservation. The DEIS eliminates from consideration a variety of alternatives, including conservation and improvements at other generating facilities, because such measures do not involve the burning of fossil fuels. (Sec. 2.4.2.1) We find this reasoning to be somewhat arbitrary, given that all of the other alternatives in the DEIS involve measures that are "nonexclusionary" (i.e., do not burn fossil fuels) and are used in addition to the applicant's other hydropower facilities in the Penobscot River Basin. We believe that the major criterion that should be used in determining whether to include any alternative in the EIS is whether it addresses the basic project purpose (which is presumably to maintain the applicant's competitiveness in the pulp and paper industry and protect local employment).

The alternatives eliminated by the Commission because they are "nonexclusionary" are reasonable and should have been included in the DEIS because they could be used to produce, or reduce the demand for, electricity. The failure to give serious consideration to conservation and other such measures in this DEIS is contrary to the criteria set forth in Sec. 10(a) of the FPA for deciding whether a project is best adapted to a comprehensive plan for the waterway.

E-66

DOI-16

4. Failure to consider denial of license applications. The DEIS states that no one has recommended license denial, decommissioning of facilities and removal of the dams at the Ripogenus and Penobscot Mills projects, and therefore these were not considered as reasonable alternatives in the DEIS.

In the review of a license or permit application, the possibility for denial should always be considered. Relicensing is not to be taken as a given under the FPA; hydropower licenses are a privilege "justified only on the theory of resulting benefit to the public," and are thus revocable and not vested rights. Niagara Mohawk Power Corporation v. Federal Power Commission, 379 F.2d 153, 155 (D.C. Cir. 1967). Otherwise the objectivity of the application process becomes questionable, as the Commission strives to determine under what terms a new license should be given, rather than first addressing the fundamental issue of whether it is environmentally acceptable to do so. The Commission, on December 14, 1994, issued a Policy Statement in which it concluded that it has the "legal authority to deny a new license at the time of relicensing" if no license can be fashioned that will comport with the statutory standards, particularly that of Section 10(a) of the FPA. (See, Policy Statement - Project Decommissioning at Relicensing, 69 FERC ¶61,336). While the Commission may not choose to implement a denial option, consideration of this option would allow for a cumulative impact review. In this way, a complete review of dam impacts on the Penobscot River, its associated wetlands, and plant and wildlife resources could be done. Accordingly, we recommend that license denial for all pending applications be a required alternative in the EIS.

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DOI-15 The staff identified five alternative power sources in the DEIS: improvements in the efficiency of existing hydropower generation, wind generation, reduction of conservation voltage, refuse-fueled generation, and fuel cells. In evaluating these alternatives, the staff considered the first three to be non-exclusionary because these sources have low marginal costs and, as such, would displace higher cost fossil fuel generation. As non-exclusionary resources, they are not considered to be reasonable alternatives to hydropower and therefore we eliminated them from the analysis. Refuse-fueled generation and fuel cells were rejected for both operational and environmental reasons (see section 2.0). The staff determined the only other power source currently available to GNP to be Bangor Hydro-Electric; GNP does not have access to wholesale power in NEPOOL.

The staff does not have evidence of large amounts of potential energy savings that could be obtained at GNP's mills. To the contrary, the applicant has submitted documentation describing the conservation measures they have implemented. As noted above, there are strong economic incentives for GNP to economize on energy use rather than waste it, particularly when energy is a major cost input. The staff finds that more conservation projects are likely to be found cost-effective if their savings are valued at the cost obtaining replacement power from BHE, than if they are valued at the much lower cost of hydropower. We agree that conservation under some circumstances may be the least-cost source of power other than hydropower. See response for DOI-3.

DOI-16 Cont

DOI-16 We disagree. No party recommended license denial and we have no basis for considering it as a project alternative. See Section 2.3.4 of the FEIS.

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DOI-17

5. Consideration of an alternative which describes conditions without the existing projects. In order for cumulative impacts to be considered, an alternative which describes conditions without the dams must be considered. Such a comparison would allow for the most accurate accounting of unavoidable impacts to wetlands, plants, fish, wildlife, and their habitats which would continue or occur as a result of relicensing.

On page 2-23, it is stated that the "No-action" alternative was used to "establish baseline environmental conditions to compare with other alternatives." The Department advocates that the Commission adopt the without-or no-project condition as the baseline paradigm most in keeping with customary impact assessment, the need to consider license denial, and its authority to decommission projects at relicensing.

DOI-18

The PIN has used the Penobscot River, including the West Branch, since time immemorial and bases the condition of the resource as it existed without the dams. The existing dams were contributory to the decline of the runs of Atlantic salmon and other anadromous fish in the West Branch, and therefore the only appropriate baseline for impact assessment and comparison of alternatives is consideration of the river without these obstructions. The Department therefore requests that the Commission redo its analysis of benefit:costs and resource tradeoffs between the different alternatives such that they are based in the final EIS on the without-project condition.

AFFECTED ENVIRONMENT

Geology and Soils

DOI-19

The DEIS identifies the geologic significance of the portion of the West Branch of the Penobscot River immediately below Ripogenus Dam, known as the Upper Gorge, noting the steep bedrock outcrops and surface boulders. The document should also mention the similar geologic features in the river segment located downstream below Stone Dam (Penobscot Mills Project), particularly in the vicinity of Grand Falls.

Streamflow

DOI-20

The DEIS describes the streamflow regulation that occurs in the Penobscot River Basin due largely to the applicant's hydropower operations at Penobscot Mills and Ripogenus. In order to accurately describe cumulative impacts to streamflow in the basin, the staff should identify and discuss the magnitude and timing of a natural discharge regime in the basin. We note, however, that this has been done for the so-called 7Q10 flow (lowest flow that would be expected to occur over a 10-year period for a duration of 7 days). The DEIS states that a natural (unregulated) 7Q10 flow would be 81 cfs at Ripogenus and 126 cfs at Dolby (Penobscot Mills project) (p. 3-6). Although a discussion of natural 7Q10 may seem academic in light of the long history of waterflow regulation in the basin, in which normal low flows have been greatly augmented using reservoir storage, the Department emphasizes that the magnitude of proposed environmental flows at the projects is in some instances far below what would have occurred during what many consider to be drought conditions (i.e., 7Q10).

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DOI-17 See our response to DOI-14. Although we have not considered pre-project conditions as a project alternative, we have considered impacts to specific resources in relation to flows or other conditions which may have existed in the absence of the projects (e.g., minimum flows or stabilized lake levels).

DOI-18 We concluded that dam removal is not a reasonable alternative for the Penobscot Mills and Ripogenus projects. We determined that no highly significant environmental value or public use is rendered inviable by the existing developments in this project. The power lost as a result of removal of the project dams would place a significant economic impact on the licensee and the local communities. In addition, existing valuable fisheries for landlocked salmon and important recreational use of both the project impoundments and the riverine segments between impoundments would be eliminated by removing the dams. The staff presented this decision in Scoping Document 2 (November 1993). See also response DOI-2.

DOI-19 We have revised the EIS to remove the description of the Upper Gorge. Specific information regarding various areas of both projects (including Upper Gorge and the Back Channel) are contained in GNP's application and need not be repeated in the FEIS.

DOI-20 Comment noted. As you stated in your comment, the DEIS already states the unregulated 7Q10 flow for the project area.

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Water Quality

DOI-21 The DEIS states that riverine segments of the Penobscot Mills Project meet or exceed State of Maine water quality standards (p. 3-9). This finding is presumably based on the MDEP's water quality certification for the project, issued in 1993. However, the DEIS fails to acknowledge that the MDEP waived certification authority for the segment of the West Branch below Stone Dam (Back Channel). In addition, according to the MDEP's 1994 Water Quality Assessment for Maine, the four-mile section of the West Branch below Stone Dam does not attain the aquatic life standard for its classification (Class C) because of dewatering due to hydroelectric power generation.

The state's 1994 Water Quality Assessment also found that two other portions of the Penobscot Mills Project area are in non-attainment of water quality standards. These include a three-mile segment of Millinocket Stream (untreated residential wastewater causing violation of bacterial standard) and a 0.5-mile river reach within Dolby Pond (dissolved oxygen below 5.0 ppm due to industrial discharges and the presence of an impoundment used for hydroelectric power generation).

We recommend that the final EIS correctly report the current water quality conditions in the West Branch of the Penobscot River as described in the state's 1994 Water Quality Assessment. This report was issued after the applicant submitted their application and subsequent to the water quality certification process.

Toxics

The DEIS focuses on mercury contamination in the project area and its implication for certain fish and wildlife resources (e.g., bald eagles). While the occurrence of mercury and its relation to project operation is an important issue in these relicensing proceedings, the DEIS should also mention other contaminant investigations that have been conducted in the project area and list other potential point and non-point contaminant sources. This is DOI-22 particularly important in the context of discussing cumulative impacts to water quality due to contamination.

One such study that deserves mention is the State's dioxin monitoring program. In the 1988-1990 review of the program (Mower 1990), small amounts of dioxin (0.94 pg/g) were reported in sludge from the wastewater treatment plant in Millinocket. Mower's report also summarized a fish study in which furans were detected in smallmouth bass and white suckers taken in the West Branch below East Millinocket. While we are not suggesting that dioxins and furans are major contaminants of concern in the project area, these omissions in the DEIS suggest that not all of the potential contaminants or contaminant sources in the project area were identified.

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DOI-21 We have revised section 2.2.1.2 of the EIS to include MDEP's waiver of water quality certification for the Back Channel. We have revised section 3.4 to include information in MDEP's 1994 report that became available after the DEIS was published.

DOI-22 We have revised the EIS to include information from Mower (1990) as you suggest.

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Fishery Resources

Anadromous Fish

The DEIS identifies the fact that anadromous fish, including sea run Atlantic salmon and clupeids (American shad and/or river herring) were present in the West Branch of the Penobscot River (p. 3-13). The Commission notes that historic runs of these species were substantially reduced as a result of timber-related industries, dam building and pollution.

DOI-23

The DEIS fails, however, to discuss any plans for restoring anadromous fish runs to portions of their historic habitat in the West Branch. The Maine Atlantic Sea Run Salmon Commission's (ASRSC) Strategic Plan for the Management of Atlantic Salmon in the State of Maine (Strategic Plan) issued in 1984 identifies as its goal the restoration of self-sustaining salmon runs in historical habitat. Although current restoration and management efforts do not include the West Branch of the Penobscot, it should be expected that the ASRSC will at some time consider restoring salmon in suitable habitat to this part of the drainage (recognizing that any potential conflicts with resident fisheries management would have to be addressed).

The restoration of anadromous fish runs to the West Branch of the Penobscot River is a critical issue to the PIN, which historically depended upon such fish for sustenance. As requested in the BIA's scoping comments, the EIS must examine the impact of continued operation of the projects on the probability of restoring Atlantic salmon, American shad, and river herring populations, as well as effects on resident fish populations. The barrier to passage for anadromous species posed by the West Branch projects must be resolved.

We also note that anadromous fish populations that existed in the West Branch were subjected to the same pressures as those fish in the lower Penobscot River basin, and were similarly extirpated as a result of human activities. This establishes a clear linkage with the Commission's ongoing DEIS for the Lower Penobscot River Basin, in contrast to the position taken in Sec. 1.3.3 of the Penobscot River Basin DEIS.

Resident Species

DOI-24

The DEIS focuses on several resident fish species, including landlocked Atlantic salmon, brook trout, rainbow smelt, lake trout, and smallmouth bass. However, it should be noted that both landlocked salmon and smallmouth bass are not native to the West Branch. While we recognize that landlocked salmon are well-established and support a substantial fishery in the West Branch, we believe that the Commission should give adequate consideration to the needs of native fish species, both game and non-game, particularly in reference to cumulative impacts and biodiversity (see below).

The DEIS notes that the fishery for native brook trout declined in the West Branch in the 1950's, indicating that this was likely a result of the increasingly popular fishery for landlocked salmon. We suspect that an equally causative factor was the change in flow regulation that occurred in the West Branch after the McKay powerhouse was completed (1953). The higher than natural flows below McKay are more suitable for landlocked salmon than brook trout, as has been demonstrated elsewhere using instream flow studies.

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DOI-23 See also response DOI-2 and DOI-9.

DOI-24 Comment noted. Existing conditions form the baseline against which impacts are assessed. Furthermore, DIFW has emphasized management of landlocked salmon and lake trout within the project area. Therefore, we will not expand the FEIS to include a cumulative impact analysis for other species.

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DOI-24 Cont

(See for example, license application for the Moosehead Lake Project, FERC No. 2671, located nearby in the Kennebec River Basin.)

We note that the DEIS acknowledges a relatively depauperate fish community in portions of the Penobscot Mills project area, compared to upstream portions of the river. We believe that this lack of species richness is due in part to hydropower operations, including water diversions, and diminished water quality, as discussed above. These cumulative impacts to the natural aquatic community should be further evaluated in the EIS.

Wetlands

DOI-25

The DEIS describes the types and amount of wetlands occurring in the area occupied by the Ripogenus and Penobscot Mills projects. Insofar as some of these wetlands are proposed to be altered in the recommended Alternative 2, it would be useful to have more information on specific functions and values of the affected areas. This information will also be needed by the Corps in its review of any subsequent applications for permits needed before the applicant initiates construction. In order to expedite the permitting process, and to avoid subsequent delays, we recommend that the final EIS include all necessary information that may be required by the Corps regarding modification of wetlands in the project area.

DOI-26

As part of its investigation of project-related impacts on wetlands, the applicant evaluated the quantity and composition of riparian areas bordering the West Branch below McKay Station. As reported in the DEIS, the applicant concluded that wetlands along the West Branch closely resembled those in unregulated lakes in remote parts of Maine. The final EIS should specifically identify the location of those unregulated lakes that were assessed by the applicant, as this was an issue that was not fully resolved during the consultation process. (See for example the Department's comments to the Commission, dated May 24, 1993, regarding the Ripogenus relicensing application.)

River and Land Management Plans

DOI-27

The DEIS describes several comprehensive plans that have been filed by State of Maine agencies, and that are to be considered in the licensing process, pursuant to Sec. 10(a)(2) of the FPA (pp. 3-30 - 3-31). Given the historical occurrence of Atlantic salmon in the West Branch, and the long-term restoration goal discussed above, we recommend that the final EIS include the following additional comprehensive plans:

Strategic Plan for the Management of Atlantic Salmon in the State of Maine. Maine Atlantic Sea Run Salmon Commission, 1984.

Atlantic Salmon Restoration in New England. Final Environmental Impact Statement 1989-2021. U.S. Fish and Wildlife Service. 1989

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DOI-25 Section 404 Clean Water Act wetlands permit review is performed by the Corps, not the Commission. Hence, it would not be appropriate for us to detail what information the Corps may require for its review (if any) of the wetlands permitting.

DOI-26 This particular description of these wetlands in the DEIS is subjective and has no direct bearing on the licensing process of the project.

DOI-27 Restoration of anadromous species to the West Branch of the Penobscot River is not currently planned by either state or federal agencies. The West Branch is not included in either of the plans you cite. Thus, our recommended alternative does not consider those plans.

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Threatened and Endangered Species

Bald eagle

DOI-28 As reported in the DEIS, the endangered bald eagle (Haliaeetus leucocephalus) occupies the West Branch of the Penobscot River Basin throughout the year (p. 3-29). There are seven pairs of eagles (one more than reported in the DEIS) that are known to nest within the project area. The West Branch also provides some wintering habitat, although such use is limited by availability of open water. (The DEIS incorrectly states that the area is significant for wintering birds.)

Candidate Species

DOI-29 The DEIS also mentions the presence of several species in the project areas that are considered to be candidates for listing under the Endangered Species Act (long-tailed shrew, North American lynx, and Orono sedge). Of these the long tailed shrew does not need to be considered because it has been reclassified as a category 3C species, indicating that it is more abundant than previously believed.

Four additional candidate species may potentially occur within the project area, and should be addressed in the DEIS, including the yellow lampmussel (Lampsilis cariosa), brook floater (Alasmidonta varicosa), Extra striped snaketail dragonfly (Ophiogomphus anomalus), and the Midget snaketail dragonfly (Ophiogomphus howeii). Information pertaining to the distribution of these species is severely limited, although both species of freshwater mussels and both dragonflies have been recorded in the main stem of the Penobscot River.

DOI-30 The two federal candidate species of freshwater mussel, and the Squafoot mussel (Strophitus undulatus) have been proposed as state endangered or threatened species. All three species are restricted to flowing waters of unpolluted rivers and streams. Exuvia (exoskeletons shed during molting) of O. howei were observed in the both the East (1993) and West (1994) Branches of the Penobscot River. O. anomalus and O. howeii have been proposed as state listed threatened and endangered species, respectively.

DOI-31 Current and historic project operations may limit the distribution and abundance of these species within this watershed. Restoration of appropriate flow rates to the West Branch of the Penobscot River below Stone Dam may allow for these species, as well as numerous other aquatic resources, to repopulate this area. Although candidate species are not formally protected under the Endangered Species Act (ESA), the FWS encourages their consideration during project planning. Protecting species when they are listed as candidates may reduce the need for formal protection in the future.

The DEIS also mentions the presence of common loons in both project areas. Although this is a bird species of concern in Maine, it is not on the Federal or State endangered species list.

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DOI-28 We have added a sentence to the FEIS stating that, according to FWS, there were seven pairs of bald eagles known to nest within the project area in 1995. We have also changed the FEIS to indicate that although the West Branch is one of the most important nesting areas for bald eagles, a relatively small proportion of bald eagles winter in Maine's interior.

DOI-29 We have added a sentence to the FEIS stating that we did not consider it an important species in terms of our review.

DOI-30 In the FEIS we indicated that these species could potentially occur in the project area.

DOI-31 Opinion noted.

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Recreation

DOI-32 Although the channel downstream of Stone Dam does not at present support any significant fishery due to lack of habitat, the "potential habitat is extensive," (DEIS at page 3-20). The West Branch supports a significant amount of recreational fishing and is "recognized as one of the world's premier landlocked salmon fisheries...." (DEIS at page 3-38). The applicant claims that it cannot afford to put sufficient flows into this 4.5 mile segment of the original river to redevelop a high quality fishery and provide additional opportunity for Class III-IV boating. However, data supporting this claim are not provided; the applicant has claimed that such information on its corporate economic status is proprietary. Such critical assertions must be fully supported by data if they are to be considered valid. The Commission can not make an informed decision without this supporting data.

DOI-33 Although commercial rafting use apparently peaked in 1985, this is likely due to the combination of increased user fees, the State's cap on commercial passengers per day and the increasing popularity of the Kennebec and Dead Rivers. However, the West Branch contains other recreational opportunities which are currently underutilized due to lack of water, such as the channel below Stone Dam and Millinocket Stream. Again, the applicant's assertions of financial limitations on providing flows to enhance recreational opportunities must be justified by data in order to be considered valid. Even if found to be valid, those claims must be balanced against the value of providing additional recreational opportunities to this nationally significant resource area.

DOI-34 The applicant often releases enough water into the Upper Gorge to support white water boating, but due to the lack of notification or predictable scheduling, these releases are not available to the public. A formal notification system, with a dedicated phone line should be implemented, and releases associated with scheduled maintenance should also be incorporated into a published schedule.

DOI-35 General recreational use in the project area peaked in 1986, and has remained relatively constant. This is not consistent with recreational use nation-wide, but can be attributed to the applicant's institution of access fees at its gates in 1987.

DOI-36 GNP has reached an agreement with the Fin and Feather Club to allow Maine residents free access. However, such an agreement should extend to all users regardless of domicile.

Land Use

DOI-37 While the applicant owns most of the land surrounding the project area, it asserts that there is a cost associated with protecting a 200 to 500 foot buffer around the impoundments and river sections. The Commission should state how this cost is determined; whether it is considered to be an opportunity cost associated with protection rather than sale of lands or is caused by purchase of additional lands or interests therein. The Commission estimates that the 15 percent of the impoundment shorelands currently unprotected that would be part of the proposed protection plans in Alternatives 1 and 2 and not owned by the applicant represent approximately 2,000 and 9,500 acres respectively. The cost figures associated with this land acquisition appear to be highly inflated at $1,000 per acre for conservation

DOI-32 Increased minimum flows in the Back Channel would primarily create nursery areas for fry and juvenile salmon. Little adult habitat would be created. Young salmon reared in the Back Channel might contribute to adult populations downstream, but spawning habitat is limited downstream, and the shallow, warm water of the downstream impoundments represent marginal salmon habitat. We have estimated that the Back Channel might produce no more than several hundred adult salmon under optimal conditions. We do not support provision of increased minimum flows into the Back Channel because the benefits to recreational fishery resources are minimal and not commensurate with the costs. See Section 4.8.1.3.

DOI-33 See Section 4.8.1.1. Both the Back Channel and Millinocket Stream would require substantial flows to be navigable, and such flows would jeopardize other environmental enhancements. The Back Channel would only provide an approximately 4.5-mile-long boating trip in a less aesthetically pleasing setting than along the West Branch. Millinocket Stream would provide a longer trip (approximately 7.8 miles), but with only Class I and II whitewater. Our analysis suggests neither of these stream segments would attract commercial boating or significant levels of private boating activity.

DOI-34 Comment noted. Staff's recommended alternative includes provisions for whitewater boating releases in the Upper Gorge.

DOI-35 Opinion noted. This comment wil be addressed in any order issued for the project.

DOI-36 See Section 4.8.1.5.

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easements. Similar lands in like portions of northern New England are normally available for $300 to $400 per acre for fee acquisition. The Commission should retain an independent appraiser to determine the actual value of these lands and interests therein in order to allow staff to make an accurate determination of the financial impacts associated with their protection. DOI-37 Cont

Given the presence of the conservation easement referred to at page 3-47, it is unclear as to how either Alternative 1 or Alternative 2 would cause an adverse financial impact on the applicant in the area already covered by the easement.

Cultural Resources

The Commission in the DEIS disregards the interests of the PIN in the cultural resources of the West Branch. While the historic use of the project area by the PIN is acknowledged (p. 3-51), the Commission fails to go beyond that acknowledgment to pursue a clear understanding of the cultural significance of this area to the PIN. The PIN traditionally used the West Branch for travel and trade, in addition to depending upon its resources, including fish, wildlife, and plants, for sustenance. Tribal members travelled up the West Branch, including the now de-watered stretch below Stone Dam, by canoe to reach Mt. Katahdin (a spiritually significant site) and the Debsconeag area, as well as to associate with other tribes in the interior. These uses and values are ignored in the DEIS. The Department requests that these uses and values be a major issue in the final EIS, particularly in regard to the effect that hydropower has on these values and uses. DOI-38

ENVIRONMENTAL IMPACTS

The DEIS states that the Ripogenus and Penobscot Mills projects are so closely linked in terms of their operations, that the Commission has conducted some of their impact analyses on a cumulative basis (p. 4-1). While we agree that the projects have been integrated into a single system by the applicant, additional facilities on the West Branch (e.g., upstream storage projects) fall into the same category. The Commission should have incorporated the impacts of these facilities into the DEIS, as they are also inextricably linked to the projects covered in the DEIS.

The Commission's collective approach to impact assessment on the West Branch also raises a question regarding decision-making in connection with comprehensive development. In the past the Commission routinely judged whether a project was "best adapted" (i.e., the requirement in Sec. 10(a) of the FPA), based in part on the applicant's proposed mitigation and enhancement measures. Each project typically stood on its own merits, and did not depend upon environmental protection measures being taken elsewhere in the drainage. DOI-39

For Ripogenus and Penobscot Mills, the applicant has dealt with environmental needs in a collective manner for both projects using a streamflow allocation model (WUP). One result has been to concentrate mitigation and enhancement measures at Ripogenus while recommending fewer environmental measures at the Penobscot Mills Project. The Commission has appeared to accept this reasoning (particularly with regard to fishery resources and recreation), departing from its usual practice of requiring each project to

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DOI-37 The staff revised potential cost estimates for the shoreline easements upon review of comments received during the DEIS comment period and updated land valuation information. Staff determined the potential costs, based on waterfront footage for the easements proposed in Alternative 1, approximately $24.6 million, would be greater than previously determined in the DEIS. Our evaluation of benefits suggests that the additional protection of the 500-foot expansion does not merit the much higher cost of that alternative as compared to the recommended alternative ($24.6 million versus no direct costs). See section 4.9 for further discussion.

DOI-38 See response to DOI-2.

DOI-39 The upper storage projects are included in GNP's water use model and the alternatives evaluated with that model, including additional model runs requested of GNP by FERC staff. These projects are not up for relicensing now but these projects are included in the water use model as a combined input. This input was kept constant in developing the water use plan although the model could be used to vary the input. We saw no need to do this however, since no one has suggested alternative management schemes for the upstream projects that would provide additional downstream benefits. In addition, GNP has agreed to inclusion of a reopener to allow modification of the water use plan, should analysis of the upper projects during relicensing result in unanticipated findings that desired changes could be made. We recommend the orders for both the Ripogenus and Penobscot Mills Projects include an article containing a reopener clause for consideration of changes in water use in the West Branch when the upper storage projects are evaluated for relicensing.

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DOI-39 Cont

independently meet the FPA's "best adapted" standard. This approach is inappropriate when the Commission intends to license these projects separately. As separate and individual projects, each should stand alone in terms of the mitigation and enhancement measures required to proceed with licensing.

Streamflow

DOI-40

The Commission relied largely on the applicant's streamflow model (WUP) to evaluate alternative water regimes in the project area. However, a number of recommended alternatives were not addressed by the Commission, even though they were raised during scoping or in comments on the final license applications. These include minimum flows higher than 350 cfs below Stone Dam and diminished pumping from Millinocket Lake to North Twin impoundment. (See Department's letter to the Commission, dated May 24, 1993, and FWS scoping comments.)

Furthermore, it appears that the WUP was based on the applicant's full use of water for industrial purposes. As stated in the DEIS, the applicant manages its storage system on the West Branch to maximize sustained power generation for its mills in Millinocket and East Millinocket. The absence of explicit inputs for power generation in the WUP (see for example Table 4-1 in the DEIS) leads to the conclusion that continued full use of the water by the applicant for power generation is a given. While exclusive use of water resources for hydroelectric power generation may have been acceptable when these projects were unlicensed, or during their initial license terms, the FPA now contains an "equal consideration" standard to address other needs. The WUP as described in the DEIS should have more equitably displayed the competing demands for water in the West Branch, including the power needs of the applicant. This would have given a clearer indication of whether the WUP actually achieves balance among competing needs.

DOI-41

As indicated in the BIA's scoping comments, sufficient flows should be provided below Stone Dam to support viable fisheries, to meet existing water quality standards, and to permit the use of this river channel for transportation. PIN members historically travelled by canoe up this river channel and through the West Branch to reach sites of cultural significance. These interests in flows are ignored by the Commission in the DEIS. Consideration and accommodation of these uses must be addressed in the EIS.

Water Quality

DOI-42

The DEIS should have more fully addressed the non-attainment of water quality standards in the Penobscot Mills project area, as discussed above. The Commission has overlooked the problems in Millinocket Stream, deferred consideration of the dissolved oxygen deficiency in Dolby Pond until after licensing, and has only dealt with the non-navigability of the West Branch below Stone Dam. As mentioned previously, the West Branch below Stone Dam does not meet the aquatic life standard, which reads:

> "Discharges to Class C waters may cause some changes to aquatic life, provided that the receiving waters shall be of sufficient quality to support all species of fish indigenous to the receiving waters and maintain the structure and function of the resident biological community."

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DOI-39 Cont Enhancement measures appear to be concentrated at the Ripogenus Project because the measures proposed there are less costly for the environmental benefit produced, as compared with some measures at the Penobscot Mills Project (e.g., additional flows to the Back Channel). We considered enhancement measures and made balancing decisions for each project separately.

DOI-40 You appear to have confused the applicant's water use plan (WUP) with the model they developed to evaluate various flow alternatives. The model can be used to evaluate various flow alternatives, including the Back Channel flows much greater than 350 cfs; we decided that flows to the Back Channel greater than 350 cfs were too costly to consider as a reasonable alternative. However, the model can simulate any desired flow condition. It can also be used to simulate water elevations of the two largest reservoirs in the system, Ripogenus and North Twin lakes. Your request for including explicit inputs for power generation in the water use model is irrelevant and has no bearing on the applicability of the model for evaluating alternatives.

DOI-41 See response DOI-2.

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DOI-42 Cont

Although the MDEP waived certification authority for this segment of the West Branch, the Commission has an *opportunity* and an *obligation* to *ensure attainment* of water quality standards in the project area. As discussed in the state's 1994 Water Quality Assessment, and in the DEIS, this could be accomplished by eliminating the dewatered condition of this portion of the West Branch of the Penobscot River.

Toxics

DOI-43

The DEIS notes the elevated levels of mercury in fish and bald eagles sampled in the project area by the applicant and others, including the FWS. As mentioned in the FWS' scoping comments, the applicant's contaminants study did not follow agency-prescribed methods, including sampling within the Ripogenus project area. As discussed below, the applicant's findings do not entirely agree with other work that has been done in the area, nor were the statistical analyses replicated by independent reviewers. Accordingly, the Commission has been too hasty in accepting the applicant's conclusions about the relation of project operations to mercury levels in fish and wildlife populations.

DOI-44

Fish tissue data collected by the applicant for the mercury study do not compare well with what was collected for the Regional Environmental Monitoring and Assessment Program (REMAP) (Stafford 1994). For example, lake trout from Debsconeag Lake that were analyzed in the REMAP Program (0.47 ug/g) contained higher levels of mercury than what was reported by the applicant (0.27 ug/g). Similarly, smallmouth bass from Molunkus Lake were also higher in the REMAP Program (1.12 ug/g) than in the applicant's study (0.68 ug/g). These data discrepancies may be related to differences in sampling methodologies, but they may also suggest problems in analytical procedures and data quality. The applicant's mercury study report did not include standard quality assurance/quality control information (e.g., spike recoveries, duplicates, certified reference material). Therefore, it is difficult to judge the validity of the applicant's data without this quality assurance information.

DOI-45

The applicant's information on sediment, tissue residue, pH, and water color suggest that Dolby Pond may not be a representative "control" location. The mercury concentrations in sediment from Dolby Pond are nearly three times higher than the project area with the next highest concentration (Millinocket Lake) and five times higher than some of the other project areas sampled. The mercury levels in Dolby Pond may indicate different, site-specific biological conditions than the project areas or the presence of a local source of contamination upstream from the pond. Unless no biological factors or local mercury sources can be identified that would explain the elevated concentrations, inclusion of Dolby Pond in the comparison to other project areas does not seem appropriate.

DOI-46

Detection limits used in the analysis of project water samples were higher than generally accepted limits for mercury investigations. To accurately measure the concentration of mercury in water, ultra-clean sampling and analytical procedures are required. The detection limits used in the project study (0.20 ug/l) would be adequate for identifying grossly contaminated waters, but low-level detection limits (0.05 ng/l) would be required to adequately measure mercury concentrations in project waters.

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DOI-42 We have not overlooked water quality problems in the project area that are related to project operations. We have no information that any problem exists in Millinocket Stream or Dolby Pond that are caused by the operations of GNP's hydroelectric facilities. We have nevertheless concurred with the 401 WQC requirement that GNP conduct studies to determine the cause and extent of any dissolved oxygen problem in Dolby Pond. The legal status of the Back Channel relative to Maine's 401 WQC will be addressed in the order for the project.

DOI-43 FWS, MDEP, PIN, MDIFW reviewed the field and laboratory study methods and GNP revised its study plan accordingly (see Volume XIII, Application for New License for Penobscot Mills Project, Appendix A, Work Plan/Correspondence). We have reviewed the comment letters and other correspondence on the draft study plan and have determined that the comments of the reviewing agencies were adequately addressed in the revised plan.

Differences in mercury between GNP's study and REMAP could be due to different methods, analytical labs, collection years (REMAP was conducted in 1993 while GNP's study was conducted in 1992), different sizes of fish, and natural variation.

We carefully reviewed the existing information on mercury levels in fish and sediments, including other generic studies of mercury mobilization before concluding that elevated levels are not associated with project operations.

DOI-44 See response above. The QA/QC results for the tissue analysis were obtained from GNP and placed in the public record. The testing included analysis of duplicates, spiked samples, mercury reference standards, and blanks. The QA/QC results indicate that the data obtained from the mercury study were of good quality.

DOI-45 Dolby Pond was inadvertently labeled a control pond in the DEIS; this has been corrected in the FEIS. However, higher levels of mercury in Dolby pond sediments are probably the result of historic discharges from the mill operations (which discharges into the upper portion of the Dolby impoundment) and not a result of the fluctuating water levels in the reservoir. Control of mercury concentrations in the mill's effluent is established in the NPDES permitting system.

DOI-46 To obtain detection limits of 0.05 ng/l (i.e., 0.05 parts per trillion) would require ultra-clean sampling and ultra-clean laboratory analyses, which is extremely expensive to implement and unobtainable by most standard methods. The detection limits for the study were developed in consultation with the commenting agencies and clearly stipulated in the revised work plan (see Volume XIII, Application for New License for Penobscot Mills Project, Appendix A, Work Plan/Correspondence).

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DOI-47

The applicant's conclusion (endorsed by the Commission in the DEIS) that periodic drawdowns do not promote mercury accumulation requires further investigation. Analysis of the applicant's data by Terry Haines (currently with the National Biological Service) showed that lake trout and rainbow smelt had higher levels of mercury in project waters with drawdowns when compared to non-fluctuated control lakes. An additional review of the data that was performed for the U.S. Environmental Protection Agency (currently available as a draft report by Metcalf and Eddy Associates) concluded that impoundment and/or project operations are at least partially responsible for the elevated concentrations of mercury in fish tissue sampled in Millinocket Lake, North Twin impoundment and Dolby Pond. Moreover, although the applicant did not include landlocked salmon in the study, we suspect that they would also exhibit elevated mercury levels, due to their relative long life and reliance on smelt as forage. If this is true, it carries serious implications for current and proposed fishery management practices that favor salmon in the West Branch.

DOI-48

We recognize that the mechanism for increased mercury levels in some of the project waters and their associated fauna may not be entirely understood. Regarding the effects of drawdowns, we suspect that if the water were lowered during the latter part of the summer (especially when the impoundments do not entirely fill in the spring), the rate of methylation could increase, leading to heightened bioavailability of mercury in project reservoirs. Methylation of mercury generally increases in shallow waters with warmer temperatures (Bodaly et al 1993). If there is a dieback of exposed vegetation during drawdowns, this could also contribute to increased methylation rates and the bioavailability of mercury.

DOI-49

Because of the lack of agreement on the cause of elevated mercury levels in the project area, we recommend post-licensing studies be carried out by the applicant in consultation with State and Federal resource agencies and PIN. (We note that Terry Haines is currently conducting studies on the relation between drawdowns and mercury level in Maine, but we are uncertain whether any of the applicant's project areas are included.) As indicated in BIA's scoping comments, these studies should include the effect of storage impoundment fluctuations and current and past pulp and paper mill practices, and should investigate the past use of mercuric slimicides and production of chlorine gas or caustic soda via the continuous mercury cathode method. The Commission should require the applicant to investigate and examine past records of mill practices and operations at least as far back as the early 1940's. Any licenses issued by the Commission for these projects should contain reopener provisions which permit the modification of project operations should the findings indicate a causal relationship of such operations with mercury levels in fish and wildlife resources.

DOI-50

Similarly, the Department is concerned about the low Dissolved Oxygen concentrations in Dolby Pond, which the Commission indicates are "not explained" but "probably" natural phenomena (p. 4-12). The Department prefers that the studies of the relations between mill discharges and DO concentrations precede licensing; however, if the Commission continues to require post-licensing studies, the Department requests a reopener provision similar to that discussed above, which would permit the modification of project operations should the study findings indicate a causal relationship between mill discharges and DO concentrations.

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DOI-47 There is no evidence in the scientific literature that periodic draw-downs in established reservoirs increase the mobilization of mercury. In newly formed reservoirs, increases in mercury concentrations in fish have been observed, but within a few years levels, decline to pre-impoundment (Johnston et al. 1991[1]).

The information above reviewed by Terry Haines and U.S. EPA (draft report by Metcalf and Eddy Associates) relied on data that was slightly in error. GNP reissued the data entitled "Addendum Report: Correction in Mercury Tissue Concentrations of Fish Taken From Selected Lakes in Northern Maine". The data error resulted in only a 5% difference in the actual mercury concentrations (sample bag weights were not subtracted from the tissue sample weight). However, this error did not change the overall results of the study which indicated that increased mercury concentrations were not strongly linked to water level changes.

Target species to include in the GNP study were developed in consultation with the resource agencies. Landlocked salmon was not included as a target species in the revised work plan.

DOI-48 The link between draw-downs and increased mercury methylation in established reservoirs statement is speculation and is not supported by the results of the site-specific study nor the scientific literature.

DOI-49 Staff concluded that the relationship between draw-down and mercury contamination in sediment, mussels, and fish tissue has been adequately addressed in the Penobscot Mills Project studies conducted by the applicant. As part of the State of Maine's water quality certification for the project, a study on the effects of reservoir draw-down on mercury levels in fish at the Ripogenus project is being required, similar to the study conducted for Penobscot.

[1] Johnston, T.A., R.A. Bodaly, and J.A. Mathias. 1991. Predicting fish mercury levels from physical characteristics of boreal reservoirs. Can. J. Fish. Aquat. Sci., Vol. 48:1468-1475.

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DOI-50 There is currently no evidence to show that project operations affect DO in Dolby Pond. DO problems resulting from BOD loads from the mill are not within FERC jurisdiction; this issue will be discussed further in the license order for the project.

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Fishery Resources

DOI-51 The DEIS focuses on a number of issues affecting fishery resources, including streamflow below dams and powerhouses, water levels in impoundments and fish passage. Although some reference is made to non-game species, the emphasis is clearly on species that are being managed by the Maine Department of Inland Fisheries and Wildlife (MDIFW). Although we defer to the MDIFW's management decisions and priorities on the West Branch, we have in some cases advocated increased mitigation and enhancement to provide for restoration of habitat and/or additional protection of fishery resources.

Recreation

DOI-52 Adequate notice should be provided for boatable flows occurring in the Upper Gorge as a result of spillage or maintenance events. The time required for notification and an appropriate methodology, such as a dedicated phone line, should be included in the license conditions.

DOI-53 The DEIS states at page 4-48 that neither commercial nor private boating groups expressed any interest in expanding whitewater boating opportunities in Millinocket Stream or the channel below Stone Dam. This is not the case. Both the American Whitewater Affiliation (AWA) and the Maine Professional River Outfitters (MEPRO) requested flows suitable for white water boating in these areas, and a white water suitability study was conducted during the summer of 1993, which found that high quality recreational boating could be accommodated in both reaches. However, the applicant has claimed that releasing water into these areas would cause a severe economic impact, although they have not provided the data (again based upon proprietary claims) to justify those assertions.

DOI-54 While an additional week of stable impoundment levels at North Twin is an improvement over current operations, a stable impoundment should be maintained until after Labor Day, to allow for the high level of use that typically occurs during this end of the summer holiday. Otherwise, users during this weekend would be subject to unpredictable water levels which can adversely affect recreational opportunities.

DOI-55 Eliminating access fees for in-state users will result in proportionally higher fees for out-of-state users. The use of a federally licensed facility (which is also a public resource) should be provided free of charge to all users. If a fee is to be charged to any users it must be charged to all users.

DOI-56 The applicant's proposal and that preferred by staff implies that existing access and facilities are adequate to meet existing demand. However, the level of existing demand is artificially low due to the recent imposition of access fees. It is likely that there is a higher demand for use than presently occurs. The proposed reevaluation every ten years is not adequate as there will be a different operational regime in place upon the issuance of the license. This regime will provide for increased recreational opportunities, and therefore, a reevaluation should occur at a minimum of every five years to adequately keep pace with changing use and demand patterns.

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DOI-51 No response required.

DOI-52 Comment noted. Staff's recommended alternative includes provisions for whitewater boating releases in the Upper Gorge.

DOI-53 Staff determined that the Back Channel would only provide an approximately 4.5-mile-long boating trip in a less aesthetically pleasing setting than along the West Branch. We state in Section 4.8.1.1 that significant opportunities exist within the project area to meet recreational boating demand, and that the significant flows that would be required to enable recreational boating activities would jeopardize other environmental enhancements.

DOI-54 See Section 4.8.3.2. Our recommendation meets the reservoir's maximum drawdown rate and satisfies the request of SOSLA, which represents many of the waterfront property owners.

DOI-55 Comments noted. See License Order.

DOI-56 We recommend relocation monitoring studies be conducted every 6 years in consultation with various resource agencies (see section 4.8.3.4).

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Land Use

DOI-57 The applicant has stated that they may change their policy of not leasing any more camps, therefore land uses in the area could change dramatically. There may also be significant shifts in land use patterns if recreational uses become more profitable than timber harvesting, and given the high debt load of the applicant's parent company, Bowater, the sale of timber lands for other uses is not unforeseeable.

DOI-58 At pages 4-57 and 4-58, the staff provides estimates of potential residential development. Staff acknowledges that these estimates "do not account for development limitations such as steep slopes, poor soils, wetlands, or access." These limitations often have a significant impact upon any development, and to include figures as to a theoretical buildout without evaluating development limitations serves no purpose. In order to properly evaluate the actual threat of development, and thus determine exactly how much land is actually unprotected, the Commission should do a thorough analysis of development limitations, allowing for an accurate estimate and valuation of lands in need of conservation easements. From this, the Commission could come up with valid figures as to costs to the applicant for providing the project boundary increases deemed necessary by staff, and those deemed necessary by intervenors. It appears as though cost is the primary factor in the Commission's conclusion to not support the land protection measures evaluated in Alternative 1. Yet without accurate valuation information and with important economic data withheld by the applicant, the Commission is not likely to have reached a valid conclusion as to which alternative best meets the comprehensive development needs of the West Branch.

DOI-59 The Commission's proposal to allow for the establishment of a Shoreline Management Plan (SMP) does not provide any details, nor does it include any specified implementation date or methodology. The Commission would presumably develop an SMP that would represent the lowest cost to them, without the proper balancing of resource interests. Outright protection of critical lands is essential. If such a SMP is mandated, the FERC should require that those entities that have intervened in these proceedings be allowed to review and provide meaningful input on such plans as a condition to implementation. In addition, such a plan should be implemented in addition to outright land protection specified in Alternative 1 or 2.

Aesthetic Resources

DOI-60 The potential for shorelands development under any SMP scenario is not evaluated in the DEIS, and therefore, represents a potentially significant impact. The outright protection of critical riparian lands is the preferred methodology for preventing the kind of aesthetic impacts and intrusions that will erode the visual quality of the project area. Any SMP should include specific prohibitions on clearcutting within winter sight lines of any project impoundment or river section. In addition, any conservation easements developed should also contain land management plans developed with the input of the conservation intervenors and appropriate resource agencies.

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DOI-57 Opinion noted.

DOI-58 The staff revised its land use assessment and recommendations in the FEIS (see section 4.9). We considered comments received during the DEIS comment period, GNP's proposed conservation easements for the Ripogenus Project area, updated land valuation information, and further assessment of LURC land use regulations. The staff proposes, for the Ripogenus project area, two options: (1) accepting the conservation easement proposed by GNP and the State of Maine; or (2) a 200-foot boundary expansion on GNP-owned lands. For the Penobscot Mills project area, the staff recommends a 200 foot expansion of the project boundaries on GNP owned lands. The staff recommends that existing structures would be grandfathered under any of the project boundary expansion alternatives. See section 4.9 and 5.3.4 for further discussion regarding proposed protection zones for the Ripogenus and Penobscot Mills Project areas.

DOI-59 Under the preferred alternative, the staff recommends the development of a shoreline management plan for those lands to be incorporated into the shoreline boundary expansion in consultation with resource agencies and interested parties (see section 4.9.3).

DOI-60 The staff considered aesthetic resources within the project areas and these considerations were incorporated into land use recommendations (see section 4.9 and 4.10). In the preferred alternative, the proposed conservation easements or 200-foot boundary expansion on GNP-owned lands for the Ripogenus Project area and the Penobscot Mills Project area would provide protection of shoreline aesthetic resources. We also recommend development of an SMP for both projects in consultation with various resource agencies (see section 4.9.3). See also responses DOI-58 and DOI-59.

COMMENTS FROM US DEPARTMENT OF THE INTERIOR ON UPPER PENOBSCOT RIVER BASIN DEIS

DOI-60 Cont

While there is a need to improve or otherwise minimize aesthetic impacts on resources used by most people, there is a tangible value associated with preserving the wilderness quality of those areas least impacted by human intrusion.

Ripogenus Project

DOI-61

We concur with the applicant's proposed discharge regime at Ripogenus Dam, consisting of seasonal releases during the fishing season, provided the off-site habitat improvement described in the application (Holbrook site) is carried out and monitored for its effectiveness. We recognize that additional flows may be needed outside of the fishing season to maintain the aquatic community below the dam. Such additional flows will not interfere with the fishery management and enhancement measures that have been agreed to by the resource agencies.

DOI-62

We also defer to the MDIFW regarding management of the Ripogenus impoundment for landlocked Atlantic salmon, although a reduced drawdown may allow for a more diverse fish fauna (e.g., lake trout and lake whitefish). Given that the drawdowns also affect wetlands and associated wildlife, as discussed below, and could be a factor in augmenting mercury levels, including those in gamefish, a moderated drawdown should be seriously considered.

DOI-63

We also generally concur with the proposed flow regime below McKay Station, as being adequate to meet the needs of landlocked Atlantic salmon. However, as we have stressed repeatedly in these relicensing proceedings, additional instream flow studies should have been done by the applicant to evaluate whether flows below McKay could be reduced without endangering landlocked salmon in order to moderate drawdowns in the impoundment. In contrast to the findings by the Commission staff in Appendix D of the DEIS, incorporating the results of instream flow studies below Ripogenus into the WUP would have been a way to address habitat conditions under alternate flow regimes.

Penobscot Mills

DOI-64

We also defer to the MDIFW's management objectives for the Penobscot Mills project area, although note that during the initial phases of consultation, the agency was interested in restoring habitat in the West Branch below Stone Dam, and in Millinocket Stream for landlocked salmon. The record is unclear as to why the MDIFW abandoned its interest in these riverine segments, opting instead to focus on the North Twin and Millinocket Lake impoundments. However, it does not appear that their reasons are consistent with the conclusions provided in the DEIS, as discussed below.

The applicant's WUP calls for a revised drawdown regime in North Twin Lake to protect and enhance lake trout populations. We believe that it will be necessary to monitor the population after the new regime goes into effect. Because the magnitude of the drawdowns in North Twin would remain unchanged, lake trout populations (and other aquatic resources) may continue to suffer due to reduced productivity. If post-licensing studies do not show an improvement in the lake trout population, additional measures, including a reduced drawdown will be needed.

RESPONSES TO US DEPARTMENT OF THE INTERIOR ON UPPER PENOBSCOT RIVER BASIN DEIS

DOI-61 No response required.

DOI-62 GNP, the state (during the 401 WQC proceedings), and FERC staff considered drawdown limits at the major impoundments. As we stated in Appendix D of the DEIS, limiting drawdowns of Ripogenus is not a reasonable alternative, for at least 2 reasons: 1) downstream flow needs could not be met; and 2) some flood control benefits would be lost, depending on how much of a limit was imposed.

DOI-63 MDIFW agreed with the applicant that an IFIM study for the West Branch below McKay Station was not necessary and we concurred, as there was sufficient site-specific information to indicate appropriate salmon spawning and incubation flows for this area. Approximately the minimum flows recommended by FWS will be provided, except during unplanned outages when 400 cfs would be provided for no more than 3 days. At other times, the minimum would be 1422 or 1000 cfs or inflow, at times when FWS recommends 1422 or 711 cfs or inflow. We discuss flows below McKay Station more fully in section 4.2.

The water use model is not an appropriate tool to address habitat conditions, as we explained in Appendix D. It could of course be used to evaluate any desired flow regime on overall water use throughout the project area.

DOI-64 We recommend that GNP conduct post-licensing studies on lake trout in North Twin, relative to the revised drawdown regime. We also recommend GNP propose changes to this regime if study results indicate that the revised regime does not result in desired levels of enhancement.

COMMENTS FROM US DEPARTMENT OF THE INTERIOR ON UPPER PENOBSCOT RIVER BASIN DEIS

REF: FERC # 2572, 2458 20

With regard to the riverine segments below Stone Dam and Millinocket Lake Dam, we believe that additional streamflows are required to restore and maintain aquatic productivity. We also agree with the MDIFW's original position that both riverine segments could significantly enhance salmon production in the project area. Although neither segment contains significant amounts of adult salmon habitat, MDIFW's initial conclusion was that Dolby Pond would support larger fish. With adequate instream flows below Stone Dam and in Millinocket Stream, free access between Dolby and riverine spawning and rearing habitat would be assured. (Contrary to the statement in the DEIS, Grand Falls would not be a barrier to salmon returning from Dolby Pond.) The West Branch below Stone Dam in the vicinity of Grand Falls also contains adult holding areas that were not acknowledged by the Commission staff in the DEIS.

We also note that the staff's dismissal of the production of salmon below Stone Dam as inconsequential is inconsistent with what is expected to be produced by habitat improvement at the Holbrook site below Ripogenus. In both cases the potential exists to produce several hundred adult salmon according to the DEIS; however, the staff recommends enhancement only at the Holbrook site below Ripogenus, where a substantial population of salmon already exists. Contrary to the position taken by the staff in the DEIS, we believe that significant potential exists for salmonid angling below Stone Dam. That demand for angling in this reach does not now exist is not surprising, given the lack of permanent flows and restricted access by the applicant.

DOI-65

Because of the documented presence of brook trout and other native, indigenous species, including invertebrates, in Millinocket Stream and below Stone Dam, it is also clear that restored flow regimes would have far ranging benefits beyond landlocked salmon. This includes use by anadromous fish, should they be restored to this portion of the project area in the future.

Instream flow studies by the applicant only addressed the needs of landlocked Atlantic salmon below Stone Dam and in Millinocket Stream. These instream flow studies were used to formulate the recommendations for 500 cfs at Stone Dam and 60 cfs in Millinocket Stream that were contained in the Department's May 24, 1993, letter to the Commission. Because the MDIFW has abandoned its previous management objectives for landlocked salmon in these river segments, the results of the applicant's previous studies should not be used to determine instream flow needs.

As an alternative we recommend that the Commission use the FWS' established procedure for determining instream flow needs at hydroelectric projects in New England. Published as the Interim Regional Policy for New England Stream Flow Recommendations (Flow Policy) in 1981, this instream flow methodology relies on historical discharge date to determine an Aquatic Base Flow (ABF) and seasonal adjustments for fish spawning and egg incubation. (The need for spawning and incubation flows is determined by the FWS on a case by case basis.) The ABF is an estimate of the historic, unregulated median flow for August, typically when base flows occur in New England watersheds. Actual stream gaging records (collected and published by the U.S. Geological Survey) (USGS) for the month of August and for the periods when spawning and incubation occur are used to determine instream flow needs at a project.

RESPONSES TO US DEPARTMENT OF THE INTERIOR ON UPPER PENOBSCOT RIVER BASIN DEIS

DOI-65 The DEIS stated that there would be few fish produced in the Back Channel even with additional flows, relative to the costs due to lost power and within the context of fisheries within the region. We considered enhancements of existing resources within the context of balancing power and non-power uses of the project area.

Also, because DIFW has placed management priority on salmon and lake trout population which already exist, we recommend enhancements to benefit those populations rather than unknown benefits to currently non-existent populations. See also our response to PIN-35.

Based on the IFIM study for Millinocket Stream, which included brook trout, a year-round flow of 60 to 80 cfs would provide optimal habitat for this species. Following a 10(j) meeting with Interior, we recommend adopting a year-round flow of 60 cfs or inflow, whichever is less, for Millinocket Stream.

DOI-65 Cont

In the event that USGS gaging data are unavailable, or if their records indicate that the natural streamflows in the project area have been regulated as a result of upstream dam releases or water diversions, the FWS' Flow Policy calls for using regional estimates of unregulated ABF and spawning/incubation flow. According to the Flow Policy the estimated unregulated ABF in New England is equivalent to 0.5 cubic feet per second per square mile of drainage area (cfsm). Base spawning/incubation flows are estimated to be 1.0 cfsm for the fall/winter period used by salmonids, including landlocked salmon and brook trout. In all cases recommendations under the FWS' Flow Policy allow for a reduction below the ABF or spawning/incubation standards if inflow to the project area is less than the specified amount in order to prevent lowering of the water level in the impoundment.

Given the extent of flow regulation on the West Branch of the Penobscot River, the regional estimates of ABF and spawning/incubation flows apply. In accordance with the FWS Flow Policy, the AVG at Stone Dam is 945 cfs (0.5 cfsm) or inflow, whichever is less. At Millinocket Lake Dam the ABF is 60 cfs (0.5 cfsm). A spawning/incubation flow of 120 cfs (1.0 cfsm) is needed in Millinocket Stream given the documented spawning activity that is described in the DEIS. This higher flow should apply for the period October 15 through June 7, as has been recommended by the applicant for the West Branch below McKay Station at the Ripogenus Project. Spawning in the West Branch below Stone Dam is limited due to the lack of suitable substrate, and likely takes place in tributary streams. Accordingly, the FWS does not find the need for spawning/incubation flows below Stone Dam.

Wetlands

DOI-66

As discussed in the DEIS impoundment fluctuations have a continuing impact on wetlands, a phenomenon that is not restricted to the West Branch projects. As was reported by Central Maine Power Company in their report, Monitoring and Assessment of Lake Level Fluctuation Effects on Fish, Wildlife, and Wetland Resources at Brassua Reservoir, issued in 1994, drawdowns resulted in diminished wetland development, scouring, freezing and desiccation of substrates, stress or mortality of sessile or torpid organisms, and reductions in wildlife populations due to nest flooding, dewatering, and increased predation. Bald eagles nesting in the project area also exhibited elevated levels of mercury, based on FWS studies. The maximum drawdown in Brassua Reservoir is 31 feet, comparable to what can occur at Ripogenus and North Twin.

We believe that many of the wetland impacts described for the Brassua Project also occur at the applicant's impoundments on the West Branch that are used as storage facilities. Although the Commission staff is recommending wetland mitigation in the form of protected subimpoundments and loon nesting platforms, we believe that serious consideration should be given to moderating water level fluctuations to improve the viability of wetlands and enhance their use by fish and wildlife. (The Corps of Engineers will undoubtedly be interested in the applicant's efforts to minimize and avoid impacts prior to issuing permits for the Commission staff's proposed wetland enhancement measures.) At a minimum the new licenses for the two projects should require long-term studies to evaluate how well wetland functions and values are restored and maintained at the projects.

DOI-66 A total of 280 acres of affected wetlands would be improved by increasing water retention times. Such improvements would sufficiently ameliorate long-standing effects to project wetlands. As part of the Penobscot Mills and Ripogenus Licenses, we recommend that final design details, monitoring plans, contingency plans, and schedules be prepared after consultation with the Corps, FWS, and MDIFW. Final plans are to be approved by the Commission.

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DOI-66 Cont

With regard to the Commission staff's concern about impacts to riparian areas, including wetlands inhabited by beaver, along the West Branch below Stone Dam, as a result of minimum flow releases, this consequence is far outweighed by the impacts due to drawdowns in the impoundments. It is also not unreasonable to expect new wetlands to develop in this segment of the river as a result of permanent water flows, as is documented in the DEIS for the stretch of the West Branch below McKay Station.

Terrestrial Resources

DOI-67

As discussed in the DEIS the applicant proposes to manage a 2,300-acre parcel of land adjacent to the West Branch below Stone Dam for wildlife, including waterfowl. While we agree with this enhancement measure (and with the need for buffer strips and other land protection measures, as identified elsewhere in the DEIS), we recommend that detailed plans be developed by the applicant in consultation with the MDIFW and FWS. However, we do not consider the wildlife management plan as a trade-off for water flows below Stone Dam. Enhancement for terrestrial wildlife was never recommended by the agencies in contrast to the expressed need for restored streamflows below Stone Dam. If the wildlife management plan is required in the license for Penobscot Mills, the applicant should be required to monitor its use and assess its effectiveness in consultation with the resource agencies.

Threatened and Endangered Species

Bald eagle

DOI-68

During consultation with the applicant, the FWS reached the initial finding that continued operation of the project would not likely adversely affect bald eagles using the project area. (See FWS letter to the applicant, dated June 5, 1990.) Following subsequent studies by the FWS on contaminant levels in bald eagles in Maine, the FWS advised the Commission that its previous finding could be revised pending further analysis of the results. (See Department's letters to the Commission, dated May 24, 1993, regarding the applications for new licenses.) The FWS also requested additional investigations, particularly on contaminant levels at the Ripogenus Project to determine whether a link existed between contaminant levels in fish and wildlife resources, including bald eagles, and project operations. (See FWS scoping comments.)

As was found in the FWS' eagle investigations in 1991 and 1992, mercury levels in both blood and feathers collected from 6-8 week old eaglets nesting along Maine lakes were significantly higher ($P<0.001$) than recorded for the other habitat types. In particular, mercury levels within the project areas in both feather and blood samples exceeded mean mercury levels reported for other lacustrine nesting eagles. The biological implications of these elevated mercury concentrations are not understood at this time. However, mercury is a neurotoxin and exposure to elevated concentrations may reduce the eaglets ability to fledge from the nest successfully and survive until adulthood. The concentrations observed in the eaglets from the project area exceed concentrations observed in adult eagles sampled from the Great Lakes.

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DOI-67 Monitoring plans will be required as part of the Penobscot Mills License.

DOI-68 No evidence exists in the record that would suggest DDE and PCBs are linked to operation of the projects. Data contained in Welch (1994) indicates that both DDE and PCBs in eaglet blood and feathers were found at levels just as high and sometimes higher at other lakes outside the project boundaries.

DOI-68 Cont

Eaglets at Dolby Pond also had elevated levels of Polychlorinated biphenyls (PCBs) and DDE, a metabolite of DDT, as compared to other eaglets sampled from lacustrine nest sites. Absence of these compounds upstream of Dolby Pond suggests a possible point source discharge of these contaminants into the system.

The presence of extremely elevated levels of mercury in the eaglets indicates that mercury is bioaccumulating in the system. Much information exists correlating increased mercury concentrations in fish with recent impoundment of water. However, little if any research has been conducted on mercury concentrations in impoundments undergoing yearly fluctuations, such as those within the project area. Current operational procedures may be influencing the availability of mercury to organisms within the foodchain, including the bald eagle, as discussed above.

DOI-69

Because of these uncertainties regarding the effects of project operations on contaminant levels in fish and wildlife resources, the FWS is not yet prepared to concur with the Commission staff's assessment of no effect on bald eagles. The FWS also reserves the right to request additional consultation with the staff pursuant to Sec. 7 of the ESA, pending the results of additional contaminant investigations in the project area, including monitoring studies conducted by the applicant and others.

Alternative 2 in the DEIS suggests that selective cuts in the vicinity of the bald eagle nest trees could provide potential foraging and perching areas for the eagles. The FWS recommends that no cutting occur in the immediate area of the nest trees. (The exact extent of the no-cut zone will need to be determined on a case-by-case basis in consultation with the FWS and MDIFW.) Selective cutting may result in increased exposure of the nest tree to high winds and other elements, resulting in damage to the nest. (The availability of snags is also not considered to be a limiting factor for eagles in this area.)

Biodiversity

DOI-70

The DEIS does not deal with cumulative impacts on biodiversity, even though the issue was raised during the scoping process. (See FWS scoping comments.) As is stated in the DEIS, a total of 137 dams have been constructed on the West Branch of the Penobscot alone, with more being built elsewhere in the basin. (See for example, the Commission staff's DEIS on the Lower Penobscot River.)

As was discussed in the FWS' scoping comments, the Commission staff should have identified the extent to which riverine habitats have been altered by dam construction and flow regulation. We agree with the conceptual approach in the Lower Penobscot River DEIS, where the staff recognized the importance of taking a conservative approach to biodiversity that includes protecting communities and ecosystems, promoting native species, protecting rare and ecologically important species, as well as unique or sensitive environments, and maintaining the natural processes and structural diversity of ecosystems. These issues are as germane on the West Branch as they are elsewhere in the basin and should have been included in the DEIS.

DOI-69 Comment noted. In the FEIS we have removed the recommendation relating to selective cutting for creating potential foraging and perching areas for eagles under Alternative 2.

DOI-70 Comment noted. The DEIS for the lower Penobscot River considered biodiversity more fully because that DEIS included a new, unconstructed project. In the upper Penobscot River DEIS, the projects have existed for as long as 100 years and there are no unique or unusual habitats in the area that appear to require additional enhancements beyond those proposed by staff.

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REF: FERC # 2572, 2458 24

Cultural Resources

DOI-71 The Commission's main consideration of PIN concerns is contained within Section 4.11. However, in this section, there is no provision for PIN's inclusion or participation in the development of the Programmatic Agreements or the Cultural Resource Management Plans which the applicant proposes to implement in order to mitigate impacts on the eligible archeological and historical sites with the project areas. Such provision must be made. Further, it fails to discuss whether the islands in the west branch could be of cultural significance pursuant to the National Historic Preservation Act (NHPA). BIA's scoping comments informed the Commission that cultural resources of significance to the PIN were present in the project areas, and that consideration should be given to the potential applicability of Section 106 of the NHPA. There is no indication in the DEIS that the Commission did so. To ensure that tribal resources and interests are considered, the Department again recommends that consultation with tribal leaders and other appropriate consulting parties be initiated immediately.

Unavoidable Adverse Impacts

DOI-72 As stated previously it may be possible to significantly reduce unavoidable adverse impacts to fish and *wildlife* resources by *modifying* the applicant's *existing* and/or *proposed* WUP for the projects covered in the DEIS. Pursuit of additional alternatives, such as retrofitting other dams owned by the applicant with generating facilities so as to accommodate modification of flow regimes and water levels at the Ripogenus and Penobscot Mills projects, could also reduce unavoidable adverse impacts. Additional mitigation consisting of dam removal in the West Branch drainage would greatly offset unavoidable adverse impacts. (See FWS scoping comments, calling for consideration of a "restoration alternative".)

Irreversible and Irretrievable Commitment of Resources

DOI-73 We concur with the conclusion in the DEIS that licensing of the projects would result in a commitment of the area to energy production. However, this single occupation of the river for waterpower development (particularly in the river segment below Stone Dam where total diversion of streamflow is proposed by the Commission staff) would appear to be contrary to the comprehensive planning mandate in Sec. 10 of the FPA, where other beneficial public uses, such as fish and wildlife, are to receive equal consideration.

Relationship between Short-term Uses and Long-term Productivity

DOI-74 NEPA requires that an EIS consider the "relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity" (40 CFR 1502). However, the DEIS appears to consider production of 87.7 MW of energy over the next 30 to 50 years to be a form of "long-term productivity", rather than a "short-term use of man's environment". In addition the staff concludes that the proposed mitigation that would be implemented during the term of the licenses would result in significant, long-term enhancement of existing aquatic resources.

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DOI-71 See response to DOI-2.

DOI-72 You suggest additional generating facilities be considered to meet GNP's need for power. No economically feasible facilities have been identified for the developments included in this EIS. GNP has agreed to inclusion of a reopener to allow modification of the water use plan, should analysis of the upper projects during relicensing result in unanticipated findings that desired changes could be made. We recommend the orders for both the Ripogenus and Penobscot Mills Projects include an article containing a reopener clause for consideration of the upper storage projects. We do not consider dam removal to be a reasonable alternative to provide additional enhancements for these projects.

DOI-73 Opinion noted.

DOI-74 Opinion noted.

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REF: FERC # 2572, 2458 25

DOI-74 Cont

We view the 30- to 50-year license terms that would be in effect for the projects covered in the DEIS to be a relatively short-term phenomenon. The staff's proposed mitigation for losses in long-term productivity of aquatic life deals is not evenly balanced between the two projects, with resource needs at Penobscot Mills being enhanced less than those at Ripogenus. This does little to ameliorate impacts to, and maintain and enhance long-term productivity of, other fish and wildlife that have historically used all portions of the West Branch of the Penobscot River.

STAFF'S CONCLUSIONS

As discussed above, the staff has failed to give equal consideration to fish and wildlife resources in the DEIS, as is required by the FPA. The staff's proposed alternative will perpetuate the manipulation of the West Branch of the Penobscot River, for what has largely been a single purpose, the operation of its pulp and paper mills. Major impacts to aquatic ecosystems, resulting from large-scale water diversions and manipulations would continue virtually unabated under the proposed new licenses.

This lack of balance is reflected not only in the large number of dams that have been, and continue to be, used for hydropower development in the Penobscot River Basin, but on the meager reduction in the applicant's historic use of water flows, as proposed by Commission staff. As illustrated in Table 5-4 of the DEIS, restoration of 350 cfs (less than twice the historic 7Q10 drought flow) to the West Branch below Stone Dam (Back Channel) diminishes power production by only 3.35 percent, leaving the applicant with almost 97 percent of historic access to water for power production purposes. Contrast this with the fact that the staff's proposed alternative would result in the total elimination of instream uses in this natural river segment by aquatic life, including fishery resources. The staff's failure to recommend adequate instream flows at the Penobscot Mills Project, in light of the relatively insignificant impact in power production, shows a clear disregard for the equal consideration requirements in the FPA.

DOI-75

Important alternatives have been dismissed by the staff, even though they could help achieve the applicant's basic project purpose of having dependable supplies of electricity for use in its mills, while at the same time minimizing or reversing environmental harm to local and regional natural resources. The applicant owns and operates numerous dams on the West Branch of the Penobscot River, and would have the opportunity to modify its project facilities and operations to more equitably accommodate fish and wildlife, tribal interests and concerns, and other environmental needs.

DOI-76

The Commission has failed to discharge its trust responsibility to protect the rights and Federal trust resources of the Penobscot Indian Nation. In its conclusions, as well as throughout the DEIS, the Commission has failed to consider PIN interests and disregards the concerns which were raised in BIA's scoping comments. Specifically, the Commission fails to require sufficient flows in the West Branch below Stone Dam to permit viable fisheries, to meet water quality standards, and to permit use of this channel for transportation. Tribal concerns regarding mercury contamination and dissolved oxygen concentrations are ignored. PIN's cultural heritage in the West Branch is disregarded, and there is no provision for PIN inclusion or participation in the development of the proposed Programmatic Agreements or Cultural Resource Management Plans.

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DOI-75 We have given equal consideration to fish and wildlife and human resources in the EIS. The DEIS stated that there would be few fish produced in the Back Channel even with additional flows, relative to the costs due to lost power and within the context of fisheries within the region. We considered enhancements of existing resources within the context of balancing power and non-power uses of the project area. See also response to comment DOI-72 above.

DOI-76 See response to DOI-2.

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REF: FERC # 2572, 2458 26

Project Alternatives

DOI-77 As discussed previously the DEIS dismisses conservation and other alternatives that could help meet the applicant's needs and satisfy the Commission's requirement for comprehensive river basin planning. The DEIS also fails to examine a number of design alternatives at the projects that could lessen impacts to aquatic habitat.

DOI-78 The continued operation of the Ripogenus and Penobscot Mills projects, without modifications, is not a "No Action" alternative. This scenario is also inappropriate as an environmental baseline, as it represents a highly imbalanced state of hydropower development on the West Branch of the Penobscot River. A more reasonable benchmark would be the "without-project" baseline.

Environmental Comparison of Alternatives

DOI-79 As mentioned above the staff has based much of its analysis of alternative operating regimes on the applicant's WUP. Because the applicant's power needs are not explicitly included in the WUP, it is unclear to what extent developmental and non-developmental (i.e., environmental) demands have been balanced. We suspect that the WUP was prepared to totally meet the applicant's energy and waste assimilation needs before addressing the environmental measures that were recommended by resource agencies and others (who were given no role in developing the WUP). A more equitable approach would have involved all parties from the outset.

DOI-80 It is also clear that the Commission staff's evaluation of alternatives was significantly tempered by the applicant's economic constraints (the extent of which are not revealed in the DEIS due to the proprietary nature of the information). For example, the Department's originally recommended discharge for the West Branch below Stone Dam (500 cfs) was not evaluated for its effectiveness in protecting and improving aquatic resources, but was dismissed at the outset because it was considered to be too costly for the applicant.

DOI-81 As discussed above we believe that the Commission staff is acting outside of the explicit licensing mandates in Sec. 10(a) of the FPA, when economic consequences for the applicant are allowed to sway decisions on whether to consider environmental protection measures. Instream flow recommendations by the Department for the Penobscot Mills Project are fully consistent with what the Commission has already required from the applicant at the downstream Mattaceunk Project, and are also less than what the applicant has proposed for the West Branch at the Ripogenus project.

We also suspect that the staff is inconsistently applying its "economic filter" to the licensing process. We are not aware of similar considerations when the staff addresses a safety issue at an operating project. For example, if during a routine inspection, the project dam is considered to be unsafe, thereby risking human safety downstream, we suspect that the licensee would be asked to comply with modifications prescribed by the Commission staff, with little regard to cost, or face a requirement for dam removal to alleviate the threat. In

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DOI-77 See response to DOI-3. The existing project is the appropriate No-Action alternative for this EIS. If none of the alternatives considered in the EIS are implemented, then the existing operations would continue. The current environmental conditions along the river, as they have been affected by the existing operation, would also continue.

DOI-78 FERC has not changed its definition of baseline and no-action. Baseline conditions continue to be existing conditions, not pre-project conditions. No-action refers to continued project operation under the existing license.

DOI-79 Opinion noted. We have responded above in DOI-40.

DOI-80 The staff estimates that a flow of 500 cfs in the West Branch below Stone Dam would result in power replacement costs approximately three times larger than those for the 165 cfs flow. We also conclude that increasing the Back Channel flows would not produce significant environmental and recreational benefits.

DOI-81 See response DOI-75.

DOI-81 Cont

contrast when the safety and health of aquatic ecosystems are placed at risk, the staff does not hesitate to first consider the "cost effectiveness" of environmental protection. Just as it is totally inappropriate to weigh the cost of human lives when dealing with a dam safety problem, the expense of protecting the rest of the ecosystem should not enter into the discussion. Environmental protection must be a cost of doing business in order for the greater public interest to be served.

We also note inconsistencies in the staff's treatment of fishery resource needs in the DEIS. The improvements proposed below Ripogenus (Holbrook site) would result in an estimated 245 adult salmon in this segment of the West Branch, where according to the DEIS there are already roughly 200 fish per mile and an excellent sport fishery. In contrast flow improvements below Stone Dam could result in "several hundred" adult salmon, in an river reach where there are very few fish of any species, due to the long-standing flow diversions by the applicant. Clearly, the addition of a new salmon stock (and numerous other species of fish and invertebrates) would be more noticeable below Stone Dam than at Ripogenus. Yet this finding is not made by the staff, based largely on the economic implications of returning only a portion (350 cfs) of normal flows to the natural river channel below Stone Dam.

DOI-82

The staff has concluded in the DEIS that high-quality recreational fishing waters are abundant in the project region, and therefore believes that additional mitigation, as has been proposed by the Department, is not required. Following this logic would eliminate virtually all of the proposed fishery enhancement measures in the DEIS, including those proposed by the applicant and recommended by the MDIFW to achieve their management goals for the West Branch. Although we believe that it is important to consider cumulative impacts within a multi-project context, it is inappropriate, and inconsistent with other relicensing actions by the Commission, to waive the need for mitigation and enhancement at one project, based on measures required at another. We believe that this would in fact occur if the Ripogenus and Penobscot Mills projects are relicensed as proposed in the DEIS.

White Water Recreation

Staff states at page 5-2 that "we do not view flows for recreation as a major issue." Such flows are clearly a major issue for the NPS, for white water intervenors and for the many tens of thousands of recreational users of one of the nation's most significant white water boating resources.

DOI-83

Page 5-2 further states that the due to agreements between the applicant and white water recreation intervenors, no flow enhancements beyond those proposed by GNP are necessary. This assumes that all white water recreation intervenors not only participated in those negotiations, but supported the result. In addition, Commission staff assumes that those agreements have been finalized and remain unchanged from their initial provisions. This is not the case. The Maine Professional River Outfitters (MEPRO) negotiated certain user fees for commercial boaters. The fees worked out did not apply to private boaters, and have been changed or withdrawn since that agreement reached in the summer of 1993.

DOI-82 Opinion noted.

DOI-83 See response DOI-53.

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REF: FERC # 2572, 2458 28

Land Use

DOI-84

The section at pages 5-10 to 5-11 relating to staff's conclusions on land use do not adequately explain the implications of a proposed building setback and vegetative buffer. Those elements would not affect owners or lessees of existing properties, which would be grandfathered. Further, those provisions would be offset by the benefit to those visitors who value this area for its undeveloped character. Given current land use projections, much of the shoreline of the project areas is unprotected from development, and large numbers of dwelling units could conceivably be constructed. Considering the applicant's indication that it will remove its current moratorium on new leases, it is imperative that the Commission, as a condition of granting new licenses for these projects, take adequate steps to ensure the undeveloped character of this resource.

The Commission has recommended adopting a 200 foot expansion of project boundaries, and states that the environmental benefits between that degree of expansion and those afforded by the 500 foot expansion "cannot be quantified rigorously." It seems inconsistent that Commission staff can, however, attribute an exact financial cost to the different alternatives. Furthermore, the Commission's policy contained in Commission Order 31 (amending Section 4.41 of the Commission's regulations under the Federal Power Act) states that project boundaries are expected to be extended beyond 200 feet from reservoir shorelines. While staff has not accepted the conservation intervenors recommendations, they have not followed Commission policy, but have set an artificially low level of protection. The compromise should not have been between no additional protection and 500 feet, but between some amount beyond 200 feet and the 500 foot recommendation.

Socioeconomic

DOI-85

At page 5-15, staff acknowledge that GNP's claims regarding estimates of the economic effects of production cutbacks caused by environmental enhancement alternatives have not been verified because GNP's data about corporate economic status is proprietary." Commission staff state at page 5-11 that "the confidentiality of the applicant's financial status prevents an independent assessment." Such claims have no basis in this proceeding. The Commission is entitled to all relevant financial information that could reasonably be expected to assist staff in forming an adequate factual basis for a licensing decision.

A 350 cfs year-round flow in the channel below Stone Dam represents less than 2 percent of the energy used by GNP, but they claim that to lose this available energy would require layoffs of over 200 people, which represents 10-15 percent of their total work force. These claims are not only inconsistent, but can not be substantiated as they are derived from what the applicant claims is proprietary economic information.

A critical component of the Commission's functions is to balance economic and environmental factors when making a licensing decision. To fail to evaluate or even request an applicant's economic data cannot lead to a true balancing as required by the FPA.

RESPONSES TO US DEPARTMENT OF THE INTERIOR ON UPPER PENOBSCOT RIVER BASIN DEIS

DOI-84 The staff revised its land use assessment and recommendations in the FEIS (see section 4.9). We considered comments received during the DEIS comment period, GNP's proposed conservation easements for the Ripogenus Project area, updated land valuation information, and further assessment of LURC land use regulations. The staff's recommendations (see section 5.3.4) provide measures to protect shoreland resources within the project areas.

Within the Ripogenus Project area, the recommended alternative proposes two options: (1) adoption of the proposed 250-foot conservation easements for GNP owned land as defined by the MOU; or (2) a 200-foot boundary expansion on GNP-owned lands (see section 4.9.1). For the Penobscot Mills Project, the recommended alternative proposes expanding project boundaries to generally extend 200 feet from the high water mark of the impoundments within the project area, only on land currently owned by GNP.

Within the proposed boundary expansion areas, existing structures would be grandfathered and GNP would have the authority to review and approve proposed actions as established by the Commission under the Standard Land Use Article or SMP. See Section 4.9 and 5.3.4 for further discussion regarding proposed protection zones for the Ripogenus and Penobscot Mills Project areas.

REF: FERC # 2572, 2458 29

Statutory Requirements

Section 10(j) of the FPA

The FPA requires that licenses issued by the Commission contain conditions intended to adequately and equitably protect, mitigate damages to, and enhance, fish and wildlife (including related spawning grounds and habitat) affected by the development, operation and management of the project. Section 10(j) of the FPA further requires that these conditions be based on recommendations received pursuant to the Fish and Wildlife Coordination Act (FWCA), 16 U.S.C 661 et seq., from the National Marine Fisheries Service, the FWS, and State fish and wildlife agencies, unless the Commission determines that the agency recommendations are inconsistent with the purposes and requirements of Part I of the FPA or other applicable law.

DOI-86

The FWS has provided initial Sec. 10(j) recommendations in its comments on the license applications for the Ripogenus and Penobscot Mills projects. The Commission staff has rejected a number of these recommendations, finding that they are inconsistent with the purposes and requirements of the FPA. Specifically, the staff concluded that the FWS recommended provisions would be inconsistent with Secs. 4(e) and/or 10(a) of the FPA due to economic implications (i.e., the resource benefits are in the staff's estimation not worth the cost in lost generation) and therefore, not in the "public interest".

We believe that the staff may be reading more into Secs. 4(e) and 10(a) than actually exists. Both sections of the FPA do make explicit reference to preservation of environmental quality, including the protection, mitigation of damage to, and enhancement of fish and wildlife (including related spawning grounds and habitat). The Sec. 10(j) recommendations by the FWS for these two projects that were subsequently rejected by the Commission staff were entirely within the letter of the FPA.

The staff has also given undue deference to the Maine Department of Environmental Protection (MDEP) under Sec. 10(j) of the FPA. The MDEP is not a State fish and wildlife agency, nor do they have any legislative authority to act on behalf of Maine's three, independent fish and wildlife agencies in carrying out obligations under the FWCA. Although the Commission must adhere to the MDEP's (in the case of the Ripogenus Project, the Land Use Regulation Commission) conditions in the State water quality certification (under Sec. 401 of the CWA), the staff is incorrect to consider these requirements as fish and wildlife agency recommendations.

It should also be noted that the MDEP performs a balancing function in its certification process, similar to what is done by the Commission in the Federal licensing process. This is because hydropower is considered to be a "designated use" in Maine's water quality standards. The MDEP believes that to fully maintain the hydropower designated use at a project, it often must temper the recommendations from the State fish and wildlife agencies, resulting in less than full protection and enhancement for fish and wildlife and associated public uses. Accordingly, the recommendations from the agencies, formulated in accordance with the FWCA to "prevent loss of, or damage to" fish and wildlife resources,

DOI-85 The staff finds, based on our most recent economic analysis, that there is no conclusive evidence that either the Applicant's Proposal, or both versions of Alternative Two, would adversely affect the competitive position of the GNP's mills. This is because these alternatives would produce small percent increases in annual power costs, small percent declines in annual power output, and ultimately, that these small changes would not translate into a significant increase in the cost of production at the two mills. The staff also concludes that the negative annual net benefits under Alternative One would be large enough such that the competitiveness of the two mills is likely to be adversely affected.

COMMENTS FROM US DEPARTMENT OF THE INTERIOR ON UPPER PENOBSCOT RIVER BASIN DEIS

DOI-86 Cont

are typically compromised by the MDEP before they are passed on to the Commission. While this did not specifically occur in the case of the Ripogenus and Penobscot Mills projects (although MDIFW objectives were changed for the latter project prior to the issuance of the Water Quality Certification), the Commission staff should not view the MDEP or LURC as fish and wildlife agencies for purposes of Sec. 10(j) of the FPA.

Consistency with Comprehensive and Other Resource Plans

DOI-87

As discussed previously anadromous fish, including sea run Atlantic salmon, may eventually be restored to historic habitat in the West Branch of the Penobscot River. Should that occur, it will be critical for all salmon habitat to be adequately maintained through flow releases. Because the staff's proposed discharges for Millinocket Stream and the West Branch below Stone Dam are not sufficient for salmon and other species, this licensing would not be consistent with the comprehensive salmon restoration plans that have been received and accepted by the Commission.

RESPONSES TO US DEPARTMENT OF THE INTERIOR ON UPPER PENOBSCOT RIVER BASIN DEIS

DOI-86 Cont We note that subsequent to the DEIS, we have determined that the state of Maine has not submitted any 10(j) recommendations. The Commission's final determination with respect to Interior's 10(j) recommendations will be addressed in the orders for the projects.

DOI-87 We do not consider restoration of anadromous fish to the West Branch of the Penobscot River a reasonably foreseeable action that could be considered in this EIS. We note, however, that Interior has reserved the right to prescribe fishways under section 18 of the FPA and this reservation will be included in the orders for the projects.

ATTACHMENT B:
REVISED SEC. 10(J) RECOMMENDATIONS AND
SEC. 18 FISHWAY PRESCRIPTIONS

The Commission's regulations (18 CFR Subchapter B Part 4) allow for modification of recommendations and prescriptions previously provided by resource agencies pursuant to Sections 10(j) and 18 of the FPA, when the licensing proceeding involves preparation of a DEIS. Accordingly, we are providing the following modified recommendations and prescriptions for the projects covered in the Penobscot River Basin DEIS.

DOI-88

Ripogenus Project

Section 10(j) Recommendations

The Section 10(j) recommendations for the Ripogenus Project contained in the Department's May 24, 1993 letter are modified as follows:

1. The Licensee shall discharge at the Ripogenus Dam an instantaneous flow of 100 cfs during the period July 1 through September 30 each year.

E-95

2. The Licensee shall, within six (6) months of the date of issuance of this license, file a plan for making habitat improvements for landlocked Atlantic salmon at the Holbrook site. The plan shall be prepared following consultation with the Fish and Wildlife Service, Maine Department of Inland Fisheries and Wildlife, and Penobscot Indian Nation, and shall include a description of construction activities to be used to alter and maintain juvenile salmon habitat. The plan shall also describe how the use of the modified habitat will be monitored.

   The Licensee shall seek comments from the fishery agencies and tribe on the plan prior to its being filed with the Commission, allowing a minimum of 30 days for responses.

3. The Licensee shall provide a minimum flow at McKay Station of at least 400 cfs for short-term outages lasting three days or less. Beyond the "short-term outage" period, the following instream flow schedule shall apply:

   October 15 - June 7: no less than 1,422 cfs or inflow, whichever is less.

   June 8 - October 14: no less than 711 cfs or inflow, whichever is less.

4. The Licensee shall, within three (3) months after the date of issuance of the license, file with the Commission a plan for complying with all instream flow requirements at the Ripogenus Project. The plan shall include a description of the mechanisms and structures that will be used, the level of automatic or staffed facility operation, the methods to be used for recording data on minimum flows, and a plan for maintaining these data for inspection and filing with the Commission and resource agencies. The Licensee shall consult with the Fish and Wildlife Service, U.S Geological Survey, Maine Land Use Regulation Commission, the Maine Department of Inland Fisheries and Wildlife, and Penobscot Indian Nation in developing this

DOI-88 Section 10(j) recommendations are addressed in section 5.6 of the FEIS and in the orders for the projects.

plan and shall respond to agency/tribal comments and include their correspondence in future filings with the Commission. The Licensee shall provide the resource agencies and tribe a minimum of 30 days to respond to a draft plan before it is filed for Commission approval.

5. The Licensee, after consultation with the Fish and Wildlife Service, National Park Service, Maine Department of Inland Fisheries and Wildlife, Maine Department of Conservation, and Penobscot Indian Nation shall monitor recreational use of the project area to determine whether existing access facilities are meeting demands for public use of fish and wildlife resources. Monitoring studies shall begin within 6 years of issuance date of this license, and shall include, at a minimum, the collection of annual recreation use data.

DOI-88 Cont

Every 6 years during the term of the license, the Licensee shall file a report with the Commission on the monitoring results. The report shall include: (1) annual recreation use figures; (2) a discussion of the adequacy of the Licensee's recreation facilities at the project site to meet recreation demand; (3) a description of the methodology used to collect all study data; (4) if there is a need for additional facilities, a recreation plan proposed by the Licensee to accommodate recreation needs in the project area; (5) documentation of agency/tribal consultation and agency/tribal comments on the report after it has been prepared and provided to the agencies; and (6) specific descriptions of how the agency/tribal comments are accommodated by the report.

The Licensee shall allow a minimum of 30 days for the agencies and tribe to comment and to make recommendations prior to filing the report with the Commission.

6. The Licensee shall within 90 days of issuance of this license file a plan for monitoring the level of contaminants in fish and wildlife resources at the Ripogenus Project. The plan shall be prepared in consultation with the Fish and Wildlife Service, Maine Department of Inland Fisheries and Wildlife, Maine Department of Environmental Protection, Environmental Protection Agency, and Penobscot Indian Nation, and shall provide for the regular and periodic sampling of fish and wildlife resources and habitats for the presence of contaminants in the project area. The Licensee shall also file annual reports on contaminant levels in the project area with the Commission, consulting first with the resource agencies and PIN, and allowing a minimum of 30 days for review and comment.

7. The Licensee shall within 90 days of issuance of this license file a plan for monitoring the effectiveness of all fish and wildlife enhancement measures at the Ripogenus Project, including instream flow releases, lake level manipulation, wetland and foresty management, loon nesting platforms, and shoreline protection/buffer zones. The plan shall be prepared in consultation with the Fish and Wildlife Service, Maine Department of Inland Fisheries and Wildlife, Maine Department of Environmental Protection, Environmental Protection Agency, and Penobscot Indian Nation, and shall provide for the regular and periodic sampling of fish and wildlife resources to determine the level of resource protection resulting

from the enhancement measures. The Licensee shall also file reports on the fish and wildlife monitoring studies in the project area with the Commission, consulting first with the resource agencies and PIN, and allowing a minimum of 30 days for review and comment.

Section 18 Prescription

The information and analysis presented in the DEIS do not indicate a need to modify the Secretary of the Interior's prescription pursuant to Section 18 of the FPA, as contained in the Department's May 24, 1993 letter to the Commission.

DOI-88 Cont

Penobscot Mills Project

Section 10(j) Recommendations

The Section 10(j) recommendations for the Penobscot Mills Project contained in the Department's May 24, 1993 letter are modified as follows:

1. The Licensee shall discharge at the Stone Dam into the natural channel of the West Branch of the Penobscot River an instantaneous flow of at least 945 cfs or inflow, whichever is less, throughout the year.

2. The Licensee shall discharge at the Millinocket Lake Dam into Millinocket Stream an instantaneous flow of at least 120 cfs or inflow whichever is less, between October 15 and June 7. Between June 8 and October 14 an instantaneous flow of at least 60 cfs or inflow, whichever is less shall be maintained.

3. The Licensee shall operate the Millinocket, Dolby and East Millinocket Developments in a run-of-river mode, whereby outflows equal inflows on an instantaneous basis, and water level fluctuations are minimized.

4. The Licensee shall, within three (3) months after the date of issuance of the license, file with the Commission a plan for complying with all instream flow requirements at the Penobscot Mills Project. The plan shall include a description of the mechanisms and structures that will be used, the level of automatic or staffed facility operation, the methods to be used for recording data on run-of-river operation and minimum flows, and a plan for maintaining these data for inspection and filing with the Commission and resource agencies. The Licensee shall consult with the Fish and Wildlife Service, U.S Geological Survey, Maine Land Use Regulation Commission, the Maine Department of Inland Fisheries and Wildlife, and Penobscot Indian Nation in developing this plan and shall respond to agency/tribal comments and include their correspondence in future filings with the Commission. The Licensee shall provide the resource agencies and tribe a minimum of 30 days to respond to a draft plan before it is filed for Commission approval.

DOI-88
Cont

5. The Licensee, after consultation with the Fish and Wildlife Service, National Park Service, Maine Department of Inland Fisheries and Wildlife, Maine Department of Conservation, and Penobscot Indian Nation shall monitor recreational use of the project area to determine whether existing access facilities are meeting demands for public use of fish and wildlife resources. Monitoring studies shall begin within 6 years of issuance date of this license, and shall include, at a minimum, the collection of annual recreation use data.

   Every 6 years during the term of the license, the Licensee shall file a report with the Commission on the monitoring results. The report shall include: (1) annual recreation use figures; (2) a discussion of the adequacy of the Licensee's recreation facilities at the project site to meet recreation demand; (3) a description of the methodology used to collect all study data; (4) if there is a need for additional facilities, a recreation plan proposed by the Licensee to accommodate recreation needs in the project area; (5) documentation of agency/tribal consultation and agency/tribal comments on the report after it has been prepared and provided to the agencies; and (6) specific descriptions of how the agency/tribal comments are accommodated by the report.

   The Licensee shall allow a minimum of 30 days for the agencies and tribe to comment and to make recommendations prior to filing the report with the Commission.

6. The Licensee shall within 90 days of issuance of this license file a plan for monitoring the level of contaminants in fish and wildlife resources at the Penobscot Mills Project. The plan shall be prepared in consultation with the Fish and Wildlife Service, Maine Department of Inland Fisheries and Wildlife, Maine Department of Environmental Protection, Environmental Protection Agency, and Penobscot Indian Nation, and shall provide for the regular and periodic sampling of fish and wildlife resources and habitats for the presence of contaminants in the project area. The Licensee shall also file annual reports on contaminant levels in the project area with the Commission, consulting first with the resource agencies and PIN, and allowing a minimum of 30 days for review and comment.

7. The Licensee shall within 90 days of issuance of this license file a plan for monitoring the effectiveness of all fish and wildlife enhancement measures at the Penobscot Mills Project, including instream flow releases, lake level manipulation, wetland and foresty management, loon nesting platforms, and shoreline protection/buffer zones. The plan shall be prepared in consultation with the Fish and Wildlife Service, Maine Department of Inland Fisheries and Wildlife, Maine Department of Environmental Protection, Environmental Protection Agency, and Penobscot Indian Nation, and shall provide for the regular and periodic sampling of fish and wildlife resources to determine the level of resource protection resulting from the enhancement measures. The Licensee shall also file reports on the fish and wildlife monitoring studies in the project area with the Commission, consulting first with the resource agencies and PIN, and allowing a minimum of 30 days for review and comment.

REF: FERC # 2572, 2458 5

Section 18 Prescription

DOI-88 Cont

The information and analysis presented in the DEIS do not indicate a need to modify the Secretary of the Interior's prescription pursuant to Section 18 of the FPA, as contained in the Department's May 24, 1993 letter to the Commission.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203-2211

February 21, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426

re: Draft Environmental Impact Statement for the Penobscot Riv
Basin, Maine; Ripogenus and Penobscot Mills Hydroelectr
Projects (FERC Projects #2572 and #2458)

Dear Secretary Cashell:

EPA-1

The Environmental Protection Agency-New England, in accordance wi
our responsibilities under the National Environmental Policy A
(NEPA), Section 309 of the Clean Air Act, and Section 404 of t
Clean Water Act has reviewed the draft Environmental Impa
Statement (dEIS) prepared by the Federal Energy Regulatc
Commission (FERC) for the above referenced hydroelectric projec
on the West Branch of the Penobscot River in Maine.

GENERAL COMMENTS

EPA-2

EPA believes the dEIS does not adequately consider fish and wildlife resources affected by the proposed licenses as it simply endorses the applicant's proposal to continue current operations of the Ripogenus and Penobscot Mills facilities. EPA believes these projects, as proposed, are inconsistent with Maine's water quality standards, especially regarding the issue of flows in the Back Channel. Although the dEIS discusses facility operational changes that would result in substantial aquatic habitat improvements with relatively small reduction in power production, FERC does not recommend implementing these changes.

Section 4(e) of the Federal Power Act requires equal consideration of multiple potential uses of a public waterway. In the case of the Penobscot River dEIS, EPA believes that appropriate application of the Section 4(e) requirement to give equal consideration to fish, wildlife and recreation purposes would have resulted in recommendations that restore flows to the "Back Channel" (the 4.5 mile reach of the West Branch dewatered by the construction of the Penobscot Mills development). Additionally, EPA believes the equal consideration requirement would have resulted in a FERC endorsement of other recommendations of the resource agencies to restore stabilized flows to Millinocket Stream and the Upper Gorge.

EPA-1 No response needed.

EPA-2 We have not simply endorsed the applicant's proposal but have recommended several additional enhancement measures. With respect to the Upper Gorge, fish and wildlife agencies did not recommend additional flow enhancements beyond those proposed by GNP. Following a 10(j) meeting with the U.S. Department of the Interior, we recommend a year-round flow of 60 cfs in Millinocket Stream. In the Back Channel, we have given equal consideration to fish and wildlife and human resources in the EIS. The DEIS stated that there would be few fish produced in the Back Channel even with additional flows, relative to the costs due to lost power and within the context of fisheries within the region. We considered enhancements of existing resources within the context of balancing power and non-power uses of the project area.

WATER QUALITY

Back Channel

The state water quality certification confirms EPA's position that the Back Channel is a classified water of the United States. As such, this waterway must meet water quality standards attributed to its class, including the "habitat for fish and other aquatic life" designated use and the criteria necessary to support that use. Other protected uses include, but are not limited to, recreation in and on the water, fishing, navigation, and hydroelectric power.

According to Maine's water quality standards, the Back Channel and other waters of the West Branch "from the outlet of Ferguson and Quakish Lakes to its confluence with the East Branch of the Penobscot River, including all impoundments" are designated Class C waters.[1] The aquatic life designated use criteria for Class C waters require that discharges "support all species of fish indigenous to the receiving waters and maintain the structure and function of the resident biological community."[2,3] As the state certificate notes, the West Branch of the Penobscot River generally supports both cold water and warm water fish species. Major West Branch fisheries are for salmon, lake trout, smelt, burbot, and white perch, while minor fisheries exist for lake whitefish, pickerel, brook trout, and smallmouth bass. Additionally, the river supports a typical Northern Maine assemblage of non-sport species.

EPA-3

The dEIS acknowledges that because of the limited amount of habitat under current flow conditions, the fish community in the Back Channel is restricted (dEIS page 3-20). Likewise, the relicense application to FERC recognizes that the "Back Channel has a sparse fish population and does not support coldwater species with current flow management." (Great Northern Paper Final Application, E3.1-51). Failure of the Back Channel to support indigenous aquatic life under existing leakage flow demonstrates nonattainment of Maine's water quality standards, as confirmed by Maine's 1994 water quality report:

"Water quality sampling indicates that this waterbody segment

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[1]38 M.R.S.A. §467(7)(C)(1)(f)

[2]38 M.R.S.A. §465(4)(C)

[3]Maine's water quality standards define "indigenous" as "supported in a reach of water or known to have been supported according to historical records" and "resident biological community" as "aquatic life expected to exist in a habitat which is free of the influence of the discharge of any pollutant." 38 M.R.S.A. §466(8)&(11).

EPA-3 We have revised section 2.2.1.2 of the EIS to include MDEP's waiver of water quality certification for the Back Channel. We have revised section 3.4 to include information in MDEP's 1994 report that became available after the DEIS was published. The legal status of the Back Channel relative to Maine's 401 WQC will be addressed in the order for the project.

EPA-3 Cont

> does not attain the aquatic life standard of its classification. The cause of non-attainment is the dewatering of this segment due to hydroelectric power generation."[4]

In approving relicensing of these hydropower facilities, FERC must ensure that state water quality standards are met. EPA believes these standards would be met only by restoring flows to the Back Channel sufficient to support an indigenous aquatic community.

EPA-4

Throughout the NEPA and FERC application process, EPA and the United States Fish and Wildlife Service (USFWS) have maintained that with sufficient flows the Back Channel could provide fisheries habitat for Atlantic salmon and other coldwater fish species. An Instream Flow Incremental Method (IFIM) study conducted by the applicant showed that flows between 350 and 500 cubic feet per second (cfs) would provide habitat for all lifestages stages of salmon. According to FERC's analysis in the dEIS, flows of up to 500 cfs would increase habitat for juvenile salmon, a target lifestage, by 460 percent (dEIS page 4-28), while providing habitat for "several hundred" adult salmon (dEIS page 5-25). However, FERC concluded that while restoring flows to the Back Channel would "definitely increase total available habitat for many elements of the aquatic ecosystem (including the macroinvertabrate community and brook trout), the landlock salmon stock would not be substantially increased" (dEIS page 4-31). Based on its determination that there will only be minor enhancements to the game fish resource, coupled with the anticipated costs to the applicant of providing the increased flows, FERC determined restoring flows to the Back Channel was not warranted.

EPA disagrees with the dEIS assertion that the Back Channel cannot be managed for landlocked salmon. Based on information provided by USFWS, EPA believes Grand Falls would not be a barrier to salmon movement through the Back Channel; it is our understand that anadromous runs of sea run Atlantic salmon extended considerably further upstream beyond Grand Falls before dam construction blocked their passage. EPA also does not believe that seasonal high flows and droughts would prevent establishment of the fishery as FERC concludes; these are natural conditions even in unregulated rivers to which fish and fishery populations naturally adapt. Additionally, FERC's conclusion that restoring flows to the Back Channel would not significantly enhance the fishery value of this reach is inconsistent with FERC's endorsement of the benefits of the applicant's proposal to develop spawning and nursery habitat near Holbrook Pool. As the dEIS states, both habitats would support the same number of adult fish (dEIS pages 4-19 and 4-53).

In considering the environmental benefits to be derived from increased flows to the Back Channel, EPA believes the dEIS errs in

EPA-3 Cont

[4]Maine 1994 Water Quality Assessment, Appendix I, p. 28.

EPA-4 The DEIS stated that there would be few fish produced in the Back Channel even with additional flows, relative to the costs due to lost power and within the context of fisheries within the region. We considered enhancements of existing resources within the context of balancing power and non-power uses of the project area.

Furthermore, fisheries enhancements elsewhere in the project area, such as North Twin drawdown limits or increased minimum flows in Millinocket Stream, could be compromised if flows are enhanced in the Back Channel. Because MDIFW's management goals give priority to these other enhancements, we have not changed our position regarding flows in the Back Channel. We have, however, added text to the FEIS clarifying the extent to which Grand Falls is a barrier to fish movement. See also our response PIN-35.

EPA-4 Cont

focusing exclusively on game fish. As discussed above, Maine's water quality standards protect the full spectrum of aquatic life. For these reasons, EPA recognizes the benefits to fisheries of flows from 350 - 500 cfs, and supports restoration of flows to the Back Channel.

EPA-5

EPA is concerned that the dEIS may overestimated the burden on the applicant of restoring flows to the Back Channel. According to Table 5-4 (dEIS page 5-14), flows of 350 cfs into the Back Channel would result in a 3.35 percent reduction in hydroelectric production from the Ripogenus facility. As hydropower production from these two projects provides less than 50 percent of Great Northern's 1994 energy needs, this reduction in actual power generation represents less than 1.7 percent of Great Northern's total power needs. EPA believes improvements in energy generation efficiency or conservation have the potential to offset this loss in energy production. Additionally, even were Great Northern to replace the 20,800 MWh of lost power at the prices cited in the dEIS ($83 per MWh), additional cost for a project alternative does not in itself render an alternative impracticable for the purposes of consideration as a reasonable alternative under NEPA.

Navigation

EPA-6

As noted above, Maine's water quality standards include "navigability" as a designated use for Maine's Class C waters. The dEIS does not adequately address navigability in the Back Channel, except to state that "neither commercial nor private whitewater boating groups have expressed any interest in expanding whitewater boating in (Millinocket Stream and the Back Channel)" and that the "significant flows that would be required to make these streams navigable would jeopardize other environmental enhancements" (dEIS page 4-48). EPA believes the dEIS analysis fails to consider the Penobscot Indian Nation's (PIN) interest in establishing sufficient flows to the river restored to support its traditional practice of navigating the Back Channel by canoe.

FERC, in its request to the applicant for additional information, recognized this navigation use with its request that the applicant "determine the minimum flow required for canoe passage through the Back Channel" (June 8, 1992 letter from Dean Shumway to James Carson, Great Northern Paper). The applicant's response that the Back Channel is not navigable by canoe (application Vol. XIII) contradicts PIN's historical accounts of up and downstream canoe passage with one or two short portages (see PIN's "Comments and Recommendations" to FERC dated May 21, 1993). EPA believes the navigability issues should be addressed in the final EIS and before issuance of any operating license for this development.

Mercury

EPA-7

In response to observations by EPA and other parties regarding

EPA-5 We disagree. The relatively meager environmental benefits that would be derived from restoring flows to the Back Channel are not worth the cost in terms of lost power and socioeconomic benefits that would occur.

Energy conservation was identified as an alternative during the scoping process. However, we concluded in the DEIS that energy savings gained through conservation have largely been offset by increased energy demand from GNP's plant modernization efforts. This conclusion was based upon our review of GNP's conservation and modernization programs, as documented in Exhibit H, and the memorandum of Owen Merrill of GNP, both of which are based upon actual plant data. The claim that there is an enormous conserved power potential in the GNP facilities by conservation intervenors, on the other hand, is based upon generic or theoretical evidence, which staff did not accord the same weight. The staff also notes that many of the arguments posed by the intervenors have been raised throughout this proceeding and have been addressed by the Applicant. Detailed responses to additional comments on economics and impacts to fish and wildlife resources are provided below.

EPA-6 The staff reviewed available information regarding the Penobscot Indian Nation's claims to lands and rights within the branches of the Penobscot River and concurs with the decision of the Maine State Department of the Attorney General (see section 4.11.1.2). The staff finds that consideration of the Penobscot Indian Nation's traditional practices within the project area are outside the scope of Section 106. The staff, therefore does not recommend including the Penobscot Indian Nation as a concurring party to the Programmatic Agreement associated with the Ripogenus and Penobscot Mills projects. The staff acknowledges the interest of Penobscot Indian Nation's interest in the management of historic properties potentially eligible for listing in the National Register of Historic Places within the project areas. Accordingly, the staff recommends that GNP consult the Penobscot Indian Nation during the development of the revised Cultural Resource Management Plans for the Penobscot Mills and Ripogenus Projects.

EPA-7 Cont

elevated levels of mercury in project impoundments, FERC required additional information from the project applicant regarding mercury concentrations in fish and invertebrates taken from project waters. The results of this study demonstrate that mercury levels in lake trout and other predatory fish were higher in project impoundments than at background sites; however, the study concluded that project operations were not responsible for these elevated mercury levels. EPA believes that this conclusion requires further analysis and FERC's acceptance of these conclusions is premature.

EPA-8

At the request of FERC, the applicant did an additional analysis of mercury contamination. Reviews of the applicant's analysis by EPA's technical consultant, Metcalf and Eddy, Inc. (M&E),[5] and by the U.S Fish and Wildlife Service (USFWS) indicated a number of potential problems with both the applicant's study procedures and conclusions. The applicant's study failed to comply to USFWS prescribed study methods or provide quality assurance and quality control (QA/QC) information. These omissions are significant due to disagreement between the study's reported fish tissue concentrations for lake trout from Debsconeag Lake and smallmouth bass from Molunkus Lake and fish tissue mercury concentrations reported for these lakes in the Regional Environmental Monitoring and Assessment Program (REMAP) study.[6] Additionally, the applicant's study reports generally higher than expected water column mercury concentrations. The validity of the study results cannot be determined without QA/QC information. Finally, EPA is concerned that selection of Dolby Pond as a "control" lake for its study is inappropriate given the elevated sediment mercury concentrations at this location.

EPA-9

Despite the problems with the applicant's study, the dEIS concludes that "project operations probably are not the cause of elevated mercury concentrations" (dEIS page 4-11). EPA is troubled by FERC's assertion that "higher rates of smelt consumption by lake trout in project impoundments could cause faster and greater accumulation of mercury" (dEIS page 4-11). While this may be a viable explanation, no information has been provided to substantiate the claim.

EPA-10

M&E's draft review of the applicant's study states there are significantly higher levels of mercury concentrations in fish tissue from the project impoundments than in the control lakes. The M&E report states that atmospheric deposition, as the applicant contends, is not sufficient to account for this difference. M&E concludes that while there is insufficient data "it appears that

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EPA-8 Cont

[5]"Review of Great Northern Paper Mercury Study" (Draft), Metcalf and Eddy, May 1994.

[6]REMAP is a joint EPA and state study of water quality in randomly selected Maine lakes.

EPA-7 Statistical tests were conducted for top predatory species since bioaccumulation would be expected for these higher organisms. After adjusting the data for differences in fish length, significantly higher mercury concentrations were detected in Lake Trout from draw-down relative to non-draw-down lakes using Scheffe's Multiple Comparison test. Given that mercury concentrations in bottom feeding fish, and freshwater mussels were similar between project lakes and reference lakes we concluded that the higher concentrations in Lake Trout were not directly related to reservoir draw-down. Due to Lake Trout's top predator status and the abundance of rainbow smelt prey in the project impoundments we concurred with GNP's explanation that the higher concentrations in Lake trout from project water relative to control lakes was due to heavy predation on rainbow smelt.

No evidence (e.g., published scientific studies) exist linking changing water levels to increased mercury methylation. Atmospheric inputs are the most likely source of mercury to the project area as there are numerous reports of relatively high mercury concentrations in fish taken from remote lakes throughout North America.

EPA-8 According to GNP, the methodologies used for the collection of samples and measurements of mercury were "performed according to the terms negotiated and conditions outlined in consultation correspondence with the consultation agencies for the work plan. The quality assurance and quality control with the laboratory were rigorous" (GNP 1995[1]). In fact, GNP used one of the three laboratories that FWS was under contract with at the time the GNP study was conducted. Although it is true that the QA/QC results were not included in GNP's report, the fact that a FWS approved laboratory was selected to perform the tissue analysis and the fact that the agencies took an active role in the design of the study suggest that agency approved methods were followed. Furthermore, the QA/QC results for the tissue analysis were obtained from GNP (and placed in the public record) which included analysis

[1] GNP Letter dated March 17, 1995 to FERC providing reply comments to agency comments on the DEIS.

EPA-8 Cont

of duplicates, spiked samples, mercury reference standards, and blanks. The QA/QC results indicate that the quality of the data obtained from the mercury study were of good quality.

The reported disagreement between the GNP study and REMAP samples mentioned in this comment refers to the differences cited in DOI comments (see comment DOI-44). This comparison indicates that tissue concentration of mercury in lake trout in Debsconeag Lake and smallmouth bass in Molunkus Lake were about 1.7 times higher in the REMAP study relative to GNP's study. Given the variable nature of mercury tissue concentration, and differences between the project lakes and reference lakes, it is not surprising that an independent study found different concentrations. In addition, less than a two fold difference is not excessive and yearly differences in mercury availability could account for the observed differences; the REMAP collections were conducted in 1993 while the GNP collections were taken in 1992.

The mercury concentration in surface water taken from project lakes was over 5 times lower than EPA's freshwater acute criteria of 2.4 ppb and was typically near or below the detection limits reported for the study (work plan stipulated detection limit of 1 ppb and 0.2 ppb was achieved). This work plan was reviewed by EPA, FWS, PIN, and MDEP and revisions to the plan were made based on agency suggestions (with the exception of conducting mercury analysis on sediment cores to investigate historical mercury loadings). Although the reported mercury concentrations in surface water may be higher than those reported for other systems, the concentrations in draw-down lakes were similar to non-draw-down takes.

While it would be appropriate to include the QA/QC results, the fact that a FWS approved laboratory was used for the tissue analysis lends credibility to the study results.

EPA-10 Cont

impoundment and/or project operations are at least partially responsible for the elevated concentrations of mercury in fish tissue from Millinocket Lake North Twin impoundment and Dolby Pond."[7]

EPA-11

While the mechanisms linking hydropower facility operations with elevated mercury levels are not entirely understood, there is evidence for increased mercury methylation rates to be associated with project operations. EPA recommends FERC require post-licensing studies to evaluate the relationship between project operations and mercury levels in project fish and wildlife as a condition of hydropower relicensing of these projects. These studies should be conducted in consultation with state and federal resource agencies, utilize appropriate analytical methodologies, and be coordinated with ongoing REMAP studies to enlarge the data base. EPA recommends that any hydropower license should also contain reopener clauses sufficient to address operational changes necessary to eliminate or reduce any project-operation caused increased mercury levels.

Dissolved Oxygen

EPA-12

EPA supports the need for post-licensing studies to evaluate the relationship between low dissolved oxygen (DO) in Dolby Pond, project operations and mill discharges. As historic discharges may have resulted in accumulations of organic wastes with high biological oxygen demand, EPA believes that studies should be sufficiently broad to include a range of alternatives including dredging the impoundment to reduce sediment oxygen demand. Any license issued during the interim period should include reopener clauses sufficient to address remedial actions identified by post-licensing studies.

Millinocket Stream

EPA-13

EPA believes that year around flows of 60 to 80 cfs are necessary in Millinocket Stream to meet Maine's aquatic life criteria. EPA does not believe that FERC's recommendation to increase the minimum flow from 20 to 30 cfs provides sufficient protection to over-wintering redds, or for the rest of the aquatic community expected to exist in Millinocket Stream.

Upper Gorge

EPA-14

As is noted in the dEIS, EPA recommended that flows of 50 cfs be provided from October 1 through June 30 each year. As EPA has stated in previous comments to FERC, these flows are necessary to meet the aquatic life criteria in the Upper Gorge on an annual

[7]"Review of Great Northern Paper Mercury Study" (Draft), Metcalf and Eddy, May 1994, p.11.

EPA-8 Cont. Dolby pond was incorrectly labeled a control pond in Table 4-2. Mattamiscontis and Molunkus Lake were designated as control lakes for Dolby pond in the revised task plan. This has been corrected in the FEIS.

EPA-9 Given that mercury concentrations were similar among bottom feeding fish and mussels inhabiting draw-down reservoirs, the data do not support the hypothesis that changing water levels increase mercury mobilization. In addition, average mercury concentration in chain pickerel in Dolby Pond (which does not experience water level fluctuations) had higher mercury levels than chain pickerel collected in the Matamiscontis and Molunkus reference lakes. Although there are no smelt population data for the reference lakes (only the project lakes were extensively sampled for fish abundance in the license application), the fisheries studies conducted in the project impoundments indicate that rainbow smelt populations were high.

EPA-10 In the Metcalf and Eddy report only Lake Trout was cited to have significantly higher concentrations of mercury (this was also indicated by the analysis conducted by GNP). For all other fish species, mussels, water column measurements, and sediments mercury concentrations were similar between project waters and control lakes (except Dolby Pond which had higher sediment concentrations). With the exception of Lake Trout, elevated concentration of mercury in project impoundments is not indicated by the data collected by GNP. It is commonly accepted among experts on mercury contamination that atmospheric sources from the burning of fossil fuel in power plants and municipal incineration is the major source of mercury in surface waters particularly in remote areas similar to the project area. The statement in the Metcalf and Eddy report that atmospheric deposition is not sufficient to account for the differences observed is not supported by quantitative information.

COMMENTS FROM ENVIRONMENTAL PROTECTION AGENCY ON UPPER PENOBSCOT RIVER BASIN DEIS

RESPONSES TO ENVIRONMENTAL PROTECTION AGENCY ON UPPER PENOBSCOT RIVER BASIN DEIS

EPA-11 The study conducted by GNP indicate that there is little evidence linking periodic reservoir draw-down to increased mercury methylation. The possible connection cited in this comment is based on a theory which has not been substantiated by any scientific study. The Metcalf & Eddy report citing reservoir draw-downs potentially causing bioaccumulation in fish tissues references personal communications among several researchers, which is not evidence that a connection exists. Nevertheless, in accordance with the State of Maine's water quality certification, we recommend a study on the effects of reservoir draw-down on mercury levels in fish at the Ripogenus Project, similar to the study conducted for Penobscot Mills. We also recommend GNP cooperate with MDEP and other agencies on additional mercury and other toxic metal studies conducted in the project areas.

EPA-12 There is currently no evidence to show that project operations affect DO in Dolby Pond. DO problems resulting from BOD loads from the mill are not within FERC jurisdiction; this issue will be discussed further in the license order for the project.

EPA-13 Based on the IFIM study for Millinocket Stream, which included brook trout, a year-round flow of 60 to 80 cfs would provide optimal habitat for this species. Following a 10(j) meeting with Interior, we recommend a year-round flow of 60 cfs or inflow, whichever is less, for Millinocket Stream.

EPA-14 Both the state of Maine in its 401 WQC for the Ripogenus Project and the Department of the Interior have accepted a seasonal flow of 100 cfs in the Upper Gorge from July 1 through September 30.

EPA-14 Cont

basis.

WETLANDS

More than 1,251 acres of wetlands are associated with the Ripogenus impoundment. These include 118 acres of alder thickets, 282 acres of wet meadow/emergent marsh, 66 acres of wet meadow/open water, and 785 acres of bog/wet meadow. Areas of conifer swamp/wet forest and deep marsh/aquatic bed have not been measured or estimated. Major wetland systems associated with the impoundment include the 437 acre Brandy Pond system (bog/wet meadow and wet meadow/emergent) and the 183 Quaker Brook system (wet meadow/emergent marsh and bog/wet meadow).

Below Ripogenus impoundment wetlands occur along the West Branch and in the Upper Gorge area between Ripogenus Dam and McKay Station. About 528 acres of riparian wetlands occur along the West Branch in the vicinity of Ripogenus. Most of these wetlands are associated with deadwater areas. The various wetland types include: alder thickets, conifer swamp/wet forest, wet meadow/emergent marsh, wet meadow/open water, and open bog/wet meadow. The surrounding areas are dominated by softwood and hardwood mixed forests. Wetlands in the Upper Gorge area are limited due to the rocky substrate and steep topography.

EPA-15

Numerous wetlands are associated with the Penobscot Mills Project and the associated impoundments. North Twin impoundment has 296 acres of wetlands. Of this 296 acres, 180 acres are wet meadow/emergent marsh, 114 acres are open bog/wet meadow, and 2 acres are wet meadow/open water. Millinocket lake is connected to 709 acres of wetlands consisting of 383 acres of wet meadow emergent marsh, 316 acres of open bog/wet meadow, 8 acres of alder thickets, and 2 acres of wet meadow/open water. Quakish Lake is associated with 159 acres of primarily wet meadow/emergent marsh. Dolby Pond is connected to 219 acres of wetlands of predominantly wet meadow/emergent marsh. East Millinocket impoundment is associated with very few wetlands due to the paper mill complex and associated mill yards.

Riparian wetlands associated with Penobscot Mills occur along Millinocket Stream and the West Branch. Millinocket Stream has small areas of emergent and scrub/shrub wetlands which have developed along several deadwater areas along the stream. Portions of the West Branch in this area contain similar wetland types. The Back Channel also contains narrow areas or riparian scrub/shrub wetlands along it's shores.

Section 404(b)(1) Guidelines

The proposed action and alternatives would not require the placement of fill, an activity regulated under Section 404 of the Clean Water Act. However, the proposed action and project

EPA-15 No response required.

EPA-15 Cont

alternatives would alter water levels in the Ripogenus and North Twin impoundments and thus could have an adverse effect on the functions and values of the existing wetlands. Additionally, wetlands would also be affected by the diversion of water from natural stream channels such as the Upper Gorge, the Back Channel, and Millinocket Stream.

EPA-16

According to the dEIS, impacts to wetland functions and values at the Ripogenus and North Twin impoundments are similar for all the alternatives considered in the dEIS. Approximately 250 acres of wetlands hydrologically connected to Ripogenus impoundment will continue to be affected adversely by the impoundment drawdowns.[8] It is unclear how many acres of wetlands will be impacted at North Twin impoundment. The dEIS states that this impoundment is associated with 296 acres of wetlands but does not state how many acres would be affected by the proposed action. Additionally the dEIS does not evaluate what impacts the drawdowns have on aquatic beds and species utilizing the drawdown zone. The final EIS should to quantify the amount of wetlands which will be impacted at North Twin impoundment and evaluate the impacts associated with aquatic beds and species utilizing the drawdown zone.

EPA-17

The dEIS states that wetland enhancements at Black Pond and the Deep Cove sites should be included in the final FERC license to offset wetland impacts from impoundment drawdowns. EPA believes these enhancements have the potential to compensate for the drawdown impacts, however, additional information is necessary to allow us to finalize this determination. EPA recommends the final EIS quantify the impacts associated with North Twin impoundment so that the appropriate mitigation acreage can be set. If impacts at North Twin impoundment are large, enhancement at Quaker Brook and other sites should be included in the mitigation plans presented in the final EIS.

EPA-18

While the dEIS includes a brief description of potential wetland enhancement measures at Black Pond, Quaker Brook, and the Deep Cove sites, the final EIS should include a more detailed analysis of these enhancement opportunities. The final EIS should include a description of the wetlands, the enhancement measures proposed, how the enhancement will be executed, and the benefit to wetland functions and values from these measures. As these enhancements are likely to involve construction of dikes or berms to hold back stream flows, these measures likely would require a Section 404 of the Clean Water Act permit from the Army Corps of Engineers (Corps). EPA recommends the applicant contacted the Corps as early as possible to determine compliance with the requirements of the Section 404(b)(1) Guidelines.

[8]Impoundment drawdowns affect these hydrologically connected wetlands primarily due to continuing cycle of winter drawdowns exposing these areas to freeze-thaw conditions.

EPA-16 The FEIS includes an estimate of the quantity of affected shoreline wetlands at North Twin under the proposed action. Aquatic beds were included in the estimate of affected shoreline wetlands.

EPA-17 The FEIS includes an estimate of the quantity of affected shoreline wetlands at North Twin under the proposed action. Such effects to project wetlands will be compensated by the wetlands enhancements under the proposed action.

EPA-18 A description of the affected wetlands was provided in the DEIS. Detailed analyses of constructing the potential enhancement sites was provided by GNP as part of the record in response to AIR #2, October 28, 1993. A qualitative analysis of how wetlands functions and values could be benefitted at the sites is provided in GNP's response to AIR #6, December 7, 1992, also part of the record. These analyses were subsequently verified by Staff during field visits to the sites on August 26, 1993. Your comment concerning Section 404 of the Clean Water Act is noted.

COMMENTS FROM ENVIRONMENTAL PROTECTION AGENCY ON UPPER PENOBSCOT RIVER BASIN DEIS

Wildlife Impacts

EPA-19

FERC's flow recommendation for the Back Channel would continue to provide only leakage flows of about 12 cfs from Stone Dam. The dEIS concludes that restoring flows to the Back Channel would provide little benefits to wetlands due to the area's rocky substrate. While the restoration of flows to this area would initially disrupt some current wetland systems, EPA agrees with the determination in the dEIS that additional areas of wetlands in peripheral areas would be created and that aquatic vegetation within the channel would be enhanced.

EPA-20

The dEIS states that restoring flows to the Back Channel would disrupt existing beaver population; however, these animals would be able to relocate or adjust to the higher flows. Currently, beaver are being affected adversely by seasonal releases of excess flow over Stone Dam; Stone Dam can pass flows of up to 109,000 cfs. EPA recommends the final EIS document these seasonal releases and quantify flow volumes from Stone Dam to the Back Channel.

EPA-21

The dEIS concludes that drawdowns at Ripogenus and North Twin impoundments have detrimental effects on waterfowl and shorebirds such as the common loon, ring-billed gull, and common tern by increasing predation of these species. FERC has recommended establishing artificial, floating nest structures at both impoundments to help increase survival of common loons and other aquatic birds utilizing the area. EPA recommends FERC coordinate with the USFWS on this mitigation proposal and that these measures be committed to in the final EIS.

EPA-22

FERC recommends establishing a buffer zone around the Ripogenus impoundment and GNP-owned property along the Penobscot Mills Project. This buffer zone would establish a 200 foot building set back and a 100 foot vegetative buffer. EPA concurs with this recommendation as it would provide benefits to wildlife resources in the area and would help to maintain or improve water quality.

Additionally, EPA recommends that the final EIS address the following aquatic resource issues:

EPA-23

1. Impacts to wetland functions and values from the drawdowns at Ripogenus and North Twin impoundments should be mitigated. Currently, drawdowns at Ripogenus impact about 250 acres of wetlands. The impacts at North Twin impoundment were not detailed in the dEIS and should be presented in the final EIS so that appropriate mitigation plans can be developed.

EPA-24

The final EIS should include an expanded evaluation of mitigation sites. Specifically, a functions and values assessment of the wetlands to be enhanced should be provided in the final EIS in addition to a discussion of the proposed enhancement measures. The final EIS should discuss how these enhancements will be achieved to

RESPONSES TO ENVIRONMENTAL PROTECTION AGENCY ON UPPER PENOBSCOT RIVER BASIN DEIS

EPA-19 No response required.

EPA-20 There is no data currently in the record that suggests beaver might be adversely affected by existing seasonal excess flows over Stone Dam. Table 3-3 in the DEIS shows that the peak discharge at Stone Dam is 64,800 cfs, not 109,000 cfs, as EPA suggests. Further, it is misleading to suggest that flows of this magnitude are seasonally passed over Stone Dam. Spillage releases on the order of 29,000 cfs have been recorded at the project by the applicant. There is no evidence currently in the record for much greater regular spills (i.e., order of 109,000 cfs) occurring at Stone Dam. We see no purpose in further documenting these flow volumes in the FEIS.

EPA-21 We recommend GNP prepare the floating nest structure plans after consultation with FWS, Maine Department of Inland Fisheries and Wildlife, and other interested entities. The plan would be required within 12 months of license issuance.

EPA-22 No response required.

EPA-23 The estimated effects to wetlands functions and values would be adequately compensated as a result of our recommended license conditions. The FEIS includes an estimate of the quantity of impacted wetlands at North Twin. Wetlands enhancements recommended for the Penobscot Mills Project would adequately compensate for affected wetlands functions and values at North Twin.

EPA-24 The applicant provided an adequate qualitative functions and values assessment in their response to AIR #6, December 7, 1992. A detailed discussion of the proposed enhancement measures was also provided as part of the record in response to AIR #2, October 28, 1993.

COMMENTS FROM ENVIRONMENTAL PROTECTION AGENCY ON UPPER PENOBSCOT RIVER BASIN DEIS

EPA-24 Cont

permit full evaluation of the value of the mitigation measures. EPA recommends the applicant contact the Corps to determine whether permits will be needed for these enhancement projects.

EPA-25

2. Restoration of minimum flows to the Upper Gorge, Millinocket Stream, and the Back Channel would provide the substantial benefits to the aquatic ecosystem in these areas. Consistent flows would enhance and expand wetlands in these areas; additionally fisheries and other wildlife would also likely benefit from the restoration of flows to these areas. EPA recommends FERC adopt these restoration flows as part of its proposed action.

EPA-26

3. EPA recommends that the placing of artificial nesting structures on Ripogenus and North Twin impoundments, as well as the establishment of buffer zones around Ripogenus impoundment and land owned by the applicant along the Penobscot Mills Project, be committed to in the final EIS and incorporated as a condition of FERC's license.

On the basis of the comments above, we have rated this project "Environmental Concerns - Insufficient Information" (EC-2). Please see the attached sheet for a full explanation of this rating.

EPA-27

Thank you for the opportunity to review and comment on this draft EIS. EPA is available to work with FERC and the applicant to assure that our concerns are adequately addressed in the final EIS. If you have any questions about our comments, please contact Steven John of my Environmental Review team at 617/565-3426.

Sincerely,

John P. DeVillars
Regional Administrator

RESPONSES TO ENVIRONMENTAL PROTECTION AGENCY ON UPPER PENOBSCOT RIVER BASIN DEIS

EPA-25 See responses to EPA-4, EPA-5, EPA-13 and EPA-14

EPA-26 See response to EPA-21 and CI-8

EPA-27 No response required.

COMMENTS FROM ENVIRONMENTAL PROTECTION AGENCY ON UPPER PENOBSCOT RIVER BASIN DEIS

SUMMARY OF RATING DEFINITIONS AND FOLLOW-UP ACTION

Environmental Impact of the Action

LO--Lack of Objections
The EPA review has not identified any potential impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC--Environmental Concerns
The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

EO--Environmental Objections
The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU--Environmentally Unsatisfactory
The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1--Adequate
EPA believes that draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2--Insufficient Information
The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3--Inadequate
EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

RESPONSES TO ENVIRONMENTAL PROTECTION AGENCY ON UPPER PENOBSCOT RIVER BASIN DEIS

COMMENTS FROM GREAT NORTHERN PAPER, INC.
ON UPPER PENOBSCOT RIVER BASIN DEIS

GREAT NORTHERN PAPER, INC
One Katahdin Ave.
Millinocket, ME 04462
(207) 723-5131
Subsidiary of Bowater Incorporated

BOWATER

File Nos. 1-8602/1
1-8603/1

February 22, 1995

Honorable Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N.E., Room 3110
Washington, DC 20426

RE: Comments on Draft Environmental Impact Statement
Penobscot River Basin Docket Nos. 2458 and 2572

Dear Secretary Cashell:

In November of 1994, the Commission distributed the Draft Environmental Impact Statement (DEIS) for the Ripogenus and Penobscot Mills Projects. By Notice dated December 15, 1994, the Commission invited all participants to submit comments. Pursuant to that Notice, Great Northern Paper, Inc. ("Great Northern") hereby respectfully submits these comments on the DEIS.

Enclosed for filing with the Commission on behalf of Great Northern licensee and applicant for new licenses for Project Nos. 2458 and 2572 are an original and eight (8) copies.

Copies of this filing have been served on all parties listed on the Official Service List for this proceeding.

Very truly yours,

Brian R. Stetson
Manager, Environmental Affairs

BRS/blw
Enclosure

cc: FERC Service List

123-2664

RESPONSES TO GREAT NORTHERN PAPER, INC.
COMMENTS ON UPPER PENOBSCOT RIVER BASIN DEIS

COMMENTS FROM GREAT NORTHERN PAPER, INC.
ON UPPER PENOBSCOT RIVER BASIN DEIS

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the forgoing document upon each person listed on the official service list compiled by the Secretary in these proceedings.

Brian R. Stetson
Manager, Environmental Affairs
Great Northern Paper, Inc.
One Katahdin Avenue
Millinocket, Maine 04462
(207) 723-2664

Dated: February 22, 1995
Millinocket, Maine

RESPONSES TO GREAT NORTHERN PAPER, INC.
COMMENTS ON UPPER PENOBSCOT RIVER BASIN DEIS

COMMENTS FROM GREAT NORTHERN PAPER, INC. ON UPPER PENOBSCOT RIVER BASIN DEIS

INTRODUCTION

Great Northern, FERC staff, state, local and federal officials, private interest groups and hundreds of interested persons have all participated in this relicensing process over the last eight years. Voluminous information has been collected and submitted to Commission by Great Northern over the past eight years and more recently as part of the scoping process under the National Environmental Policy Act (NEPA). The DEIS's role in the NEPA process is clearly intended to be a comprehensive review of that substantial record which has been developed for the Ripogenus and Penobscot Mills Projects. Great Northern appreciates the efforts and work of FERC staff and many of these parties as it has sought to develop a water use plan and project enhancements which will best balance competing uses and preserve and protect the many important multiple uses of the project area and its waters.

GNP-1

As stated in the DEIS, Great Northern has worked throughout the eight-year period of this process to develop a balance for competing uses of the water resource. The Water Use Plan (WUP), which was developed through consultation with agencies and interest groups, clearly represents the best balance. It establishes a firm basis by which to manage this resource on the priorities of public safety, environmental protection, and recreation while still providing adequate power to the company's manufacturing facilities. This lowest cost source of electric power is essential to Great Northern's ability to compete in the pulp and paper marketplace, and the difficult economic conditions in recent years further exemplify the importance of this power to Great Northern. Although some have tried (and likely will continue) to criticize the WUP, no viable alternative has been proposed, even though the model has been under intense scrutiny for the past three years.

An essential component of the WUP is the maintenance of leakage flow in the back channel. The DEIS reached the correct conclusion noting that there is no biological justification for additional flow in this channel. Great Northern strongly agrees with this conclusion and urges the Commission to continue to support this critical position in the Final Environmental Impact Statement (FEIS).

RESPONSES TO GREAT NORTHERN PAPER, INC. COMMENTS ON UPPER PENOBSCOT RIVER BASIN DEIS

GNP-1 Opinion noted.

COMMENTS FROM GREAT NORTHERN PAPER, INC. ON UPPER PENOBSCOT RIVER BASIN DEIS

There is, however, one significant problem raised by the conclusion included in the DEIS. It concludes that the project boundaries be expanded to include all company-owned land within two hundred feet of the high water mark. Furthermore, on the Ripogenus impoundment the DEIS recommends that Great Northern be required to purchase an estimated 2,000 acres of shoreline not presently owned by the company. While Great Northern agrees with the goal of assuring shoreline protection, the Commission has greatly underestimated the costs and impacts of this recommendation and has not given appropriate consideration to Maine's lake protection regulatory structure which has been developed over the last twenty years and sharply refined in recent years. This is a structure which has been developed with full, open participation of the people of Maine as required by the State's legislative and regulatory processes. It is incorrect for intervenors to assert that Maine's Land Use Regulation Commission (LURC) can act independently to amend its regulations or abolish them through an act of the Legislature. As the regulatory and legislative processes demand, changes in State standards can only occur in a public forum. Thus, the resulting laws and regulations are a reflection of the people of the State of Maine and not a small coalition of national environmental organizations.

GNP-2

In recommending ordering project boundary expansion, the Commission has significantly underestimated the complexity and cost of obtaining the protection as prescribed (DEIS, page 4-62). These requirements would force, through a questionable, and at the very least bitterly contentious eminent domain process, the acquisition of lands around Ripogenus impoundment from the present owners, most of whom have publicly stated their unwillingness to sell. Also, the State of Maine presently owns approximately nine miles of the shoreline which the Commission recommends be obtained by Great Northern and can only transfer ownership through an act of the Maine Legislature. Finally, for Great Northern to assume the responsibility for regulating shoreline activities, under FERC's direction, in lieu of State and local agencies is an unreasonable burden and clearly inappropriate for a private company. This point was repeatedly supported by comments made at the hearing on January 25, 1995.

GNP-3

E-118

RESPONSES TO GREAT NORTHERN PAPER, INC. COMMENTS ON UPPER PENOBSCOT RIVER BASIN DEIS

GNP-2 Opinion noted. The staff revised its land use assessment and recommendations in the FEIS (see section 4.9). We considered comments received during the DEIS comment period, GNP's proposed conservation easements for the Ripogenus Project area, updated land valuation information, and further assessment of LURC's land use regulations. The staff proposes two options for the Ripogenus Project area: (1) accepting the conservation easement proposed by GNP and the state of Maine; or (2) a 200-foot boundary expansion on GNP-owned lands. For the Penobscot Mills Project area, the staff recommends a 100-foot expansion of the project boundaries on GNP owned lands. The staff recommends that existing structures would be grandfathered under any of the project boundary expansion options. Any proposed variances to LURC's regulations would warrant review and approval by FERC (see section 4.9.3).

GNP-3 The staff revised potential cost estimates for the shoreline easements upon review of comments received during the DEIS comment period and updated land valuation information. The staff estimated that the potential cost of approximately $24.6 million, based on waterfront footage for the easements proposed in Alternative 1, would be greater than previously determined in the DEIS. Our analysis indicates that the additional protection of the 500-foot expansion does not merit the much higher cost of that alternative as compared to the recommended alternative ($24.6 million versus no direct costs). See section 4.9 for further discussion.

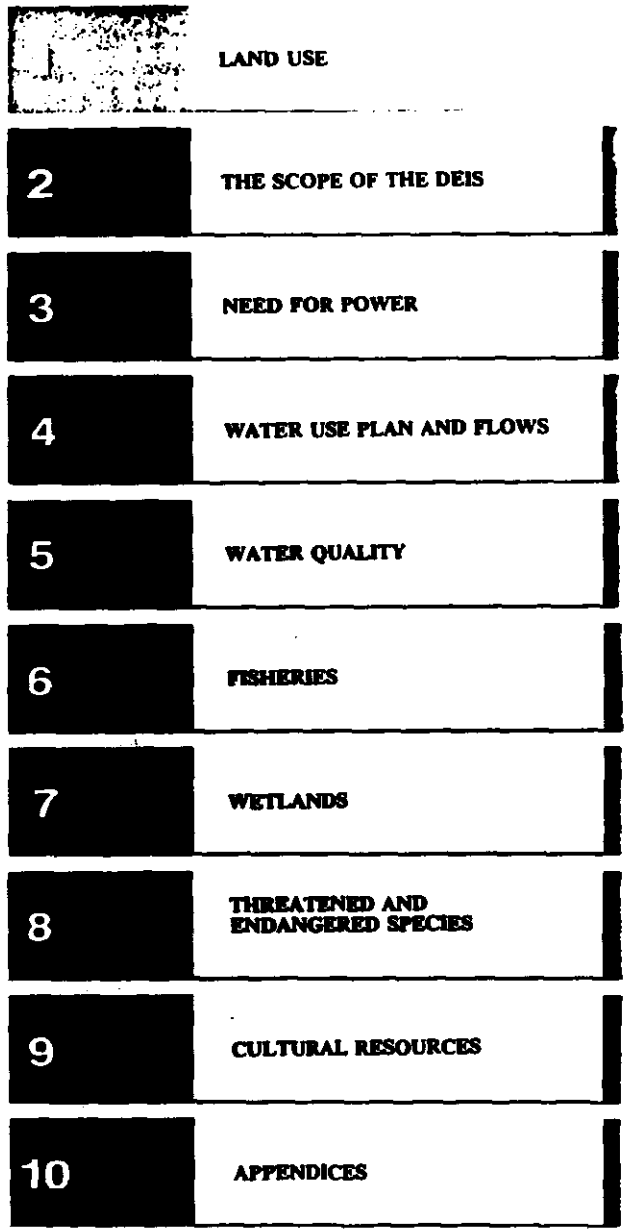
Even if the property could be obtained, the cost is over $10 million and not the $2 million estimated in the DEIS. This higher cost is consistent with locally available valuation information, testimony presented at the January 25 hearing, and, most importantly, has been confirmed by the Thompson Appraisal Company, Inc. which developed the Rangeley appraisal upon which FERC inappropriately relied for its conclusions with respect to the buffer zone costs. This cost assumes that the Commission does not intend that Great Northern acquire existing camps and homes on project impoundments. If existing developments are to be included, the costs would increase substantially. Since both mills are located within 200 feet of project impoundments, the direct impact on company operations of including, in any way, existing developments would be enormous. Furthermore, the limits FERC places on development of areas in the Penobscot Mills Project would take from Great Northern the opportunity to realize value from lands specifically directed by the State of Maine towards properly accomplished development. This lost value would exceed many millions of dollars.

GNP-3 Cont

Great Northern believes that there is no justification for such drastic measures in substituting the Commission's judgment for that of the state agencies charged with managing these resources. As the DEIS states and the environmental studies performed in this relicensing process demonstrate, the resources of the West Branch region have flourished under Great Northern's stewardship within the State of Maine regulatory framework. In reviewing the impacts of proposed license conditions, Great Northern asks that the Commission thoroughly consider the need for each proposal and not underestimate or ignore the impacts of the measures required.

GNP-4

GNP-4 Opinion noted.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APPENDICES

COMMENTS FROM GREAT NORTHERN PAPER, INC.
ON UPPER PENOBSCOT RIVER BASIN DEIS

1

RESPONSES TO GREAT NORTHERN PAPER, INC.
COMMENTS ON UPPER PENOBSCOT RIVER BASIN DEIS

COMMENTS FROM GREAT NORTHERN PAPER, INC. ON UPPER PENOBSCOT RIVER BASIN DEIS

LAND USE

Impoundment Buffer Zone/Setback Proposal

GNP-5

Despite the fact that the lands surrounding project impoundments are highly controlled by a thorough, publicly developed regulatory program implemented by the State of Maine, the DEIS proposes that the project boundaries for both the Ripogenus and Penobscot Mills Projects impoundments be expanded to include a 200 foot building setback and a 100 foot vegetative buffer. One aspect of this proposed imposition of setbacks/buffer zones would require Great Northern to obtain title to, or conservation easements for, significant land areas bordering the Ripogenus impoundment owned by other persons, including the State of Maine, who have publicly stated that they would not willingly sell their land for this purpose. The DEIS also proposes the imposition of the various restrictions (200 foot setback/100 foot buffer) on shoreland owned by Great Northern within the Penobscot Mills Project.

GNP-6

As the hearing testimony and the following comments make clear, this proposal is unnecessary and unsupportable as a matter of public policy, environmental protection and fairness, not only to Great Northern and the State of Maine, but also to those who use the resources the most and live and work in the Millinocket area. In brief summary, Great Northern's basis for objecting to this proposal, discussed in great detail in this section of its comments, is as follows:

1. The State of Maine, through its LURC, has developed and implemented a Lakes Protection Plan. This plan, as well as other aspects of LURC's regulations, provides protection for the values FERC is concerned with, but in a balanced manner based upon a long-term public process which considered the rights and needs of a wide range of interests. The DEIS proposal is both unnecessary in light of LURC's action and contrary to State policy.

GNP-7

2. The DEIS's projections of possible new shorefront development are not possible as a matter of law, fact, practicality and economic reality. Furthermore, some areas where the DEIS seeks to severely limit development potential have been specifically designated by the State of Maine as appropriate areas to which development should be directed. The DEIS's proposal would be contrary to Maine's need to wisely direct tourism and lake development to certain already developed, accessible areas.

RESPONSES TO GREAT NORTHERN PAPER, INC. COMMENTS ON UPPER PENOBSCOT RIVER BASIN DEIS

GNP-5 See response GNP-2.

GNP-6 See response GNP-2. The staff's review of LURC's land use regulations resulted in revised land use assessment and recommendations (see section 4.9). Under the recommended alternative, the proposed conservation easements and/or boundary expansion would provide long-term protection of valuable shoreland resources in accordance with LURC's regulations (see section 4.9.3).

GNP-7 Comment noted. The staff revised potential build-out estimates to reflect LURC's subdivision regulations. As stated in the DEIS, the staff acknowledges these estimates do not account for development limitations such as steep slopes, poor soils, wetlands, or access (see section 4.9.1.1).

COMMENTS FROM GREAT NORTHERN PAPER, INC. ON UPPER PENOBSCOT RIVER BASIN DEIS

GNP-8

3. The setback/buffer zone proposal would seriously impair, or at the very least, raise significant confusion as to the ability of leaseholders to use their lands in the proposed expanded boundary. The proposal raises a host of questions, for example: can leases that expire each year be renewed? Can unbuilt lots subject to one year leases be built upon anytime in the future? Can existing camps be enlarged or replaced? Can new docks or piers be built? Will existing campowners be subject to LURC standards or new FERC rules on their property? Can camps be freely sold or otherwise change ownership without any new requirements? Are commercial leaseholders treated exactly as residential campowners?

GNP-9

4. Great Northern would be placed in the impossible position, without legal authority, of policing and enforcing all activities by leaseholders and the general public within the expanded project boundaries covering well over 200 miles of shorefront.

GNP-10

5. Aesthetic, water quality and recreational resources in the project areas are not in jeopardy and do not need the imposition of draconian, divisive and confusing conditions to protect them for the future. Water quality is meeting all required standards and recreational and aesthetic opportunities are the subject of high praise by state and federal agencies, as well as resource users. Furthermore, FERC's expressed concern that LURC's timber harvesting standards are not as stringent as U.S. Forest Service (USFS) criteria is misplaced. The 1972 USFS reference supplied by FERC is apparently outdated and unavailable for review. In any event, more recent USFS guidelines to control erosion and sedimentation from logging in the Northeast are virtually identical to the current LURC standards.

GNP-11

6. Even if one were to assume that expanded project boundaries are needed, the DEIS's projected land or easement acquisition costs are a fraction of what the costs would be. The conclusion that estimated costs are completely out of line with what the true easement or fee acquisition costs would be is supported by:

   a. The appraisal firm which the DEIS cited as its authority - Thompson Appraisal Company, Inc.;
   b. One of Maine's leading independent appraisers - Norman Gosline;
   c. A knowledgeable expert from Maine's leading forestry and woodlands consulting firm - Robert Fiske of J. W. Sewall Co.;
   d. Current Maine Bureau of Taxation land valuations;
   e. The public testimony of knowledgeable local real estate professionals.

RESPONSES TO GREAT NORTHERN PAPER, INC. COMMENTS ON UPPER PENOBSCOT RIVER BASIN DEIS

GNP-8 Opinion noted. The staff revised its land use assessment and recommendations in the FEIS (see section 4.9). See response GNP-2.

Within the proposed boundary expansion areas, existing structures would be grandfathered, and GNP would have the authority to review and approve proposed actions as established by the Commission under the Standard Land Use Article. See Section 4.9 and 5.3.4 for further discussion regarding proposed protection zones for the Ripogenus and Penobscot Mills Project areas.

GNP-9 See response GNP-8.

GNP-10 The staff reviewed LURC's timber harvesting regulations and determined that they provide adequate controls for vegetative clearing and vegetative filter strips in association with timber harvesting practices. The staff revised the FEIS accordingly (see sections 3.11.1.1 and 4.9).

See response GNP-8. The proposed boundary expansions and/or conservation easements would provide adequate protection.

GNP-11 Cont

As all of these sources confirm, even if the land could be acquired, the true cost is between four and ten times that of the DEIS's estimate. This cost (or even the $2 million suggested by the DEIS), if imposed on Great Northern, would seriously affect its ability to improve the mills' competitive position. In addition, because the DEIS's proposal would so severely limit remaining use of the land, the experts concur (and common sense agrees) that the purchase of an easement, as opposed to fee, of the shorefront buffer would not meaningfully reduce the cost.

GNP-12

7. Implementing, or attempts to implement, the DEIS's proposal is virtually certain to result in contention, divisiveness and litigation. The State of Maine and landowners, including some who have owned their property for over 100 years, have clearly stated that they will not willingly sell their land to comply with this condition. This means that the ability of FERC to require, and Great Northern to utilize, the Federal Power Act's (FPA's) eminent domain power will be tested to its limits in challenges by landowners and state officials to both the license and the taking process.

Existing Requirements of Maine Law Provide all Necessary Protection for Shoreline Areas

GNP-13

Great Northern agrees that it is appropriate to assure reasonable protection of shoreline areas and to assure that inappropriate activities do not take place which would jeopardize those values required to be protected by the license. The question, however, is how to achieve this protection in the most cost-effective way which does not unreasonably intrude on the authority or goals of the State of Maine or unnecessarily affect the existing leaseholders and users of the land. The State of Maine has developed and implemented a regulatory structure which Great Northern believes meets FERC's obligations and objectives in a manner more consistent and cooperative with State of Maine policy and practices while being more predictable and reasonable in its cost and impact on Great Northern, users of the project resources and the people of the State of Maine.[1] A brief description of the recent extraordinary efforts undertaken by the State to protect its lakes is necessary to fully understand Great Northern's position that the proposed conditions on buffer zones are unnecessary and inappropriate and unwisely jeopardize the State's land use goals.

[1] FERC has cited 18 C.F.R. § 2.7(A) as support for the expectation that the licensee acquire in fee enough land to assure optimum development of recreational resources. Section 2.7 also states that such expenditures shall be "reasonable" and that action under Section 2.7 shall "encourage and cooperate with appropriate local, state and federal agencies in determining recreational needs and planning ." In addition to raising the issue, discussed elsewhere, of whether the extended buffer zones for water quality and aesthetic reasons can be accomplished using FERC's eminent domain authority for other than "recreational resources," this provision makes clear the need for cooperation with the State

GNP-11 The staff revised its land use assessment and recommendations in the FEIS (see section 4.9). Under the revised recommendations, GNP would have to acquire conservation easements on non-GNP-owned land only under Alternative 1. The staff revised potential cost estimates for the shoreline easements upon review of comments received during the DEIS comment period and updated land valuation information. The staff estimated that the potential cost of approximately $24.6 million, based on waterfront footage for the easements proposed in Alternative 1, would be greater than previously determined in the DEIS. Under the recommended alternative (Alternative 2) the proposed conservation easements and project boundary expansion would be only on GNP-owned lands. Our evaluation of benefits suggests that the additional protection of the 500-foot expansion does not merit the much higher cost of that alternative as compared to the recommended alternative ($24.6 million versus no direct costs). See section 4.9 for further discussion.

GNP-12 Opinion noted.

GNP-13 Opinion noted.

Pursuant to Maine law, LURC is charged with designating areas within its jurisdiction where development would jeopardize significant natural, recreational and historical resources, as well as areas which are appropriate for commercial forest product uses and areas appropriate for residential, recreational, commercial or industrial development (12 M.R.S.A. § 685-A). Once LURC designates protection, management or development districts, it must then promulgate land use standards regulating uses of these areas. Pursuant to the laws of the State of Maine, these land use standards must, among other things:

> Encourage the most appropriate and desirable uses of land resources consistent with LURC's comprehensive plan;
>
> Protect and preserve significant natural, scenic and historic features;
>
> Encourage minimal adverse impact of one use upon the use of surrounding areas; and
>
> Protect against water pollution and other environmental intrusions (12 M.R.S.A. § 685-A.3).

GNP-13 Cont

LURC's law also requires that it adopt a Comprehensive Land Use Plan to guide it in developing land use standards and fulfilling its planning and environmental protection mandates (12 M.R.S.A. § 685-C). The first LURC Comprehensive Land Use Plan was adopted in 1976 and was significantly revised in 1983 and most recently on June 7, 1990. This latest amendment to LURC's Comprehensive Land Use Plan incorporated two major State planning initiatives, the Wildlands Lakes Assessment and the Lakes Action Program, both dealing exclusively with lake protection issues and the relationship between land use and water quality, precisely the issues the DEIS seeks to deal with through its setback/buffer zone proposals. Furthermore, even though LURC is presently in the process of a comprehensive review and update of its Comprehensive Land Use Plan, it chose to proceed and implement an immediate amendment to its standards to assure the existence of measures designed to improve lake management. According to LURC,

> "these measures, which will dramatically improve the Commission's [LURC's] ability to wisely manage lake resources, are needed immediately to deal with rapidly increasing development pressure on lake shorefront" (see amendment of the Comprehensive Land Use Plan, June 7, 1990).

E-126

GNP-13
Cont

The Wildlands Lakes Assessment and Lakes Action Programs were initiated to study all lakes with a surface area of ten acres or more in LURC's jurisdiction, rank the resource values for each lake in terms of fisheries, scenic quality, shoreline character, wildlife and other resources, and place lakes of significant or outstanding resource values into resource classifications. In the process, LURC collected information pertaining to land and water uses including such things as zoning, access and shoreline development (id at 3), all in a very public and thorough fashion which considered a wide range of interests and objectives.

Following completion of the Wildlands Lakes Assessment, LURC appointed a Lakes Policy Committee consisting of members of the public, statewide environmental and sportsmen organizations, major landowners, university scientists and public officials. The committee was charged with developing a proposal for a policy that might guide future LURC lake management decisions and identify specific actions that should be taken to implement LURC's policies. The Lakes Policy Committee was specifically directed to develop a balanced approach utilizing innovative regulatory and non-regulatory lake management techniques. The actions identified by this committee were *consolidated* into a *proposed* plan, "An Action Program for Management of Lakes in Maine's Unorganized Areas," which was accepted by LURC in January 1989.

During this process LURC also recognized the need to update its approach for reviewing impacts on lake water quality. For this reason, the LURC staff developed a systematic approach to understanding the impacts of clearing and development on water quality and worked closely with the Lake's Division of the Maine Department of Environmental Protection (DEP) and the Maine Department of Inland Fisheries and Wildlife (DIFW) to minimize the impacts of these activities.

Following its Wildland Lakes Assessment, Lakes Action Program, water quality review and other initiatives, on June 7, 1990 LURC revised its Comprehensive Land Use Plan and amended its rules dealing with development and conservation of lakes. The new regulatory program dealing with lakes was incorporated into the revised Comprehensive Plan with the following policy statement by which LURC committed to:

> "Guide lake development based on identified land use characteristics and natural resource values, conserving important values and directing development toward those lakes or lake areas most capable of absorbing new development."

Pursuant to this policy guidance, and as required by LURC's statutory review criteria (12 M.R.S.A. § 685), LURC established specific review criteria for any shoreland permit to further assure that any shoreline development would fit "harmoniously into the existing natural environment". Among other things, LURC's revised Comprehensive Land Use Plan states that:

> "The Commission will give specific consideration to the affect that a proposed development will have on lake water quality. For a proposed development on lakes, the Commission will require a finding regarding the probable effect of the proposed action on lake quality . . . If unacceptable water quality degradation will result regardless of additional measures, the Commission will deny the application."

Review criteria for natural character were also contained in the revised Comprehensive Land Use Plan by which LURC stated that it would:

> ". . . seek to maintain the natural character of lakes by encouraging: visual screening of larger developments and non-conforming structures; consolidated use of recreation facilities such as boat docks and access ramps; and provisions for long-term protection of undeveloped shoreland as part of subdivisions and commercial, industrial and other non-residential proposals." (id at 5).

E-127

GNP-13
Cont

LURC made a couple of key changes to its regulations as part of this process specifically in order to address lake water quality and aesthetics. The minimum shoreline frontage was increased to 200 feet and the minimum setback for structures was increased to 100 feet for great ponds (a body of standing water ten acres or greater in size) (LURC Regs. Chap. 10.17.B,1.b(2) and d(1)(b)). Nearly all of the structures built along the Ripogenus and Penobscot Mills impoundments were built well before these changes were adopted when minimum shore frontage was 150 feet and setbacks were 75 feet or nonexistent. Therefore, the appearance or impact of existing development will not be the same as future development.

LURC also has adopted clearing standards that require a vegetative buffer for new structures. These standards were revised in June of 1990. Within 100 feet of the high water mark of great ponds, LURC regulates the size of cleared openings, footpath width and configuration, vegetation removal, soil disturbance and which species may be planted in natural openings (LURC Regs. Chap. 10.17.A.2a (3)(a-e)). Also within 100 feet, no more than 30% of the volume of trees may be removed in any ten year period; between 100 and 250 feet, no more than 40% may be removed (LURC Regs. Chap. 10.17.A.2b).

GNP-13 Cont

After establishing comprehensive land use policies and goals guiding lake development, LURC developed six specific lake classifications based on natural and other resource values. Over 50% of the Ripogenus impoundment was placed in the Management Class 2 category (P-AL) which was limited to lakes having less than one development unit per shore mile within 250 feet of the normal high water mark as of November 17, 1988 and which have high resource values but are relatively accessible. If no dwellings presently exist in the Lake Protection Sub-district (P-AL), the zoning only allows one single-family unit per shore mile in the future. The main portion of the Ripogenus impoundment, known as Chesuncook Lake, is zoned (P-AL) thereby providing strict protection for existing aesthetic, recreational and water quality values.

In contrast to the designation made for Chesuncook Lake, LURC designated the undeveloped parts of Ambajejus, Pemadumcook, North Twin and Elbow Lakes as Management Class 3 or "Most suitable for Development." In other words, LURC determined that when development takes place, these are among the relatively few lakes in its entire 10.5 million acre jurisdiction where development should be directed.

GNP-14

The above discussion makes it clear that very significant State of Maine legal protection measures exist to assure that only *minimal shorefront development* can take place. This development must meet the highest standards of environmental protection on virtually all of the land surrounding the Ripogenus and Penobscot Mills Projects impoundments. In addition, the program presently in place in the State of Maine is a reflection of an extensive and serious effort by the State of Maine to devise a meaningful lakes protection policy with substantial public input. These requirements are firmly set in law and regulation in the State of Maine, a state which has a history of significant environmental protection. It is no more likely that the State of Maine will repeal its lake protection measures than it is that Congress would repeal the FPA. Existing legal mechanisms must be considered by FERC, especially when they are as recent and comprehensive as those adopted by the State of Maine, when it determines whether adequate levels of protection exist to meet the needs of the FPA.

GNP-14 Opinion noted.

E-128

If in fact FERC continues to be concerned that the requirements of Maine law could be changed or altered during the duration of the project license, it is not necessary to impose burdens which are so significant in cost and possibly incapable of compliance in a process which is bound to pit neighbors against each other and invoke a contentious and uncertain eminent domain process. In fact, the Conservation Law Foundation et al (CLF) has previously said that it should be unnecessary for Great Northern to have to secure additional land to establish buffer zones:

GNP-14 Cont

> "Because Great Northern owns the land surrounding affected waters, FERC need not require the applicant to incur the costs of acquiring land in fee. Rather, FERC should require Great Northern as a condition of the final license to protect all undeveloped shorelands of the Ripogenus and Penobscot Mills project by implementing adequate buffer zones around all riverine and impoundment shorelines of waters utilized in the hydropower system."[2]

This observation was specifically contained in a request to FERC to condition final licenses upon a shoreland buffer zone which expressly exempts "currently leased lots in effect at the time the applicant filed final applications with FERC and around transmission and generating facilities." Thus, Great Northern, local citizens, officials of the State of Maine and even the intervenors have all expressed the view that it is not necessary to require costly, complex, divisive and perhaps impossible land acquisition burdens to obtain setbacks in buffer zones around the impoundments.

FERC's Projection of Possible Development is not Feasible

GNP-15 The DEIS expresses a concern that the potential residential development in the Penobscot Mills Project area, presumably the shoreline area, is approximately 5,000 dwelling units and in the Ripogenus Project area approximately 700 dwelling units (DEIS, page 4-57). Such development is impossible as a matter of fact, law, practicality and economic reality.

[2] Proposed terms and conditions submitted by American Rivers, et al., May 21, 1993 (pages 34-35).

GNP-15 The staff revised potential build-out estimates to reflect LURC's subdivision regulations. As stated in the DEIS, the staff acknowledges that these estimates do not account for development limitations such as steep slopes, poor soils, wetlands, or access (see section 4.9.1.1).

As a legal matter under Maine law, any development consisting of more than two lots in a five year period constitutes a subdivision. As FERC has correctly pointed out (DEIS, page 4-57), the vast majority of the Penobscot Mills Project area is zoned P-GP and in the Ripogenus Project area, virtually all of the project boundaries are zoned as either P-AL or P-GP. Subdivisions are *prohibited* in P-GP or P-AL subdistricts. Thus, as a matter of law, no more than two units every five years may be constructed or an illegal subdivision will result. Even if one considers individual townships bordering the Ripogenus and Penobscot Mills Projects as separate parcels, neither project could have more than 144 single family *homes* (two *every* five *years* for the 30 year license term) constructed on *hundreds* of *miles* of shore frontage.[3]

GNP-15 Cont

There are a number of site restrictions, such as poorly drained or shallow soils, insufficient lot *depth* due to road *location*, poor or non-existent road access, poor boat access, etc., that would further limit potential development or make other areas more attractive than every "theoretically developable" lot on these impoundments. Over 10 miles of the Ripogenus shoreline is owned by the Bureau of Public Lands which has a policy prohibiting the issuance of new leases for private purposes.

In assessing potential shoreland development, FERC must base any projections of potential development on reasonable scenarios. The most relevant analysis of projected housing demand is a recent study done by LURC in connection with its ongoing review of the comprehensive plan. In a study completed only within the last few months, LURC estimated that the total number of new seasonal units within the entire 10.5 million acres of Maine's unorganized territory would be between 2,600 and 3,000 over the next ten years (see Summary of the Commission's Current Land Use Policies and Their Net Effects, August 1994, page 36). However, since most development under LURC's new Lake Management Classifications is likely to take place on Management Classes 3, 4 and 5, (i.e., areas to which LURC is directing development), the total number of homes likely (even if rezoning were allowed) to be constructed in the Ripogenus Project area is especially minuscule, certainly only a tiny fraction of *those estimated* by FERC as *theoretically possible*.

[3] It is true that Great Northern could seek to change the zone of these areas where subdivisions are prohibited and theoretically, allow a greater number of single family homes. As noted earlier, however, LURC has specifically dealt with the question of subdivisions proposed on land adjacent to lakes and, on June 7, 1990, substantially enhanced the normal development approval criteria found in 12 M.R.S.A. § 685-A-8 to further require findings that there will be no undue adverse impact on water quality, traditional uses in natural and cultural resource values and that the natural character of the shorelands will be maintained. LURC rules, Chapter 10.13-B.2.

GNP-15 Cont

In short, the DEIS greatly overstates the amount of development that would be possible, especially along the Ripogenus impoundment. The strict zoning that already exists makes it inconceivable that the DEIS's estimates can ever be realized. The DEIS offers no evidence to support even a hypothesis that the LURC zoning might be changed. Under these circumstances, there is simply no basis to assume that state law and LURC zoning will not protect the Ripogenus and Penobscot Mills Project's shoreline areas for the life of the new license. Thus, the DEIS's goal of limiting new units for aesthetic purposes is clearly met.

GNP-15 See responses GNP-2 and GNP-8.

A Shoreline Buffer Zone Within the Project Boundary Would Impair Enforcement Efforts

At present, LURC is legally responsible to enforce its rules governing activities along the Ripogenus Project. If the new license for the Ripogenus Project requires the creation of an expanded shoreline buffer zone, it will become the responsibility of Great Northern and of the Commission to develop and enforce the rules governing acceptable activities within that zone. The DEIS fails to evaluate the negative impact of this transfer of responsibility as well as the likelihood that private enforcement would be impossible.

GNP-16

During the course of this proceeding, no one has credibly suggested that LURC lacks the legal authority to enforce its rules. No one has suggested that the State of Maine lacks the necessary police and judicial authorities to support LURC's enforcement efforts. Indeed, the record demonstrates that ample effective legal authorities are already in place to govern activities in the Project's shoreline zone.

If the Commission were to create a 200 foot shoreline buffer zone, however, enforcement authority would shift to Great Northern and, ultimately, to the Commission itself.[4] Unfortunately, neither Great Northern nor the Commission has any effective resources or authority to regulate activities in this zone. At best, Great Northern would have to resort to attempts at land restriction and civil trespass actions to accomplish what LURC can now do directly with the State's police powers.

[4] Given the Commission's apparent premise in creating a shoreline buffer zone is that LURC's regulations are ineffective and unpredictable, it is unlikely that LURC could or would assume any enforcement authority for the Commission.

Moreover, neither Great Northern nor the Commission have staff resources or expertise necessary to police the various activities that will occur on a daily basis in a shoreline buffer zone of this magnitude.[5] These activities include not only recreation and activities by camp owners or lessees, but also ongoing commercial forestry, a subject that the Commission has, as the DEIS demonstrates, little background in.

"Grandfather Clause", Impacts on Existing Leases

In comments published prior to and during the January 25 hearing, and in public statements on the record, various intervenors and Commission staff itself have stated that existing developments would be unaffected by the proposed buffer zone. These statements ignore Commission precedent and contradict the DEIS's rationale for creating a Commission-controlled buffer zone.

E-132

GNP-16
Cont

First, Great Northern is unaware of any mechanism by which the Commission could "grandfather" existing development. Indeed, less than a year ago, in East Bay Municipal Utility District, ¶66 FERC to 61, 199, the Commission stated:

> "The Commission does not condone residential development and occupancy on project lands, and in fact requires license applicants to exclude residences unless the underlying property is needed for a project purpose..... Such long-term residency, essentially granting individuals exclusive use of a site, is not consistent with the Commission's policy of maximizing public recreational development. Such development undercuts the rational for expanding the project to create a buffer zone."

In light of these conclusions, it is not clear how the Commission could grandfather existing development. More importantly, however, the willingness to consider grandfathering existing development appears to be inconsistent with the intention to supersede LURC regulation. Thus, although the DEIS concludes that current regulations do not "guarantee long-term protection for the duration of the license" (DEIS, page 4-57), the current level of *development*, which the Commission now proposes to formalize, reflects the operation of the very rules and regulations the DEIS seeks to replace. If the current level of development is acceptable, however, there is no reason to supplement the regulations that produced it.

[5] Indeed, when it created the standard license article governing permitted land uses within licensed projects, the Commission indicated that it was doing so, in part, because it was devoting too many staff resources to the consideration of routine land use matters. Brazos River Authority, 11 FERC ¶ 61,162 at page 61,347 (1980). The creation of a shoreline buffer zone in this case would be inconsistent with the precedent. The DEIS does not explain this departure from Commission precedent.

GNP-16 Cont

Indeed, if the DEIS's true concern is with the remote possibility that LURC regulations might somehow disappear, then the Commission should explore options that deal with this problem, not by creating new problems by expanding the project boundary. As stated at the January 25 hearing, current lease holders have grave concerns about the impact from the Commission's proposal to expand the project boundaries. For example, will this requirement prohibit improvements, repairs or expansions of existing homes or camps? Would the construction of a new dock, garage or shed in conformance with state standards be prohibited? Would new construction on existing leases be prohibited?

GNP-17 See response GNP-11.

The DEIS's Estimated Land Acquisition or Easement Costs are a Fraction of the Actual Costs Which Great Northern Would Incur

GNP-17

The DEIS estimates that the cost to Great Northern of acquiring shoreline in fee or conservation easements is approximately $1,000 per acre. This figure was derived from an examination of a recent sale of approximately 1,200 acres acquired by Maine's Forest Legacy Program along the Rangeley Lake shoreline (DEIS, page 4-73). The value of the rights acquired in that transaction is not at all comparable to this situation and is inapplicable to land acquisition costs along the Ripogenus impoundment shoreline.

The purchase of a 200 foot strip of land requires that Great Northern purchase only the most valuable part of a parcel, i.e., shore frontage. In the case of the Rangeley transaction, however, much of the land (approximately 94%) was not shore frontage. The $1,000 per acre appraisal covered a great deal of land, much of which was not shorefront land. In the case of the DEIS's proposal for the Ripogenus impoundment, all of the land would be shorefront land, and thus, the per acre cost would be far higher than the Rangeley Lake price.

To confirm this view, Great Northern contacted the appraisal firm which conducted the Rangeley Lake appraisal. Attached as Appendix A is an appraisal by Thompson Appraisal Company, Inc. indicating that the DEIS's use of a $1,000 per acre figure for the Ripogenus impoundment shoreline is inaccurate and inappropriate. Their estimate of the fair market value of acquiring simple fee interest for the non Great Northern properties is $10.9 to $12.3 million. In addition, Great Northern has contacted one of Maine's leading appraisers, Norman Gosline, to provide an independent assessment of whether the DEIS's estimate of $1,000 per acre is appropriate. Mr. Gosline concludes that the number is not accurate and the actual figure would be considerably higher (see Appendix A).

In addition to the views of Mr. Thompson and Mr. Gosline, Great Northern has also estimated the value of the land interests the DEIS would require it to acquire based upon current Maine Bureau of Taxation valuations. According to these valuations, a typical lot with 200 feet of shore frontage is valued at $16,000 on Chesuncook Lake and $20,000 on Caribou Lake (both lake basins within the Ripogenus impoundment). Using these figures, the cost to acquire shoreline property not owned by Great Northern around the Ripogenus impoundment is over $13 *million*. As well, testimony at the January 25 hearing presented by Mr. Bob Fiske of J. W. Sewall Company indicates that the real cost for acquiring by fee or easement is eight times higher than the estimate included in the DEIS.

In short, whether one uses the estimates of the appraisers which FERC initially cited, leading Maine appraisers, valuations based upon the Maine Bureau of Taxation approach, or comparable local real estate sales as testified to at the public hearing on January 25, the DEIS would actually be imposing a cost of at least $10 million, rather than $2 million for Great Northern to purchase a 200 foot fee or easement around Ripogenus impoundment.

GNP-17
Cont

The option of acquiring an easement as opposed to fee is not one which would result in any significant cost savings to Great Northern. The limitations on land use recommended in the DEIS are such that virtually no rights would remain with the landowner, who would, however, still face the burden of taxation and easement maintenance. Thus, for an easement to accomplish the DEIS's objectives, it would have to provide compensation equivalent to a purchase of a fee interest. Great Northern would also incur significant easement monitoring costs as well, in part due to the nature of the requirements that have been described for this acquisition in the DEIS. For example, it would be very time consuming to monitor and enforce the restrictions on temporary docks along hundreds of miles of shoreline. The specific means by which existing development may be "grandfathered" would have a significant bearing on ongoing, annual monitoring costs for Great Northern.

Timber Harvesting Practices Do Not Impact Water Quality

It is clear that existing LURC regulations have fully protected water quality in project impoundments. This is recognized in the DEIS itself and by State agencies charged with issuing water quality certifications for the projects. Both LURC and the DEP have issued certificates which concluded that water quality standards are being met in project impoundments.[6] In addition, the proposal to create a shoreline buffer disrupts the balance LURC has sought to achieve by recommending some areas as suitable for development and greatly restricting development in other areas like the Chesuncook Lake section of the Ripogenus impoundment.

In support of its conclusion that expanded buffer zones are necessary, the DEIS states that LURC's "50-foot buffer does not provide the recommended width calculated using the commonly accepted Forest Service criteria; therefore, a 50-foot vegetative buffer may not adequately protect aesthetics and water quality depending on existing slope" (DEIS, page 4-59). This conclusion is inconsistent with the DEIS's evaluation of water quality and aesthetics and is based on incorrect, inapplicable or outdated Forest Service criteria. As the DEIS itself notes, "water quality throughout all of Ripogenus and Penobscot Mills Projects waters is generally very good; nearly all waters meet State water quality standards for coldwater fisheries (DEIS, section 3.4). Only three, site-specific water quality issues were identified during the scoping process: mercury concentrations in the impoundments, dissolved oxygen (DO) concentration in Dolby Pond, and water quality in Back Channel" (DEIS, page 4-8). Furthermore, the state water quality certificates essentially found no water quality problems in impoundments, let alone problems related to project operations, forestry or other activities of Great Northern.

GNP-18

In short, statements in the DEIS to the effect that timber harvesting practices can degrade water quality by altering temperature, lowering DO concentrations, and increasing concentrations of nitrate and suspended sediments (DEIS, section 4.9.1.2) are purely theoretical and are inconsistent with the actual water quality in the Ripogenus and Penobscot Mills Projects.

[6] Possible DO deficits in the Dolby impoundment have been noted, but there is no indication that these deficits are caused by activities that would be affected by a shoreline buffer zone. Great Northern has agreed to examine whether mill operations have contributed to these deficits, but nothing in the record supports any concern that forestry operations have been the cause.

GNP-18 Staff determined the recommended alternative and the proposed conservation easements and/or boundary expansion would provide long-term protection of valuable shoreland resources (see sections 3.11.1.1 and 4.9). In the recommended alternative, GNP would be responsible for recreational facilities and potential enhancements or mitigation of recreational resources in association with project operations or license conditions (see section 4.9.3).

LURC regulations have been an effective means to limit negative impacts from timber harvesting on water quality, aesthetics and wildlife habitat for the Ripogenus and Penobscot Mills Projects. The LURC standards applicable to timber harvesting near lakes, rivers and streams have remained relatively unchanged for roughly 20 years. It is highly unlikely that these standards will be seriously weakened in the future. In addition, because these standards have been in place for such a long time, any inadequacies in these standards should have been evident in the results of recent water quality monitoring work.

FERC has made an erroneous interpretation of LURC regulations in its statement that the vegetative buffers applicable to timber harvesting are 50 to 100 feet (DEIS, pages 4-58 & 4-59). The width of the protection zone (P-GP) around lakes over ten acres (includes all project impoundments) and rivers which drain over 50 square miles (includes all of the West Branch) is 250 feet (Maine LURC Regs., Chapter 10). The regulations which apply within this 250 foot zone are specifically designed to "regulate these areas so that development will not degrade waters, recreation potential, fishery habitat or scenic character".

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Cont

The requirements which apply to timber harvesting in the P-GP Protection Sub-districts are duplicated below from the LURC Regulations. There are several specifications that apply within 50 feet of the high water mark (b.1. and b.4.), while the others apply between 50 and 250 feet or to the whole 250 feet for the Great Pond Protection Sub-district.

"b. Timber harvesting operations in P-SL1 and P-GP Protection Sub-districts shall be conducted in the following manner:"

1. Within 50 feet of the normal high water mark, no clearcutting shall be allowed and harvesting operations shall be conducted in such a manner that a well-distributed stand of trees is retained so as to maintain the aesthetic and recreational value and water quality of the area and to reasonably avoid sedimentation of surface waters."

2. At distances greater than 50 feet from the normal high water mark, harvesting activities may not create single openings greater than 14,000 square feet in the forest canopy. In such areas single canopy openings of over 10,000 square feet shall be no closer than 100 feet apart.

3. Harvesting shall not remove, in any ten year period, more than 40 percent of the volume on each acre involved of trees 6 inches in diameter and larger measured at 4 1/2 feet above ground level. Removal of trees less than 6 inches in diameter, measured as above is permitted if otherwise in conformance with these regulations. For the purpose of these standards, volume may be determined as being equivalent to basal area.

4. No accumulation of slash shall be left within 50 ft. of the normal high water mark of surface water protected by the P-SL1 and P-GP Protection Sub-districts. In such Sub-districts, at distances greater than 50 ft. from the normal high water mark of such waters, all slash larger than 3 inches in diameter shall be disposed of in such a manner that no part thereof extends more than 4 ft. above the ground.

"c. Except as provided in subsection g of this section, skid trails and other sites, where the operation of machinery used in timber harvesting results in the exposure of mineral soil, shall be located such that an unscarified filter strip of at least the width indicated below is retained between the exposed mineral soil and the normal high water mark of surface water areas:"

Average Slope of Land Between Exposed Mineral Soil & Normal High Water Mark (%)	Width of Strip Between Exposed Mineral Soil & Normal High Water Mark (Feet Along Surface of the Ground)
0	25
10	45
20	65
30	85
40	105
50	125
60	145
70	165

The provisions of this subsection c apply only on a face sloping toward the water; provided, however, no portion of such exposed mineral soil on a back face shall be closer than 25 feet; the provisions of this subsection c do not apply where skid roads cross such waters;

"i. Written notice of all timber harvesting operations shall be given to the Commission prior to the commencement of such activity. Such notice shall conform to the requirements of Section 10.20 of this Chapter and shall state whether or not such operations will be conducted according to the provisions of subsection g of this section; and"

"j. In addition to the foregoing minimum requirements, except as provided for in subsection g, provision shall otherwise be made in conducting timber harvesting operations in order to reasonably avoid sedimentation of surface waters."

It should be clear from the above that LURC's standards require a well managed, forested buffer that extends to 250 feet from the high water mark. Within the first 50 feet, harvesting is more strictly controlled, and within 25 feet or more, depending on slope, soil disturbance is prohibited. The types of provisions included in LURC's regulations are consistent with essentially all of the major research that has examined this issue and which are relevant to this region and situation. In a number of cases, LURC standards go beyond what is recommended.

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GNP-18
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GNP-18
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The DEIS references a "commonly accepted Forest Service criteria" in determining that the minimum buffer width should be 100 feet in which no removal of vegetation is allowed (DEIS, pages 4-58 & 4-59). The reference for this criteria is a 1972 USFS publication which cannot be found at the University of Maine library, USFS offices in Pennsylvania, nor by the consulting firm (ERM) who drafted this part of the DEIS. ERM was only able to locate an abstract of the publication which does not discuss what type of *management* is recommended within the buffer, nor any background regarding the recommendation.

The USFS has published at least three more current sets of guidelines for erosion and sediment control using buffers for the northeast since the "elusive" 1972 document. The applicable recommendations from these are duplicated below:

1. "Woodlands of the Northeast: Erosion and Sediment Control Guides", USFS 1977:

   "In order to *maintain* water quality, eroding material *must* be trapped between disturbed areas and stream system. This can be accomplished by leaving essentially undisturbed buffer strips between disturbed areas (road, construction sites, etc.) and water courses. Water from the disturbed areas should not only enter a buffer or filter strip, but should be spread in the buffer to be effective. This slows the velocity of the water so that the sediment load may be dropped and the water will soak into the soil. *This may require placement of brush, rocks,* and logs to supplement the natural vegetation and litter, in order for the filter strip to be effective. The following shows the recommended widths for filter strips on various slopes:"

Width of Slope of Land Between Road & Stream (%)	Filter Strip for Common Logging Areas (Feet)	Width of Filter Strip in Municipal Watersheds and Critical Areas (Feet)
0	25	50
10	45	90
20	65	130
30	85	170
40	105	210
50	125	250
60	145	290
70	165	330
80	185	370
90	205	410
100	225	450

The Commission should note that the width of the filter strip for common logging areas recommended in the previous publication is exactly the *same* as LURC's requirement for the width of an unscarified filter strip.

GNP-18
Cont

2. "Riparian Forest Buffers: Function and Design for Protection and Enhancement of Water Resources". USFS 1991:

   This publication recommends two forested zones designed to serve as streamside buffers for cropland or pasture land. Zone 1 is immediately adjacent to the stream and Zone 2 is adjacent to Zone 1 away from the stream.

   "Zone 1 (15 feet wide) - Undisturbed Forest. Tree removal is generally not permitted in this zone."

   "Zone 2 (60 feet wide) - Managed Forest. Periodic harvesting is necessary in Zone 2 to remove nutrients sequestered in tree stems and branches and to maintain nutrient uptake through vigorous tree growth."

3. "Whole-tree Clearcutting in New England: Manager's Guide to Impacts on Soils. Streams and Regeneration". USFS 1993.

   "Prevention of erosion is the main approach to protecting water quality . . . Some additional guidelines more specific to streams are given below."

   "Consider leaving a buffer strip of living trees along streams to trap sediment and shade the channel. We recommend a variable width of 15 to 30 m on each side of the stream. Actual widths depend upon factors such as: stream gradient (the steeper the gradient, the wider the buffer); slope gradient and length to stream channel (steep slopes and short distances will require wider buffers); and soil characteristics (clay or highly erodible soils should have wider buffers)."

These and other studies consistently indicate that vegetated buffer strips, and properly constructed roads and main skid trails, as required by LURC, are entirely consistent with USFS guidelines. Stream turbidity, temperature and chemistry can be maintained at close to pre-cut levels by applying procedures currently in place in existing regulations and practices. Even where buffer strips have not been left adjacent to small streams, dissolved nutrients in the streams generally do not exceed standards established for the protection of water use and aquatic life. In addition, surface water nutrient levels return to pre-cut levels within three to four years due to the rapid re-growth of vegetation.

Few studies have specifically examined the differences between managed and unmanaged buffers. Lowrance et al (1984) recommended that "the selective cutting of mature trees for timber or fuel wood will maintain the net annual nutrient uptake by vegetation." and that "proper streamside forest management requires both periodic harvest of trees to maintain nutrient uptake and minimum disturbance of soil and drainage conditions." This research was conducted on riparian buffers and agricultural fields in the southeastern U.S. and therefore represents a more demanding situation in terms of nutrient removal required by the buffer than for buffers for general forest management areas.

Corbett et al (1978), in a review of data from experimental watersheds in the northeastern U.S. (NH, PA, WV), concluded that "buffer strips, in which only light selection cutting is allowed, will help minimize sedimentation as well as nutrient leaching and stream temperature increase." Charles Gadzik, former LURC Commissioner, in his testimony at the January 25 hearing, also stated his belief that allowing some timber harvesting to take place within the buffer helped to maintain a healthy condition of the forest stands in that area.

Finally, in its conclusion, FERC assumed that slopes around Ripogenus impoundment average 12-15% (DEIS, page 4-58). Most of the land within 250 feet of the water that is operable for timber harvesting has very minor slopes, i.e., under 5%. Measurements on U.S. Geologic Survey topographic maps indicate that only 20% of the shoreline contains slopes in excess of 9%. A portion of these steep sections are cliffs (near Ripogenus Dam) and are not relevant to timber harvesting setbacks since they are inoperable and contain little to no timber volumes.

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Cont

The real proof of the effectiveness of current regulations and practices is in the *measurement* of water quality parameters. The Ripogenus impoundment system has demonstrated excellent water quality throughout the study years and meets all numerical water quality criteria and trophic state assessments for its assigned classification of GPA.

Evidence supporting the exceptional water quality in the Ripogenus impoundment system was derived from extensive monitoring programs conducted from 1981 through 1983 and from 1986 through 1988. For a FERC license application submitted in March of 1984, Great Northern examined 32 water quality parameters, including nutrients, metals and pesticides, in Ripogenus Lake (FERC No. 3779, Volume VII, Exhibit E, Report on Water Use and Quality). A 48-hour diel survey was also conducted in August 1981 in Ripogenus Lake. Major conclusions concerning the Ripogenus impoundment system drawn from this extensive database included:

1. Low alkalinity, typical of weakly buffered New England lakes.
2. Low conductivity, turbidity, biological oxygen demand, chloride, sulfate, metals and indicator bacteria.
3. Absence of any target pesticides (ones used for timber management) in the water column.

4. Low nutrient concentrations and low to moderate primary (algal) productivity; comparable to other Maine lakes such as Sebago and Rangeley Lakes which are utilized as major recreational water bodies.

5. No unusual or unexplainable spatial or seasonal trends in water chemistry or thermal stratification patterns.

6. Low variability of water quality parameters during the diel survey.

7. Low variability of any parameter measured among the three lake stations monitored.

8. Moderate color typical of many northern New England lakes, especially those in the Penobscot River basin.

The 1986-1988 database (having multiple sampling locations within Ripogenus impoundment sampled on 14 occasions) further supports the earlier conclusions that this water body meets the criteria for its classification (GPA) and for supporting all designated uses of that classification. In the specific issue of sedimentation and water column turbidity, a comparison was made between the Ripogenus impoundment and 43 northern Maine drainage lakes or reservoirs surveyed by the U.S. Environmental Protection Agency (EPA) in 1986, including five within the Penobscot River drainage basin. A review of this data provides quantitative evidence that turbidity and secchi disc depth in the Ripogenus impoundment are typical for northern Maine lakes. Thus, speculation that timber harvesting practices are resulting in adverse water quality conditions in the Ripogenus impoundment is not supported by the data and is contradicted by comparisons with monitoring data from less developed watersheds.

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GNP-18
Cont

Indeed, the DEIS reaches this conclusion by stating that the "staff maintains that forestry practices have been a part of the landscape in northern Maine for more than 100 years, and assuming that proper buffers and regeneration are provided, do not represent a significant aesthetic impact" (DEIS, page 4-66). In addition, the DEIS rejected the Department of Interior's (DOI's) request that the Commission require Great Northern to develop a watershed management plan. The DEIS's analysis is directly applicable here (DEIS, pages 5-23 and 5-24).

GNP-18 Cont

With respect to the Ripogenus impoundment, LURC, with review of the Maine DEP, Bureau of Land and Water Quality, concluded that the impoundment is attaining a stable trophic state (see Ripogenus Project Water Quality Certificate, section 11), fish populations are natural and self-sustaining in all relevant cases, and that fishing opportunities, according to the DIFW, are "among the finest and the most important in the State of Maine" (Ripogenus Project Water Quality Certificate, Section 24.A). LURC found that recreational uses are abundant and that fishing is the principal recreational use of the impoundment (Ripogenus Project Water Quality Certificate, Section 26.A). LURC concluded that continued operation of the project, as proposed by Great Northern with minor enhancements and changes, will result in water quality standards being met in all respects, including suitability for recreation, including fishing, and satisfaction of all criteria for attainment of designated uses of aquatic habitat and other aquatic life in the impoundment.

Similarly, the DEP found the project operation as proposed would meet all water quality standards for the Millinocket Lake impoundment, Quakish Lake and Ferguson Pond, as well as for the Dolby and East Millinocket impoundments (Millinocket Lake Storage Dam Water Quality Certificate, page 13; Penobscot Mills Project Water Quality Certificate, page 15). Since there are no present water quality problems in the project impoundments, additional setbacks and buffer zones are not necessary to protect water quality.

Exercise of FERC's Eminent Domain Power to Extend Project Boundaries is Uncertain, Will Clearly Result in Contention Between Great Northern, its Neighbors, and the State of Maine, and is Unnecessary to Accomplish its Objectives

GNP-19

By its proposal that Great Northern acquire the shorefront property of others along many miles of Ripogenus impoundment, the DEIS suggests a condition which may be impossible to comply with or, at the very least, is far more costly than estimated and clearly likely to result in litigation between Great Northern and its neighbors, including the State of Maine. This tremendous economic penalty which would be imposed on Great Northern assumes that the eminent domain power is available to acquire the land. The exercise of the eminent domain power would clearly be required given the testimony of applicable landowners at the public hearing.

GNP-19 See responses GNP-2, GNP-8, and GNP-11.

During the January 25 hearing, landowners and the State of Maine made it clear that they will not willingly sell or make their land available to Great Northern, because they do not believe that the DEIS's approach is necessary, fair or appropriate to meet the Commission's objectives legitimately. Thus, the DEIS makes it inevitable that Great Northern will have to resort to eminent domain proceedings pursuant to Section 21 of the FPA. Therefore, this proposed condition would essentially guarantee that landowners would have no choice but to challenge the license on the grounds of misuse of FERC's powers and the potential inapplicability of its eminent domain authority for Great Northern's use. This would increase the cost of any transaction and render its outcome totally uncertain.

GNP-19 Cont

No issue has received greater public attention since the DEIS was issued than the question whether the Commission can or should require Great Northern to acquire the shoreline buffer zone by use of the power of eminent domain pursuant to Section 21 of the FPA (16 U.S.C. § 814). Equal concern has been focused on the future of the recreational camps located within the shoreline zone identified in the DEIS.

If the Commission believes that Great Northern must gain ownership of the entire shoreline zone, a conclusion that Great Northern strenuously disputes, it is essential for the Commission also to explain how Great Northern is to accomplish this objective. If, despite the DEIS's failure to justify adequately the need to create a shoreline buffer zone, the Commission still believes that the power of eminent domain will be applicable, it should clearly state whether and how that power will be available. This will, at least, enable Great Northern to begin to develop a more accurate assessment of the complete cost of acquiring the shoreline zone.

COMMENTS FROM GREAT NORTHERN PAPER, INC. ON UPPER PENOBSCOT RIVER BASIN DEIS

THE SCOPE OF THE DEIS

Cumulative Impact Analysis

During the scoping process, the Commission rejected requests that its DEIS analysis encompass Great Northern's storage projects upstream of the Ripogenus Project. Great Northern supports this conclusion and believes that the FEIS should as fully discuss the basis for excluding upstream impoundments as the DEIS did for the downstream projects.

The exclusion of consideration of different upstream projects is well supported by Commission NEPA policy which provides: (1) absent extraordinary circumstances, the NEPA analysis should extend from the upstream limit of the Ripogenus impoundment to the tailwater of the East Millinocket development, and (2) the Commission will include a reopener in the licenses for the Ripogenus and Penobscot Mills Projects to permit the Commission to address issues raised in the relicensing of the Great Northern Storage Project, FERC Project No. 2634.

GNP-20

Given the circumstances of this relicensing, no other policy would make sense or be appropriate. This approach allows timely relicensing of the Ripogenus and Penobscot Mills Projects without limiting the Commission's ability to make minor modifications to these licenses which may be suggested as a result of the subsequent relicensing of FERC Project No. 2634. More importantly, Great Northern also believes that there are no extraordinary circumstances that would justify, at this time, the delay involved in further analysis of any upstream projects, whether licensed or unlicensed. As Commission staff itself noted at the Scoping Sessions, the Commission has made no determination as to the jurisdictional status of the unlicensed upstream impoundments and, without such a determination, has no authority over those projects. Because FERC Project No. 2634 will not be relicensed until 2000, any attempt to "synchronize" that relicensing with the pending proceedings will cause an excessive and unjustifiable delay in the pending relicensing. Moreover, any significant impacts actually caused by the operation of the Ripogenus and Penobscot Mills Projects have been fully discussed in their respective applications. There is absolutely no basis to support a contention that these Projects have any meaningful upstream impacts.

RESPONSES TO GREAT NORTHERN PAPER, INC. COMMENTS ON UPPER PENOBSCOT RIVER BASIN DEIS

GNP-20 We addressed the issue of including analysis of the upstream projects in Appendix D. We will recommend inclusion of a reopener article in the orders for the Ripogenus and Penobscot Mills projects to ensure that any currently unidentified relationships between these projects and the upstream licensed and unlicensed storage projects will be addressed at the appropriate time.

The Commission recently restated its policy with respect to upstream projects in the Final Environmental Impact Statement issued by the Office of Hydropower Licensing for the Upper Androscoggin River Basin Hydroelectric Projects, May 1993 ("Androscoggin FEIS"). This FEIS states two reasons why the Commission would not expand its cumulative impact assessment to upstream projects. Both of the Commission's reasons are directly applicable to Great Northern's projects.

First, the detailed information gathering and studies needed for a NEPA analysis are:

> "[I]nextricably intertwined with license processing. If the licensing process for projects is not fairly closely synchronized, enhancement measures or developmental benefits could be unreasonably delayed for projects closest to license issuance.... We believe that we could not justify the 3 to 5 year delay in relicensing the projects considered in this EIS and the improvements to environmental resources that would result" (see Androscoggin FEIS, p. 1.4).

In this case, there are only two projects (Ripogenus and Penobscot Mills) pending relicensing. The current license for the Great Northern Storage Project does not expire until the year 2000 and the license for the downstream Mattaceunk Project does not expire until 2018. As in the case of the Androscoggin FEIS, the remaining upstream projects are not licensed, and it would take at least three to five more years before they could be ready for environmental analysis.

GNP-20 Cont

Second, the Androscoggin FEIS notes that any cumulative effects analysis requires the Commission to consider the distribution of the target resource:

> "The interaction of water uses and projects to cumulatively affect target resources diminishes with distance between them" (id at 1-5).

This is equally true in the case of Great Northern where the distances to the upstream projects are comparable to the Androscoggin case. Great Northern's hydro system includes ten storage ponds upstream of the Ripogenus impoundment. Four of these ponds - Seboomook, Canada Falls, Ragged, and Caucomgomoc Lakes - have been licensed by FERC as the Great Northern Storage Project, the license for which expires in April 2000 and will be subject to review in connection with that relicensing. Four other unlicensed impoundments - Penobscot, Long, Dole, and Loon - are located upstream of and drain into the Storage Project. The last two unlicensed impoundments, Umbazooksus and Harrington Lakes, are tributary to the Ripogenus impoundment.

The capacity of the upstream unlicensed ponds and their role in the Great Northern hydro system is insignificant by comparison to the Ripogenus impoundment. Together, these six storage ponds have the maximum capacity to store only 3% of the system's water. Umbazooksus and Harrington Lakes, the only two that drain directly into Ripogenus, can only hold 1% of the system storage, even if full. By contrast, Ripogenus holds 50% of the total system's storage. Furthermore, flows from Harrington Lake are operated by agreement with the DIFW to meet its management goals for landlocked salmon.

In this respect, the argument by the CLF, that the storage ponds are affected by the operation of the Ripogenus Project, is factually incorrect. In fact, at the request of the DIFW, the WUP was designed so that it would not change the operation of the upstream ponds in any way. Upon implementation of the WUP, the storage ponds will continue to be operated as they always have been and in consultation with DIFW in order to further its management goals. Because nothing in the WUP will change the historic mode of operation or foreclose future changes that may be desired by the appropriate agencies, the relicensing of the Ripogenus and Penobscot Mills Projects will simply not affect the upstream ponds.

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GNP-20
Cont

During the original licensing proceeding for the Storage Project, FERC and Great Northern agreed that only Seboomook, Ragged, Caucomgomoc and Canada Falls Lakes would be licensed as headwater storage reservoirs. It was also agreed that the other dams and lakes on tributaries to the West Branch of the Penobscot that were owned by Great Northern (Dole and Long ponds, Harrington, Loon, Penobscot, Rainbow, Nesowadnehunk and Umbazooksus Lakes) would not be licensed since their impact on Great Northern's hydro system was inconsequential. Nevertheless, by letter dated January 30, 1991, Great Northern responded to FERC's inquiries, prompted by the DEP, and committed to including these projects in the Storage Project if data collected during the relicensing of that project show that the ponds contribute in any meaningful way to net generation downstream:

> "Great Northern respectfully submits that, upon receipt, during first-stage consultation, of such documentation as DEP possesses, it will examine this issue as part of the relicensing activities for the Storage Project. If data collected during the relicensing supports DEP's position that the ponds contribute to net generation downstream, Great Northern will include the ponds in the application for new license. Relicensing activities for Project No. 2634 will commence within two to five years."

Moreover, FERC has already rejected requests from CLF et al that it study the upstream ponds during the Ripogenus relicensing

> "We agree that the Commission could decide to license these reservoirs as a separate storage project. If the Commission does decide that they should be licensed, they would be subject to a separate license. Therefore, fish and wildlife issues and impacts, as they relate to the management of the upstream reservoirs would be addressed under another licensing review" (FERC letter dated June 8, 1992 to G.E. Beckett, U.S. Fish and Wildlife Service (USFWS)).

FERC's decision was entirely appropriate. Investigation of the unlicensed ponds during the Ripogenus relicensing would be misplaced and futile.

Moreover, the Director of the Office of Hydropower Licensing (Director-OHL) has taken the position that there must be a nexus between a project impact and a study request. His refusal to require Alabama Power Company (APCO) to conduct a habitat-based instream flow study, two projects upstream of APCO's Yates and Thurlow Projects, was based on the grounds that a nexus is required between a project impact and a study request:

GNP-20 Cont

> "Section 10(j) specifies that fish and wildlife conditions placed in licenses are for the purpose of protecting, mitigating damages to, and enhancing fish and wildlife affected by the project: there must be a nexus therefore between an agency's study request and a project's impact on fish and wildlife resources.
>
> The project assessment area, as defined by the agencies, includes the Martin and Harris Projects (FERC Nos. 349 and 2628), which are located upstream of and well beyond the area directly affected by the operations at the Yates and Thurlow Projects. The only section of the Tallapoosa River that could be conceivably affected by the relicensing of the projects would be located downstream of the Thurlow Dam.
>
> Based on the facts in this case, I must conclude that APCO has no obligation to undertake studies in areas upstream of the Yates and Thurlow Projects (letter of Fred Springer, Director-OHL, to Mr. John E. Dorsett, Alabama Power Company at 2 (Alabama Power Company, Project Nos. 2407 and 2408), dated May 10, 1990)."

During the NEPA process in this relicensing, no one has identified any upstream resource that is actually affected by the operation of the Ripogenus or Penobscot Mills Projects. Nor has anyone identified a way in which any proposed license term or condition would preclude any future options concerning the upstream projects. Indeed, the DEIS specifically concludes that it is not necessary to include the upstream storage plans in the WUP (DEIS, page D-27).

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GNP-20 Cont

Finally, as previously noted, Great Northern has specifically acknowledged that, despite the lack of upstream impacts, this is an appropriate case for inclusion of a "reopener" in the new licenses to ensure that any currently unidentified relationships between these projects and the upstream storage impoundments can be addressed by the Commission in any future licensings or relicensings. Under these circumstances, the Commission's determination not to include upstream storage ponds in the scope of the DEIS was correct. The FEIS should explain the Commission's complete reasoning and justification, incorporating the analysis set forth above.

COMMENTS FROM GREAT NORTHERN PAPER, INC. ON UPPER PENOBSCOT RIVER BASIN DEIS

NEED FOR POWER

Background

Since its inception, one of the central issues in this proceeding has been Great Northern's need for low cost hydropower produced by the Ripogenus and Penobscot Mills Projects. In fact, it has often been suggested that Great Northern has overstated its need for low cost power. This is entirely inaccurate and the DEIS has quite properly rejected this argument. More importantly, during the last several years Great Northern has provided the Commission an enormous amount of information on energy conversation and utilization. However, the DEIS does not discuss much of the data that supports its conclusion regarding Great Northern's need for power. Great Northern believes that the FEIS should more fully reflect the record in this critical area.

Great Northern's Competitive Position

GNP-21

As noted repeatedly in various sections of the DEIS, "Great Northern's presence in certain markets and its competitive position in general, therefore, depends upon the availability of a reliable source of inexpensive power". This point is as valid today as it was when the original application was submitted to FERC in December, 1991. Great Northern's relative competitive position remains unchanged from years earlier, and hence, the need for a reliable source of inexpensive power is as critical today as it was then.

During the last four years in particular, the paper industry has suffered a downturn which is unparalleled in recent history. In the uncoated groundwood papers segment alone, 12 new newsprint machines, with a combined capacity of 2.25 metric million tons, were commissioned during the period from 1989-1991. This new capacity came on-stream during a very lengthy economic recession in the U.S. causing a massive, multi-year imbalance in supply and demand. The downturn itself caused 18 older and less cost-effective machines with a capacity of 1.26 metric million tons to be shut down, many of them on a permanent basis. Additionally, another 700,000 metric tons of newsprint capacity was in the process of being converted to uncoated groundwood specialty papers during the 1991-1994 period. The net effect of all these actions was to add a significant amount of cost-effective production in the newsprint and uncoated groundwood specialty markets in which Great Northern competes.

RESPONSES TO GREAT NORTHERN PAPER, INC. COMMENTS ON UPPER PENOBSCOT RIVER BASIN DEIS

GNP-21 The staff agrees that GNP's need for low-cost hydroelectric power has not diminished in recent years, even as improvements have been made at its two mills. These improvements enable GNP to use electric power more efficiently (i.e., fewer kWh required per unit of output). The staff finds no conclusive evidence that either the Applicant's Proposal or either version of Alternative 2 would adversely affect the competitive position of GNP's mills because these alternatives would produce only small increases in annual power costs, and small declines in annual power production. Ultimately, these small changes would not translate into a significant increase in the cost of production at the two mills. Finally, the staff concludes that the negative annual net benefits under Alternative 1 would be large enough to adversely affect the competitiveness of the two mills.

Additionally, during this same time period, several new coated free sheet machines were commissioned which created a very turbulent market for all coated grades, including lightweight coated groundwood papers which Great Northern also manufactures. Coated paper imports were also at all time high levels, especially imports which were, in 1993, nearly twice as high as any recent year.

This excess supply of paper capacity, coupled with the weak economy during the 1989-1993 period, caused industry operating rates (expressed as a percent of installed capacity) to dip into the mid 80 to low 90 percent range. More normal rates would be in the range of 93-96%. As a consequence, the financial performance levels for the U.S. Paper and Allied Products Industry fell to historic lows. The industry's return on net worth and total capital in 1992, for example, fell to 2.5% and 2.4%, respectively, the lowest levels since 1960. During this same period, Bowater Incorporated, parent company of Great Northern, reported losses in operating income for 10 consecutive quarters.

GNP-21 Cont

Simultaneously with these unprecedented markets swings and losses in operating income, Great Northern installed a new $62 million wastepaper recycling plant in order to meet customer requirements for recycled papers. This plant was started up in May of 1993, just ahead of a rapid upswing in wastepaper prices. In the last 12 months alone, wastepaper prices have increased nearly 200%. An additional commitment by the company to hold Great Northern's relative competitive position, in the face of these increases, is demonstrated by the investment of nearly $170 million at Great Northern in the midst of the industry's worst recession.

Great Northern's relative competitive position, in fact, has not improved over the last four years. This installation of new low cost manufacturing capacity in the industry is one of the primary reasons. Actions by the company, however, such as retirement of circa 1920 equipment in the Millinocket grinder room, have not lessened the company's need for low cost hydropower. These actions have only changed the way which power is used internally. For example, CLF incorrectly alleges, both in an August 1994 request for additional information and in its January 25 testimony, that Great Northern has made major changes in operations which have a direct and substantial impact on these proceedings. The recent changes in company operations have not lessened the company's need to fully utilize the hydroelectric system. In fact, the closure of the antiquated grinder room at the West Operation did not change Great Northern's energy balance or reduce the need for power.

E-152

Raw wood supplies for the West Operation are now ground at the recently modernized East Operation grinding facility: energy needs for wood pulping, which as a whole are unchanged, have simply shifted from the West to the East Operation. More importantly, the closure of antiquated operations by the company is part of a well-considered effort to utilize and maximize all available resources as effectively as possible to sustain Great Northern's existence. The changes in operations at the time were viewed as absolutely essential to retain Great Northern's relative competitive position in the face of a depressed and unparalleled marketing environment. A key component of those efforts was the continued use of all available hydropower.

GNP-21 Cont

In summary, for the reasons noted above, Great Northern fully supports the DEIS's conclusion that Great Northern's continued presence in certain markets and its continued competitive viability depend upon the availability of a reliable source of lower cost hydropower.

Energy Conservation

As amended, the FPA requires the Commission to consider "energy conservation" when it determines whether, and on what terms, to issue a new license. The terms of the Act are general: they are not limited to electrical energy conservation. Consequently, the DEIS's rejection of electrical energy conservation as an alternative to hydropower in this case is correct and is fully supported by evidence in the record although not cited in the DEIS.

Furthermore, in its DEIS for the lower Penobscot River Basin, FERC clearly stated its position that energy conservation is a "nonexclusionary" alternative to hydropower, for the reason that it is an energy source which does not burn fossil fuels.

GNP-22

> "Nonexclusionary energy sources are sources that would be constructed or implemented in addition to hydropower rather than replace hydropower, and vice versa, because all such energy sources have low marginal costs and would be used to displace higher cost fossil fueled generation rather than to displace each other in actual practice. Nonexclusionary resources, therefore, are not reasonable alternatives to each other, and we eliminate them from further analysis." (FERC, Lower Penobscot River Basin Draft Environmental Impact Statement, p. 2-25).

GNP-22 The staff agrees that there are two issues: (1) using conservation measures to increase the efficiency of use of electric power (i.e., using fewer kWh per unit of output); and (2) increasing total demand for electric power (i.e., more kWh used per year) because of the installation of production technologies that use electric power more efficiently. The staff agrees with GNP that, even with aggressive conservation measures, total annual use of electric power is likely to increase. This would increase their reliance on its lowest-cost source of electric power, which is hydropower. The staff agrees that GNP has many market-driven incentives to maximize its savings through conservation and that its need for low-cost hydropower is not eliminated through use of conservation.

E-154

GNP-22
Cont

Although Great Northern agrees that conservation is not an alternative or replacement for hydropower as an energy source for its mills, Great Northern does recognize that energy conservation could, theoretically, be less expensive than other sources of replacement power. As a result, Great Northern carefully analyzed the actual potential for energy conservation in its mills and determined that energy conservation measures at best would only have the potential to offset a small part of the increase in demand for power which would occur with modernization of equipment. Energy conservation would not reduce Great Northern's need for hydropower

Even if it were possible for the mills to reduce electricity demand, hydroelectricity is still the lowest cost source of power and must be maximized over more costly fossil fuel fired and purchased power in order for Great Northern to remain competitive. In fact, however, the record demonstrates that conservation measures which have been and could be implemented cannot offset the increased energy demand that will result from modernizing equipment to produce higher quality products required by Great Northern's customers. In addition, the ongoing need for steam conservation will reduce cogeneration potential and further increase the need for hydropower. The net result is that electrical conservation, which Great Northern is vigorously pursuing, is needed merely to offset significantly increased demand and cannot reduce the need for hydropower (see Penobscot Mills and Ripogenus Projects, Volume XIV, pages 175-190).

As stated in its license applications and in subsequent filings with the Commission, Great Northern has worked continuously to improve overall - thermal and electrical - energy efficiency at its mills. Great Northern's conservation efforts, both associated and unrelated to mill modernizations, are completely described in Sections 1.3 and 2.3.2.3 of Exhibit H, and in Volume XIV of the Application.

In short, the record in this proceeding demonstrates that Great Northern has fully analyzed the availability of further energy conservation measures and that energy conservation will not materially reduce Great Northern's cost of replacement power. In fact, as the DEIS correctly notes, electrical energy conservation cannot keep pace with the loss of cogeneration through steam conservation and can only partially offset increased energy demands that flow from improving pulp and paper quality to meet market requirements. In sum, the FEIS should reflect, as the record demonstrates, that the Commission has given equal consideration to energy conservation and has correctly determined that it does not affect Great Northern's need for hydropower in this case.

4

COMMENTS FROM GREAT NORTHERN PAPER, INC. ON UPPER PENOBSCOT RIVER BASIN DEIS

WATER USE PLAN AND FLOWS

Water Availability for the Back Channel

Great Northern concurs with and supports the conclusion of the DEIS that flows in the back channel should not be required. Simply put, water in the back channel would provide virtually no environmental benefits and would only serve to divert water away from more important uses. Because this issue has been so frequently argued by the intervenors, Great Northern does believe that the FEIS should more clearly articulate the many strong environmental reasons which support FERC's conclusion. The FEIS should also eliminate the confusion between FERC's correct conclusion (DEIS, pages 4-7 and 4-8) that "during dry years, not all enhancements could be satisfied simultaneously" when flows of 165 or 350 cfs are discharged to the back channel, and the incorrect and contradictory conclusion that sufficient water is available under all alternatives with some minor effects on other water use constraints (DEIS, page 5-7). In fact, water used to maintain back channel minimum flows will adversely affect other enhancement goals established in the WUP.

E-156 GNP-23

The record clearly demonstrates the significant negative effects of mandated flows in the back channel. The most significant fisheries consequence of discharging flows to the back channel is the inability to maintain salmon incubation flows on the West Branch in late winter and early spring during dry years (DEIS, Appendix, Figures D-12 and D-16). Also, lake trout spawning and incubation levels cannot be maintained on North Twin impoundment during the driest (worst-case) years if flows are discharged to the back channel (DEIS, Appendix, Figures D-13 and D-17). For the 15 year period of record on which the WUP is based, water availability was below the normal range (dry) 21 percent of the time (see Penobscot Mills Project, Volume VII, Appendix E2 V 5.0). Back channel flows could result in losses of salmon eggs 21 percent of the time from the West Branch's exceptional fishery. This is significant and certainly not a minor effect, especially when one considers that these losses would occur during an attempt to establish an unsustainable back channel salmon fishery (see Fisheries, Section 6). Furthermore, since DIFW, the resource agency with management responsibility in these waters, requested that Great Northern give West Branch salmon and then North Twin lake trout the highest priority in the WUP modeling. Great Northern's proposal for leakage flow only in the back channel is consistent with DIFW's management goals.

RESPONSES TO GREAT NORTHERN PAPER, INC. COMMENTS ON UPPER PENOBSCOT RIVER BASIN DEIS

GNP-23 We have clarified the apparent confusion between DEIS statements on pages 4-7, 4-8, and 5-7 that not all enhancements could be satisfied simultaneously if flows are provided to the Back Channel (BC). In Appendix D, we added discussion of the specifics of the effects of BC flows with regard to other objectives and more fully explained the assumption that the BC flow takes priority in the model runs conducted by GNP, even though it does not have to have first priority in actual operation. We also state that the model is simulating conditions after the fact, which we agree is much more feasible than actually attempting to use the model predictively.

FERC's comments in the DEIS also seem unaware of the need to manage the water actually available at a specified time rather than analyzing the availability of water after the fact. The FEIS must recognize the fact that Great Northern will be required to predict future water availability when the hydro system is managed under the constraints of the WUP. Once a West Branch spawning incubation flow, North Twin impoundment recreation level, or lake trout spawning level is selected, Great Northern is locked into that operational mode for many months. A significant drop in water availability can make maintenance of these flows or levels difficult or impossible. The FEIS should reflect the fact that since the West Branch and North Twin impoundment will likely be the first to be impacted, higher minimum flows at North Twin Dam (to provide back channel flows) would greatly reduce the available margin of error and can only exacerbate the problem of changing and predicting water availability and Great Northern's corresponding ability to maintain recreational and fisheries flows and water levels.

GNP-23 Cont

The 1984 water year provides an example of the difficulty in predicting water availability which must be recognized in the FEIS. In late May and early June of 1984, the volume of available water at Ripogenus Dam rose to nearly 47 billion cubic feet (a high for the 15 year period of record) and daily West Branch flows downstream of McKay Station peaked at nearly 15,000 cfs. However, by the end of December, water availability had dropped to under 15 billion cubic feet. Water conditions had changed from "wet" to "dry" in the same calendar year. Under the WUP, a spawning flow would have been established in October of 1984 while conditions were still "normal". With the WUP proposed by Great Northern, this spawning flow and the resulting subsequent incubation flows would have been set under an assumption that water availability would be normal through the winter. As can be seen from modeling for the 1984 water year (see Ripogenus Project, Volume XV, Additional Information Request No. 1), Great Northern is confident that sufficient water would have been available under the WUP to maintain West Branch incubation flows, North Twin impoundment levels, and minimum flows at North Twin through the winter, even with the sudden change in water availability. However, when minimum flows at North Twin are increased to discharge water (165 or 350 cfs) to the back channel, water availability is not sufficient to maintain these flows and elevations (see Penobscot Mills and Ripogenus Projects, Supplement to Volume XV, Additional Information Request No. 3).

The setting of the spawning and corresponding incubation flows will always be a "balancing act": the flows must be low enough to force West Branch salmon to spawn in deeper water, but high enough to maintain both the impoundment level at North Twin for lake trout egg incubation and flows at North Twin Dam necessary to pass the minimum flow at Millinocket. Since most of the winter inflow to the North Twin impoundment is the result of outflow from Ripogenus ("natural" winter inflow is minimal), water availability is not sufficient during dry years to discharge water to the back channel. Higher minimum flow requirements at North Twin Dam in turn require higher salmon incubation flows on the West Branch (to maintain North Twin impoundment levels for lake trout egg incubation) for an extended period (November through early June) thereby increasing the chances that water supplies will be exhausted.

GNP-23 Cont

Water availability is simply not sufficient during dry periods to discharge water to the back channel and satisfy all WUP enhancements simultaneously. The very questionable benefits derived from spreading the available water this thin are outweighed by the likely negative environmental consequences to other significant and attainable benefits proposed in the WUP. Perhaps even more importantly, FERC should recognize that Great Northern would be in violation with the conditions of the state water quality certificates if the WUP enhancements are not satisfied. And since FERC agrees that "during dry years, not all enhancements could be satisfied simultaneously" (DEIS, pages 4-7 and 4-8), it follows that Great Northern would inevitably be faced with future non-compliance since these certificates require Great Northern to maintain West Branch incubation flows for salmon and North Twin lake levels for incubating lake trout in addition to other WUP enhancements. Great Northern's ability to meet these conditions would be threatened with a mandated discharge to the back channel.

In summary, Great Northern supports FERC's decision to maintain current leakage flow in the back channel. However, the real basis for this decision goes beyond the cost factors mentioned in the DEIS to the ability of Great Northern to satisfy the WUP enhancements and maintain compliance with the state water quality certificates.

E-158

Minimum Flow Requirements at North Twin

In the DEIS the Commission also stated that "(t)he modeling results probably overestimate the outflow required from North Twin because Great Northern assumed that 2,610 cfs would be needed to provide 2,000 cfs at Millinocket, 350 cfs to Back Channel, and an additional buffer of 260 cfs to account for flow regulation, gate setting, and control equipment sensitivities". The DEIS provides no basis for this statement although the issue is likely moot so long as the FEIS continues to reject any requirement for water in the back channel. Nevertheless, it is important that the Commission understand that there is a very sound basis for Great Northern's conclusion that at least a 10% buffer should be available to ensure compliance with a Commission-established absolute minimum flow requirement. As the party responsible for compliance with the terms and conditions of the new license, Great Northern believes that the FEIS should be based upon realistic assumptions regarding the actions a licensee must take to assure compliance.

GNP-24

As noted in the WUP and required in the water quality certificates, the minimum flow of 2,000 cfs that must be maintained at Millinocket is not an average flow (see Penobscot Mills Project, Volume VII, pages 57-58 of the WUP). It is an instantaneous minimum that must be maintained at all times. In order to assure that this minimum flow is maintained at all times, Great Northern must release more than 2,000 cfs at North Twin, which is the control point for Millinocket. Moreover, Great Northern must also account for flow fluctuations between North Twin, Stone Dam, Ferguson Pond, and Millinocket, as well as fluctuations resulting from load shifts at the West and East Operations, gate leakage at Stone Dam, and the inevitable variations in sensitivities between the computer sensing equipment at North Twin and Millinocket.[7]

Historical flow records in the application clearly demonstrate that a minimum 10% safety factor or buffer is necessary to maintain the 2,000 cfs minimum instantaneous flow at Millinocket. These records show that normal fluctuations from a 2,200 cfs target flow can cause the flow at Millinocket to approach the 2,000 cfs minimum. If a higher instantaneous minimum requirement is established by putting flow down the back channel, the buffer would in fact need to be increased to ensure that both requirements are maintained. In this respect, Great Northern's estimated minimum flow of 2,610 cfs at North Twin to pass 2,000 cfs at Millinocket and 350 cfs to the back channel may be conservative.

[7] The division of Project Compliance and Administration has approved Great Northern's plan to install automatic devises, like those recently installed at McKay Station, to improve the ability to pass the 2,000 cfs minimum flow at Millinocket in the event of interruptions of the power system.

GNP-24 GNP states that a 10% buffer is needed to ensure compliance with the minimum flow requirements to account for uncertainty in flow regulation, gate settings, and control equipment sensitivities. Although GNP has not provided the information needed to determine exactly how much buffer is needed, the exact amount is irrelevant. The 2000 cfs minimum flow at Millinocket could include flows provided to the BC, as we explain more fully in Appendix D. The economic consequence relative to the environmental benefit of providing flow to the BC is the primary factor in determining its feasibility.

COMMENTS FROM GREAT NORTHERN PAPER, INC. ON UPPER PENOBSCOT RIVER BASIN DEIS

As the Commission evaluates comments on the DEIS it is important to assess accurately the true availability of water and the realistic capabilities of the WUP as it must be implemented in day to day operation under the terms and conditions of a new license. Viewed in this light, there is no basis for the conclusion that increased flows to the back channel would be consistent with the WUP.

GNP-24 Cont

As indicated in Penobscot Mills Project Volume VII (Appendix E2 V 5.0, page 58), the Commission should be aware that this 10% buffer requirement is not included in the original modeling work supporting Great Northern's proposed WUP (i.e., weekly flows as low as 2,000 cfs from North Twin were used in the models). However, Great Northern is confident that the requirements of its proposals can be met as evidenced by the successful modeling of the WUP during the theoretical worst-case year (DEIS, Appendix, pages D-15 and D-16).

Winter Flows in Millinocket Stream

Great Northern agrees with the Commission that "Millinocket Stream has little value as a salmon production area" (DEIS, page 4-30), and that "salmon production in Millinocket Stream would not increase significantly (DEIS under Alternative 1, page 4-28). However, these findings are inconsistent with the statement in the Executive Summary that a substantially enhanced salmon population would result from winter flows of 30 cfs.

GNP-25

The necessity of winter redd protection in Millinocket Stream is overstated since few (if any) salmon will spawn by October 15 (at 60 cfs). The WUP conservatively assumes a salmon spawning period of October 15 to November 15 on the West Branch (i.e., virtually all salmon would be expected to spawn during this period); there is no reason to believe that the timing of spawning on Millinocket Stream would differ. Therefore, protection of redds with higher winter flows is not an issue (i.e., eggs will incubate through the winter under the same flow regime as that which occurs during spawning in late October and early November).

Juvenile salmon habitat is already extensive in Millinocket Stream under the existing flow regime, i.e. 20 cfs (see Penobscot Mills Project, Volume II, Section E3.1 and Appendix Q of Appendix E3.1 V-2), and yet a significant adult population has not resulted. Increasing winter flows on this stream to create additional juvenile salmon habitat would be a wasteful use of water resources, since the salmon population is bounded by other factors such as limited adult habitat, insufficient forage base (smelt), and/or high seasonal flows. Because of these overriding limiting factors, any increase in salmon stock size resulting from additional juvenile salmon habitat (resulting from a 30 cfs minimum flow in the winter) would be insignificant.

RESPONSES TO GREAT NORTHERN PAPER, INC. COMMENTS ON UPPER PENOBSCOT RIVER BASIN DEIS

GNP-25 We revised our statements (in sections 4.4.2.3 and 4.4.3.3 and in the executive summary) concerning the benefit of additional minimum flows in Millinocket Stream. As explained in section 4.4.1.3, habitat for juvenile, adult, and spawning salmon increases steadily up to 80 cfs, whereas habitat for early and late salmon fry decreases slightly at flows greater than 20 to 30 cfs. Interior has agreed to a year-round flow of 60 cfs in Millinocket Stream as part of its 10(j) recommendations. Giving due deference to Interior's expertise in fish and wildlife matters, we are accepting this recommendation and recommending a year-round flow of 60 cfs at this location.

COMMENTS FROM GREAT NORTHERN PAPER, INC. ON UPPER PENOBSCOT RIVER BASIN DEIS

GNP-25 Cont

Great Northern continues to support DIFW's management of Millinocket Stream for stocking hatchery brook trout. Great Northern's proposal for 60 cfs in the summer and 20 cfs in the winter is consistent with this management strategy.

Upper Gorge Boating Flows

The DEIS concludes that "two weekend releases during May would not conflict with fisheries goals; would have a negligible cost to GNP; and would provide whitewater boating opportunities for more than 200 paddlers" (DEIS, page 4-55). The specific recommendation is for Great Northern to provide approximately 1,000 to 2,000 cfs during scheduled flow releases in the Upper Gorge for expert daylight kayaking on two weekends in May.

There are two ways to implement potential flow releases down the Upper Gorge. The water may either be diverted from McKay Station thereby impacting the production of hydroelectric power, or it may be in addition to flows from Ripogenus impoundment included in the WUP. In order to minimize the power generation and WUP impacts in accomplishing this goal, Great Northern would attempt to utilize natural spillage events from Ripogenus Dam to fulfill this requirement.

GNP-26

The Commission's conclusion that placing a bypass flow in the Upper Gorge (up to 57% of total station flow) would have a negligible cost can only be based on an assumption that natural spillage flows would be used in great part to meet this requirement. As can be seen in the 15 year period of record included in the WUP, natural spills are random, and it would be impossible to predict accurately the available water from the spring runoff. In fact, in some years the Ripogenus impoundment does not fill, i.e., there is absolutely no natural spillage from Ripogenus Dam. It is clear that the requirement to notify the whitewater boaters at least 30 days in advance will make it almost impossible to utilize the infrequent natural spillage events because of their random occurrences.

The Commission should also understand that if natural spillage events are not utilized, it is likely that water would be diverted from McKay Station to provide these boating flows to maintain the WUP flow regime. One concern in "splitting" the flow in this manner is the resulting possible impact on smelt drift and the downstream West Branch salmon fishery (see Fisheries, Section 6). Also, the FEIS must recognize that under some conditions, beyond the control of Great Northern, such as high spring flows and impoundment elevation, it will not be possible to reduce flows in the Upper Gorge to safe boating levels to comply with this requirement.

RESPONSES TO GREAT NORTHERN PAPER, INC. COMMENTS ON UPPER PENOBSCOT RIVER BASIN DEIS

GNP-26 Opinion noted. We revised the text of the EIS to reflect that GNP would notify whitewater interests at least seven days before the two scheduled weekend releases during May in the Upper Gorge.

GNP-26 Cont

To minimize costs and possible effects on other resources, Great Northern would hope to utilize natural spillage events for these boating flows whenever possible. Great Northern suggests that in the FEIS, the Commission revise this proposal to require that a plan for notifying the boaters of natural spill events be developed in consultation with that group. From past experience, it is clear that a much shorter notification period is adequate so long as it is assured that the information is disseminated in a timely manner.

5

COMMENTS FROM GREAT NORTHERN PAPER, INC. ON UPPER PENOBSCOT RIVER BASIN DEIS

WATER QUALITY

Back Channel - State's Waiver of Water Quality Certification

The Commission has rightly concluded that it should adopt virtually all relevant aspects of Maine's water quality certifications issued by the LURC and DEP. Thus, Great Northern does not disagree with the DEIS's ultimate conclusions and findings with respect to water quality issues.

Nevertheless, the Commission has, in its discussion of environmental impacts, observed that there is "no compelling basis for challenging the State's decision to waive certification for back channel" (DEIS, page 4-13). This statement implies that FERC could, if it desired, challenge or override the State's water quality decision. Great Northern believes that not only is there no environmental basis for questioning the certification waiver, but there is clearly no legal basis. As the Commission knows, the water quality certificates were issued after a complete public process involving hearings, opportunity for public comment, draft certifications and ultimately final issuance by Maine's major environmental and land use commissions and boards. These water quality certificates were not appealed, nor was reconsideration sought, by any of the parties to this proceeding. GNP-27

It is clear under the federal Clean Water Act that the NEPA process cannot be used to question the adequacy of any state certification decision under Section 401 (33 U.S.C. Section 1341(c)(2)). The State's findings must be conclusive on the issue of whether water quality standards are met or have been waived. Recently, the U.S. Supreme Court has confirmed the State's role in water quality standard implementation in a federal proceeding through the use of its Section 401 authority. See, Jefferson County P.U.D. v. Washington, 1994 U.S. Lexis 4271 (1994). The State's supremacy in this regard has been clearly endorsed in a long line of cases under the Clean Water Act, as well as other federal statutes which have confirmed that the certification process rests exclusively with the State. In essence, the water quality certification process is the State's opportunity to assert its views on water quality. Here, the State of Maine made a decision with respect to certification in the back channel. Whether that decision was to certify, not certify, or waive, it is not one which can be challenged by FERC through a contrary conclusion in the NEPA process. See, for example, Lake Erie Alliance v. Army Corps of Engineers, 526 F.Supp. 1063 (W.D. Pa. 1981); aff'd 707 F.2d 1392 (ed Cir. 1983) cert. den. 464 U.S. 915 (1983); Roosevelt Campobello Int. Park v. EPA, 684 F.2d 1041 (1st Cir. 1982).

RESPONSES TO GREAT NORTHERN PAPER, INC. COMMENTS ON UPPER PENOBSCOT RIVER BASIN DEIS

GNP-27 Opinion noted. The status of Maine's 401 WQC conditions for the projects will be addressed in the orders for the projects.

GNP-27
Cont

Back Channel Water Quality

Great Northern agrees with the Commission's finding that "using existing conditions as the baseline, we conclude that Great Northern's proposed projects would not affect water quality in back channel because Great Northern proposes no changes in the existing flow regime" (DEIS, page 4-13). However, Great Northern believes the FEIS should also reflect that evidence has been presented to the Commission which documents that Maine water quality and aquatic life standards are being met throughout the length of the back channel under current leakage conditions. In fact, this evidence was provided in studies performed in response to the Commission's request that additional water quality investigations be conducted in the back channel to determine compliance with its classification. The results of those studies, submitted to the Commission in December 1992, demonstrated that dissolved oxygen levels consistently met Maine Class C standards of five parts per million or 60% saturation, whichever is higher, and that E. coli bacteria were minimal and well below the required standard. Further chemical/physical indicators of water quality such as temperature, pH and conductivity all indicated healthy conditions typical of stream waters in the West Branch basin (see Penobscot Mills Project, Volume XIII, 2).

Aquatic life conditions were also well documented during the mid-1992 studies although not specifically requested by either the Commission or by any resource agency. Three stations were established within the back channel to evaluate the health of the aquatic macroinvertebrate community using DEP methodology. The results of this investigation demonstrated that a diverse macroinvertebrate community is present throughout the length of the back channel under leakage conditions, and that the community meets or exceeds the draft Class C aquatic life criteria for flowing waters currently under evaluation by the DEP. Furthermore, the studies required by the Commission clearly demonstrate that the lotic (flowing) characteristics of the back channel have not been adversely affected by the presence of Stone Dam (see Penobscot Mills Project, Volume XIII, 2).

Great Northern believes that the Class C designated use of the back channel as aquatic life habitat has been met, and is being met, under leakage conditions. This leakage flow has created its own well-established channel environment within the former riverbed over the past 90-plus years.

COMMENTS FROM GREAT NORTHERN PAPER, INC. ON UPPER PENOBSCOT RIVER BASIN DEIS

Mercury

Great Northern supports the Commission's conclusion that "based on our review and data presented by Great Northern, we conclude that current or proposed operation of the projects, including periodic drawdowns of the reservoirs, would not increase mercury levels in the impoundments or the production of methyl mercury" (DEIS, page 4-12). Nevertheless, because CLF et al continues, even as recently as the January 25, 1995 hearing, to assert some unspecified connection between drawdowns and mercury, it is important that the FEIS thoroughly support the fact that mercury in Northern Maine lakes is a regional, not local issue.

GNP-28

Historical increases in mercury concentrations in sediments and surface waters of remote lakes across the northern hemisphere have been extensively documented. This increase is known to have occurred within the last 100-200 years and is generally associated with an increase in industrialization and contribution of fallout of airborne mercury. There is no evidence linking these mercury concentrations to impoundment operations. A number of surveys in Maine have shown that mercury levels are elevated in fish from some inland lakes. The same pattern has been reported in blood and feathers from nesting bald eagles reflecting the eagles' exposure to mercury via the consumption of fish, their primary food source. Concentrations of mercury are generally greater in tissues of eagles from lakes in eastern and northern Maine than in those from estuaries or coastal Maine. Interestingly, coastal eagles (and other birds) contain greater levels of chlorinated organic contaminants (pesticides, PCB) than do the inland (lake or river-dwelling) populations. Researchers are unsure of the reason for this geographic-based trend. While the reproductive success of Maine's bald eagle population has been lower than in most other U. S. areas, the primary cause of this impairment appears to be the continued exposure to the chlorinated organic compounds. Dr. Ian Nisbet, an acknowledged expert on this subject, testified at length to the eagle issue at the LURC water quality certification hearings (LURC 401 Hearings, February 23, 1993, Transcript Vol. 1, pgs. 145-150 and 235-238).

RESPONSES TO GREAT NORTHERN PAPER, INC. COMMENTS ON UPPER PENOBSCOT RIVER BASIN DEIS

GNP-28 No response required.

Great Northern has performed extended studies on mercury in sediment, surface water, and fish tissue taken from its project waters. These efforts supplement those conducted by the Penobscot Indian Nation (PIN), the USFWS, and the University of Maine. Environmental Science and Engineering (ESE) has acquired many of the available public and private fish monitoring studies on mercury for all New England states (dating back to 1972) and compiled a computer database containing over 750 individual records. The weight of evidence collected to date indicates that mercury is at least a regional problem and likely a national or international issue. The majority of experts in this field agree that much of the mercury arrives as fallout deposited from pollution migrating along the trade winds of the "northeast corridor" (from large scale industrial, fossil fuel power-generating, and municipal incineration activities in the midwest and along the eastern seaboard).

GNP-28 Cont

Mercury released from newly flooded soils has been documented to occur in the U.S. and Canada. Specific references to the phenomenon were detailed in Great Northern's December 1992 response to FERC's June 1992 Additional Information Request and in the written and oral testimony of Great Northern's four expert witnesses at the LURC water quality certification hearings. No documentation has been presented to indicate that impoundments of the age of Great Northern's (portions dating back to the 1840's) continue to release mercury as a result of original flooding. Nor is there a single study published in a referenced scientific journal that links mercury cycling in aged impoundments to annual water level management.

Great Northern's literature and data search, performed at the request of FERC, presented evidence that mercury is a common contaminant in fish throughout Maine and New England. It is found in river systems, remote natural lakes and even in water supply reservoirs. Large lake trout (trophy game fish rarely caught by anglers) sampled from Maine's waters have mercury concentrations comparable to the fish caught in Great Northern's project waters irrespective of the origin or the nature of watershed management.

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The mercury levels observed in Great Northern's project waters are consistent with other Maine lakes as well as other northern lakes in Canada, Wisconsin, Minnesota, Sweden and Finland. No viable mechanism has been suggested that could relate the bioaccumulation of mercury to project operations. Acknowledgment that the disposition of mercury is a pervasive problem in the northeast came at a recent meeting of the American Water Resources Association (Northeast Chapter, Marlborough, MA, 1994). Discussions led by experts in the field (Russ Isaac, Terry Haines, John Colman) indicated that airborne migration and deposition of pollutants (especially coal-fired utilities) still appears to be the major source of mercury input to remote northeastern lakes.

GNP-28 Cont

In summary, the record supports the DEIS's conclusion that project operations do not increase impoundment mercury levels. Great Northern has demonstrated both in its applications for new licenses and in supplemental studies, and through the water quality certification proceedings, that its project operations are not adversely influencing the cycling of mercury in project waters. This evidence has been confirmed by the conclusions reached at recent scientific conferences that have addressed this subject.

Dolby Pond Dissolved Oxygen Levels

The DEIS refers to the continuing claim by CLF et al that Great Northern has not adequately investigated the cause(s) of low dissolved oxygen concentrations in bottom waters of Dolby Pond (DEIS, Section 4.3.1.2). Great Northern believes that it has more than adequately demonstrated that operation of its FERC licensed hydroelectric facilities do not cause or exacerbate dissolved oxygen conditions within the bottom waters of Dolby Pond (see Penobscot Mills Project, Volume II, sections 2.2.5.4(b) and 2.5.1.4).

GNP-29

Dolby Pond is a relatively shallow man-made impoundment with essentially stable water levels. A small area of the pond, spatially removed from the main channel area and Dolby Dam, exhibits low DO in its bottom waters durir.g a portion of the summer months. This condition is well documented to exist only in restricted hypolimnetic waters (generally below 25 feet) affecting a small percentage (less than five percent) of the pond's total water volume.

RESPONSES TO GREAT NORTHERN PAPER, INC. COMMENTS ON UPPER PENOBSCOT RIVER BASIN DEIS

GNP-29 Information you present here confirms the DEIS conclusions that hydroelectric project operations do not result in low DO problems in Dolby Pond. The legal issue of requiring DO studies in Dolby Pond will be addressed in the order for the project.

Low DO concentrations in bottom waters of stratified natural and impounded lakes and ponds is a commonly documented phenomenon. The DEP in their 1992 water quality assessment report [305(b) report] documents some 188 Maine lakes with DO concentrations in bottom waters less than three mg/l due to natural causes. Table 4 of Mr. Dennis Sasseville's 1993 written hearing testimony to LURC, which has been provided for the FERC record, listed 11 lakes in Maine as examples of healthy water bodies with seasonally low DO in bottom waters due to natural causes (written testimony presented by Dennis R. Sasseville on February 1, 1993 and sent to LURC by Great Northern).

Sampling in Dolby Pond by Great Northern in 1994 confirmed that low DO conditions are observed in the "deep hole" but not in the mid-pond nor in the river channel areas that comprise the majority of this water body's surface area (Table 1). DO levels throughout Dolby Pond are consistently high and well above Maine Class C standards of 5 parts per million or 60% saturation. Biological Oxygen Demand (BOD) samples collected by Great Northern in the summer of 1994 further document that oxygen demand in the water column is low throughout Dolby Pond (Table 2).

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GNP-29
Cont

Table 1

Dolby Pond Dissolved Oxygen Profiles
August 17, 1994

Station	Deep Hole		Mid-Pond		River Channel	
Depth (Feet)	DO (mg/l)	Temp (C°)	DO (mg/l)	Temp (C°)	DO (mg/l)	Temp (C°)
3.5	8.60	20.6	8.70	20.6	7.65	20.0
7.0	8.55	20.6	8.50	20.6	7.60	19.9
10.5	8.32	20.5	8.40	20.5	7.60	19.8
14.0	8.00	20.5	8.13	20.4	7.60	19.8
17.5	7.87	20.4	8.05	20.3	7.60	19.8
21.0	7.27	20.4	7.75	20.2	7.60	19.7
24.5	6.80	20.2	7.65	20.1	7.55	19.7 (24.5')
28.0	3.90	17.0	6.00	19.5 (27.0')		
31.5	0.14	15.8				
34.0	0.12	13.9				
35.8	0.11	13.0				

Table 2

BOD Analysis of Dolby Pond Water

BOD Sample Location	07/14/94	08/17/94
Deep Hole - Location A. mid-depth	0.9	1.1
Deep Hole - Location A. 3' above bottom	2.3*	2.3*
Deep Hole - Location C. mid-depth	1.0	1.2
Deep Hole - Location C. 3' above bottom	1.0	1.8*
Mid-Pond - mid-depth	1.4	1.3
River Channel - mid-depth	0.6	0.9/0.6 (2 samples)

BOD in mg/l (5 day test)
*Settleable solids present which may have increased BOD.

GNP-29 Cont

These data support the position that Great Northern's effluent discharges in Millinocket are not impairing DO conditions in Dolby Pond, a position also supported by the DEP water quality modeling effort conducted in 1987 and reported in the Penobscot River Basin Waste Load Allocation Report of January, 1991. Rather, the low DO conditions observed in the Dolby Pond hypolimnion during summer months result from weakly stratified conditions (common to natural lakes and impounded waters) and the probable natural effects of Sediment Oxygen Demand (SOD) on these trapped deeper waters.

Great Northern's current and proposed method of hydropower operations clearly do not adversely affect the DO regime of Dolby Pond. However, as a condition to the water quality certification, Great Northern has agreed to further investigate wastewater treatment conditions at its West Operation in Millinocket. These studies, and any National Pollutant Discharge Elimination System (NPDES) permit renewals for this wastewater discharge, should not impact the Commission's schedule for relicensing the Penobscot Mills Project.

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FISHERIES

Back Channel: Upper Gorge: Millinocket Stream

The DEIS concludes that the "Back Channel probably could not be established as a production area that would enhance salmon abundance downstream". Moreover, the DEIS also determined that "implementing Alternative 1, therefore, could jeopardize an attainable fisheries goal (i.e., establishing a lake trout population in North Twin) in an attempt to achieve a less valuable goal (i.e., establishing a self-sustaining landlocked salmon stock in back channel" (DEIS, page 5-8).

Great Northern believes that flow commitments contained in the WUP, as is currently proposed, meet all environmental and recreational goals sought during consultation. There is no reason to release higher flows in the Upper Gorge, Millinocket Stream or the back channel. Indeed, Great Northern has documented that the proposals to increase these flows either confer no benefit, or in fact, have a negative impact upon the existing fish communities (and recreational groups that rely on them) in the West Branch watershed. In summary, these proposals will not result in additional fish, and could, by reapportioning water, actually be detrimental to existing fish resources.

GNP-30

The principal reasons not to increase flows are the world-class West Branch salmon fishery, the smelt "drift" that supports it, and the North Twin impoundment lake trout restoration program. The high base flows in the West Branch below McKay Station are the key to the unique year-long smelt drift. Reducing McKay Station flows raises the risk of altering the ongoing smelt drift, thus reducing and conceivably eliminating that salmon population. Less flow in the West Branch could affect North Twin impoundment winter lake trout egg incubation levels, thus compromising lake trout restoration. Winter low flow events in the West Branch could also negatively impact incubating salmon eggs.

Although back channel flows of 350 cfs would provide the physical conditions (depth and velocity) believed to be suitable to fry and parr life stages of landlocked salmon, actual colonization would not be realized. Any strategy that involves juvenile salmonid production in the back channel depends on contiguous adult habitat either in the Dolby impoundment or in the back channel itself. Despite intensive study of such adult habitat by Great Northern, observations of landlocked salmon were rare in the back channel/Dolby impoundment area. These studies confirmed that while some of the physical factors that favor adult salmon may exist, by using a presence of fish criterion adult salmon habitat does not exist (Penobscot Mills Project, Volume II, E3.1-106).

RESPONSES TO GREAT NORTHERN PAPER, INC. COMMENTS ON UPPER PENOBSCOT RIVER BASIN DEIS

GNP-30 Your comments on the merits of increasing flows in the Upper Gorge, Back Channel, and Millinocket Stream are noted. In the FEIS, we recommend not increasing the minimum flow in the Back Channel, adopting GNP's proposed flow enhancement for the Upper Gorge, and providing a year-round minimum flow of 60 cfs in Millinocket Stream. We consider this combination of fisheries enhancements to be the most balanced use of project waters.

Factors that are limiting adult salmon use of potential habitat would not be ameliorated with a greater flow. These factors include lack of smelt drift, a fish species mix that favors non-salmonid species, and the occasional hot summer that produces elevated water temperatures. Great Northern's studies found low smelt abundance in Quakish Lake and low subsequent drift to downstream outlet areas. Smelt abundance is considered high in the Dolby impoundment; however smallmouth bass and pickerel provide competition and predation, and naturally-occurring hypolimnetic oxygen deficiencies further reduce limited salmon habitat during the summer. Additional problems associated with spill events, embedded spawning substrates, and downstream predation of juvenile salmon are minor when compared to the lack of spawning escapement, i.e., adult salmon are needed to complete the life cycle. In sum, the absence of contiguous adult salmon habitat is the major reason why flow in the back channel has no biological merit.

GNP-30 Cont

It is ironic that the conservation intervenors suggested at the January 25, 1995 DEIS hearing that a brook trout fishery be developed in the back channel. Back channel brook trout management strategies, similar to those ongoing in Millinocket Stream, were discussed with the agencies during consultation. The conservation intervenors refused to support DIFW's goals for a Millinocket Stream brook trout fishery, and yet they are now suggesting a brook trout fishery for the back channel. All of the environmental problems alleged for Millinocket Stream by the conservation intervenors are significantly more imposing in the back channel. Given higher thermal regimes and lack of overhead cover and thermal refuge areas, it is not surprising that the agencies rejected back channel brook trout management proposals five years ago. Great Northern assumes that FERC will take the conservation intervenors back channel request as an endorsement of the Millinocket Stream fisheries management plan. For the litany of reasons outlined above, Great Northern does not believe that brook trout or salmon fisheries are realistic back channel management objectives.

Moreover, the DEIS is correct when it points out that a back channel flow of 165 or 350 cfs would compromise other environmental or recreational goals during dry years. The severe impact of transferring water allotted for one goal to another cannot be underestimated. Flows below McKay Station are the most obvious example. While lower spawning and incubating flows can be manipulated in the WUP, the effect of reduced winter flows on the extent and duration of smelt drift is unknown. Smelt drift netting studies below McKay Station have shown that smelt drift is poor during the normal low flow periods of late March

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and early April. If Ripogenus impoundment "runs out" of water during the winter month and smelt drift is reduced earlier than normal, the effect on the West Branch salmon population, especially mending kelts (post-spawning salmon), could be devastating. Any further reduction in West Branch flows during this late winter/early spring period will impact the health of the world famous salmon population. This in turn would affect the Upper Gorge and Holbrook side channel enhancement measures sought by Maine fisheries and environmental agencies.

GNP-30 Cont

Finally, although additional storage could, of course, also be used from the North Twin impoundment, the use of this storage to meet back channel flow demands could jeopardize the DIFW's North Twin impoundment lake trout restoration program as lake levels are reduced below fall spawning levels. Again, back channel flows of 165 or 350 cfs will threaten other more realistic WUP goals during low water years.

Instream Flow Incremental Methodology (IFIM) below McKay Station

In the DEIS, the Commission restated its decision that Great Northern would not be required to undertake IFIM studies below McKay Station (DEIS, page 4-16). The original Commission decision found that "an IFIM would be an unnecessary academic exercise that would not materially improve the record in this proceeding" (Ripogenus Project, Volume XIV, page 69). Because this issue has been raised repeatedly by CLF et al even after rejection by FERC, Great Northern believes the FEIS should more fully explain FERC's IFIM decision by setting forth additional important considerations that were developed elsewhere in the record which deal with this issue (Ripogenus Project, Volume XIV, pages 69-75).

GNP-31

In addition to those set forth in the DEIS, there are four additional reasons for not undertaking an IFIM study below McKay Station: 1) IFIM is not a fisheries management tool; 2) better information (use, catch, distribution) needed to manage the fishery presently exists; 3) collecting transect data would involve significant flow alteration and a significant fisheries and aquatic impact could be expected; and 4) there is no method of integrating macroconsiderations (smelt drift) into the IFIM analysis.

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GNP-31 Opinion noted. We do not think that further explanation or justification for not requiring an IFIM study in the West Branch below McKay Station is necessary; therefore, we did not modify the FEIS as you suggest.

GNP-31
Cont

The following facts should be set forth in the FEIS to further support the Commission's decision to not require an IFIM below McKay Station:

1. WUA, the measurement unit of IFIM, does not equate to fish biomass; it is fish that the resource agency (DIFW) is charged with managing. As was discussed at length during the LURC water quality certification hearing, DIFW does not rely on IFIM analysis and did not want one performed in this case.

2. With the exception of emergency outages, all of the WUP flow regimes exceed the Aquatic Base Flow (ABF) of 711 cfs. Indeed, in its initial discussions of this subject, the USFWS requested either that Great Northern release a minimum flow consistent with ABF policy or that it perform an IFIM study. Since the flows proposed by Great Northern are consistent with the USFWS's ABF policy, no IFIM study is needed.

3. IFIM cannot address macrohabitat considerations, e.g. temperature, DO, pH, and smelt drift. The record is replete with references that confirm the critical predatory/prey relationship that exists between West Branch salmon and smelt drift from the Ripogenus impoundment. Since the IFIM cannot analyze possible flow/smelt drift relationships, flow regime(s) based on IFIM analysis would inherently ignore critical behavioral components (smelt predation) of the West Branch salmon population. A flow regime based on IFIM could destroy this world-class fishery by not considering these other factors.

4. Great Northern is not proposing any change in system operation; all proposed enhancements fall within existing flow regimes. Conservation intervenors would like to use the IFIM to determine an optimum operating flow. Since measurements of WUA are not linked to biomass, Great Northern believes that this use is beyond the scope of IFIM on the West Branch.

5. The West Branch has a number of moderate gradient areas, and therefore, conducting an IFIM would present serious physical and logistical difficulties. Also, river flows would require significant time to stabilize because of the many brooks and backwaters. The simple act of collecting the necessary flow and elevation measurements would require numerous days of data collection. The temporal aspect of limiting West Branch flows (at 400, 600, 800 cfs) for a lengthy period would have a documented (FERC No. 3779, Volume IV, Exhibit E, Section E3. 2-52) negative effect on fish and aquatic communities and whitewater recreationists.

6. The West Branch has a number of high gradient areas. Conventional IFIM models do not work well when stream gradient exceeds 3%. In the West Branch, areas such as these are critical parr habitats. If these habitats cannot be included in the IFIM process, it makes little sense to conduct that study.

7. The West Branch has a number of large deadwaters (Debsconeag, Frozen Ocean for example) that have extremely low velocities during low/moderate flow events. In addition to providing some adult habitat, these areas also provide critical overwintering habitat. IFIM and Habitat Suitability Index (HSI) curves were not designed for large deadwaters and overwintering habitat.

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WETLANDS

Ripogenus Impoundment

GNP-32

Great Northern believes that the DEIS recommendation to provide wetlands enhancement at Black Pond on the Ripogenus impoundment as a mitigation measure is not appropriate and will have significant adverse environmental impacts outweighing any benefits gained.

GNP-33

As indicated throughout the DEIS (e.g. page xiii), the Commission has chosen the No-action Alternative as the baseline for comparison of proposed project changes since the projects and their operations have existed in essentially their current state for many years. Thus, any changes to the projects or their operations proposed by the Commission serve to enhance existing conditions rather than mitigate for any adverse effects. The proposed barriers at Black Pond (Alternatives 1 and 2) and Quaker Brook (Alternative 1) on Ripogenus impoundment would increase (enhance) wetlands acreage in the Ripogenus Project; however, they do not mitigate for acreage affected by Ripogenus impoundment drawdowns since these drawdowns are considered in the baseline operating conditions.

GNP-34

More importantly, the construction of any barriers that would develop wetlands would limit fish and boat access from the impoundment to the tributary areas associated with this proposal. Fish passage is of particular concern. While a number of fish species (cusk, white perch, salmon) may use these tributaries for some phase of their life history, smelt reportedly use both the Black Pond outlet (Caucomgomoc Stream) and Quaker Brook for spawning. For the Ripogenus Project, smelt are the most critical forage fish species and the key component to agency fisheries goals for the Ripogenus impoundment and its outlet area, the West Branch of the Penobscot River. Smelt are extremely poor swimmers; any significant hydraulic control structure for wetlands enhancement would prevent passage and eliminate all upstream reaches as production areas. The loss of critical spawning habitat would jeopardize production of young smelt and alter the predator/prey balance sought by the DIFW. Wetland flow control structures would also limit boating, primarily into Black Pond. The present principal access to Black Pond is across Brandy Pond and through the area proposed for wetland enhancement. Recreationists, often from Chesuncook Village, travel into this area to fish, hunt, canoe, sightsee and camp. Any flow control structure would curtail these recreational opportunities.

Although these barriers may enhance wetlands acreage in the Ripogenus impoundment, the environmental consequences of lost recreational boating access, lost smelt spawning areas and the corresponding risk to existing fish populations far outweigh any wetlands enhancement benefits.

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GNP-32 GNP asserts that the DEIS recommendation to provide wetlands enhancement at Black Pond on the Ripogenus impoundment is not appropriate and will have significant environmental effects that outweigh benefits. As we stated in the DEIS, we estimate that approximately 20% (250 acres) of the 1,251 acres of wetlands at the Ripogenus impoundment would continue to be affected adversely under the proposed operation by exposure during impoundment drawdowns. It is appropriate to consider this measure to help minimize such effects. We address GNP's concerns on adverse environmental effects in response GNP-34.

GNP-33 GNP has indicated that the proposed barriers at Black Pond would "...increase (enhance) wetlands acreage in the Ripogenus Project..." There may be a misunderstanding by GNP that the Commission is requiring creation of new wetlands in the vicinity of Black Pond and Caucomgomoc Stream. Our understanding is that the mitigation at Black Pond would be to enhance existing degraded wetlands; it would not necessarily increase wetlands acreage. This distinction is important because the affected existing wetlands are degraded due to project drawdowns and should be enhanced.

GNP-34 It is unlikely that the placement of a structure at Black Pond would limit fish or boat/recreational access through Brandy Pond, except during impoundment drawdowns, when water on the Ripogenus side may fall below the top of the barrier. It is not certain at this time whether this situation would occur. If boat/recreational access to Black Pond were temporarily blocked through Brandy Pond during drawdowns, another access alternative may exist through Little Scott Brook. It is also unlikely that construction of the barrier structure at Black Pond would "prevent passage and eliminate all upstream reaches as production areas" of smelt. First, no information exists in record that definitively indicates that smelt spawn in

GNP-34 Cont'd

Caucomgomoc Stream. Second, as designed, the barrier would only temporarily affect the movement of fish during drawdowns, when the water on the Ripogenus reservoir side falls below the barrier. Most importantly, numerous other tributaries in the vicinity of Black Pond provide unrestricted access to upstream fish spawning areas; therefore, we view the Black Pond wetland enhancement as beneficial overall.

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THREATENED AND ENDANGERED SPECIES

Bald Eagle Population Enhancement

The DEIS recommends that "GNP confer with DIFW and FWS to preserve existing eagle perching areas and to investigate the appropriateness of creating new perching areas around the periphery of the impoundments." The DEIS also proposes that "a five year plan for limited monitoring of the enhancements should be developed in consultation with DIFW and FWS to observe use by eagles, and a report of findings should be submitted annually" (DEIS, page 4-45).

GNP-35

Although bald eagles are currently on the federal endangered species list, a proposal is now being considered to downgrade their federal status to threatened because of increasing numbers within the United States. Maine's breeding eagle population has increased slowly but steadily since the 1960's (see Table 3 reproduced from the DIFW's 1994 Research and Management Report). DIFW (1994) states that the primary hindrances to eagle reproduction today are environmental contaminants and changing land use (human disturbances) near occupied eagle nests. In response to the latter problem, in 1990 the DIFW began designating protective "Essential Habitats" around eagle nests.

A lack of "perching areas" is not indicated by DIFW (1994) as a problem currently facing Maine eagles. Furthermore, the DEIS correctly concludes that "operation of the Ripogenus Project as proposed by GNP would have no demonstrable adverse effects on the bald eagle population in the project area" (DEIS,page 4-43). Thus, FERC's recommendation to preserve and enhance perching areas is unnecessary and unwarranted.

GNP-36

It should be noted that Great Northern already has an active and effective program in place to track the locations of eagle nests on its lands and to protect those sites. In fact, the company has a 25 year history of managing these sites cooperatively with the DIFW and the USFWS and is currently considering a voluntary program to enhance the viability of existing and future sites. Great Northern would be willing to formalize this program, which places emphasis not on perching sites as described in the DEIS, but on future nest trees. In the West Branch region of Maine, bald eagle nests are nearly always constructed in super-dominant white pine located in the riparian zone. Therefore, a management plan will be developed to meet the objectives of a) maintaining the overmature and mature white pine component in stands close to the water and b) allowing for eventual replacement of the older white pine by retaining mid-story white pine in the vicinity of the overmature trees. If feasible and desirable, these trees could be released to a free-to-grow condition.

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GNP-35 GNP indicates that "FERC's recommendation to preserve and enhance [bald eagle] perching areas [at Ripogenus] is unnecessary and unwarranted." We have specified the bald eagle perching areas to assist in attracting and retaining new eagles and potential subsequent nesting in the vicinity of the Ripogenus Project. We regard such measures as a relatively easy, inexpensive means to enhance the existing population of a federally listed threatened species in the vicinity of the project.

GNP-36 We have no details of any former or existing GNP program to track and protect eagle nests on its lands and, therefore, cannot judge its merits. As stated in the DEIS, at a minimum, we recommend that GNP confer with the DIFW and FWS to preserve existing bald eagle perching areas and to investigate the appropriateness of creating new perching areas around the impoundments. The DEIS also states that large shoreline trees (such as mature white pines) could be preserved through selective cutting techniques. If GNP wishes to further enhance eagle habitat by preserving potential eagle nesting trees through other methods as proposed in these comments, we recommend they include such measures in discussions with the DIFW and FWS. If the DIFW and FWS indicate that such measures may be feasible, they should also be included in the 5-year plan and annual reports for limited monitoring of the perching area enhancements. As stated in the DEIS, recommendations developed through consultations with the DIFW and FWS should be finalized in the enhancement plan and filed with the Commission for approval.

GNP-36
Cont

TABLE 3

Bald Eagle Nesting and Productivity in Maine*

1962 - 1970 and 1972 - 1993

Year	Occupied Sites	Successful Sites N	Successful Sites %	No. Young Fledged	Young Fledged/Nest Occupied	Young Fledged/Nest Successful	Occupied Nests Fledging # of Young 0	1	2	3
1962	27	8	30	8	0.30	1.00	19	8	0	0
1963	32	9	28	12	0.38	1.33	23	6	3	0
1964	28	6	21	6	0.21	1.00	22	6	0	0
1965	33	4	12	4	0.12	1.00	29	4	0	0
1966	28	7	25	11	0.39	1.57	21	3	4	0
1967	21	4	19	6	0.29	1.50	17	2	2	0
1968	23	9	39	11	0.48	1.22	14	7	2	0
1969	29	11	31	15	0.52	1.36	18	7	4	0
1970	32	8	25	11	0.34	1.38	24	5	3	0
1972	29	8	28	8	0.28	1.00	21	8	0	0
1973	31	6	19	6	0.19	1.00	25	6	0	0
1974	36	12	33	12	0.33	1.00	24	12	0	0
1975	31	9	29	11	0.35	1.22	22	7	2	0
1976	41	12	29	19	0.46	1.58	29	6	5	1
1977	50	24	48	35	0.70	1.46	26	16	5	3
1978	62	20	32	32	0.52	1.60	42	9	10	1
1979	52	29	56	38	0.73	1.31	23	20	9	0
1980	56	29	52	40	0.71	1.38	27	19	9	1
1981	63	34	54	49	0.78	1.42	29	19	15	0
1982	72	36	50	56	0.78	1.56	36	17	18	1
1983	74	40	54	60	0.81	1.50	34	20	20	0
1984	66	35	54	46	0.70	1.31	31	24	11	0
1985	86	51	59	75	0.87	1.47	35	27	24	0
1986	89	50	56	76	0.85	1.52	39	25	24	1
1987	91	46	51	65	0.71	1.41	45	28	17	1
1989	109	45	41	70	0.64	1.56	64	20	25	0
1990	123	69	56	98	0.80	1.42	54	40	29	0
1991	127	79	61	117	0.92	1.48	48	44	32	3
1992	140	77	55	113	0.81	1.47	63	43	32	2
1993	150	84	56	115	0.77	1.37	66	53	31	0

* Data comparisons between the periods 1962-1967 and 1968-1989 are invalid due to variations in survey methodology, regional emphasis, and intensity. 1988 data were incomplete due to lack of funds.

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Two types of areas will comprise the focus of this management plan. The first will be currently used sites. There are a number of sites in the plan area which have long-term historical use. It is clear that the conditions are suitable for supporting eagles at these locations and the implementation of the management plan described above can help to secure the long-term supply of nest trees. In addition, there would be no new development (structures) permitted on Great Northern lands within 1/4 mile of the areas containing promising future nest trees that are subject to the above management plan.

The second type of area will be highly-promising potential sites. These will be determined by reviewing the entire plan area to identify shallow water areas that are preferred by eagles for fishing. In these coves and deadwater areas, the shoreline will be searched for suitable nest trees. If the site is determined to have a high likelihood of suitability for bald eagle nesting based on food source and nest site conditions, then the management plan as described above will be developed with the best cluster of trees as the focal point. There would be no new development (structures) allowed near the shoreline that is within a 1/4 mile circle around these clusters of trees on Great Northern lands.

GNP-36 Cont

Great Northern would agree that this eagle population enhancement plan will be developed and formalized in a Memorandum of Understanding between DIFW and Great Northern by January 1, 1997. In addition, the effectiveness of the plan will be monitored cooperatively by DIFW and Great Northern. The plan will be adjusted if monitoring results indicate changes are needed.

The area subject to this plan is the Great Northern owned shoreland surrounding all the impoundments in the Ripogenus and Penobscot Mills Projects, plus the sections of the West Branch of the Penobscot River in between these impoundments.

Since this plan will prohibit development within a 1/4 mile zone around areas with realistic potential for future eagle nests, there is no benefit to bald eagles from a general project boundary expansion that would increase existing building setbacks on the entire shoreline of the impoundment. In fact, the setbacks proposed in the DEIS would likely be ineffective for the purpose of enhancing eagle populations. Therefore, Alternatives 1 & 2 do not provide any enhancements, and this item should be deleted from Table 5-2 if similar comparisons are made in the FEIS.

GNP-37

RESPONSES TO GREAT NORTHERN PAPER, INC. COMMENTS ON UPPER PENOBSCOT RIVER BASIN DEIS

GNP-37 No plan currently exists in the record indicating areas with "realistic potential for future eagle nests." Hence, building setbacks required under Alternative 1 could enhance habitat protection. We revised Table 5-2 to reflect that the proposed conservation easement and boundary expansion could also enhance habitat protection.

9

COMMENTS FROM GREAT NORTHERN PAPER, INC. ON UPPER PENOBSCOT RIVER BASIN DEIS

CULTURAL RESOURCES

Penobscot Indian Nation Land Claims

Section 4.11.1.2 of the DEIS states that the claims of the PIN to islands in the West Branch of the Penobscot River "remain unsubstantiated" (DEIS, page 4-69). The DEIS further states that "(t)his issue and associated impacts remain unresolved". Great Northern agrees that the PIN claims are unsubstantiated but respectfully disagrees that this issue is unresolved.

In its Motion to Supplement Intervention filed with FERC on May 24, 1993, the DOI provided notice to the Commission of its intention to determine whether it would seek to exercise its Section 4(e) conditioning authority to the Penobscot Mills Project. In this Supplemental Motion, the DOI explained that, pursuant to its trust responsibility to the PIN, it was investigating the PIN's historical and statutory claims to lands on the West Branch of the Penobscot River:

GNP-38

> "The Department of the Interior is currently reviewing the Nation's ownership claims pursuant to the terms of the Settlement Act. If it is determined that the Ripogenus project works are located upon reservation lands, as defined in 25 USC 1722 (i) and in the Maine Implementing Act, (30 Maine Revised Statutes Section 6201, et. seq.), the Department shall proceed with the development of conditions as authorized by Section 4(e) of the Federal Power Act. If so the Commission is advised that determination of annual charges for use of tribal lands under Section 10(e) may also be required. See Motion to Supplement Intervention in Opposition By Department of the Interior, 3 (May 25, 1993)."

DOI undertook a thorough review of this issue, including reviews of state information and information provided by Great Northern which included land ownership records of Great Northern land holdings on the West Branch and the legislative history of the Maine Indian Claims Settlement Act, codified at 25 U.S.C. 1721 et seq. ("the Settlement Act"), and the Maine Implementing Act, codified at 30 M.R.S.A. 6201 et seq..

E-184

RESPONSES TO GREAT NORTHERN PAPER, INC. COMMENTS ON UPPER PENOBSCOT RIVER BASIN DEIS

GNP-38 The staff reviewed available information regarding the Penobscot Indian Nation's (PIN) claims to lands within the branches of the Penobscot River and concurs with the decision of the Maine State Department of the Attorney General (see section 4.11.1.2) that the PIN retains no ownership or title to lands within the branches of the Penobscot River. The staff finds consideration of the PIN traditional practices within the project area are outside the scope of Section 106. The staff, therefore, does not recommend including the PIN as a concurring party to the Programmatic Agreement associated with the Ripogenus and Penobscot Mills projects. The staff acknowledges, however, the PIN's interest in the management of historic properties potentially eligible for listing in the National Register of Historic Places within the project areas. Accordingly, the staff recommends consulting the PIN during the development of the revised Cultural Resource Management Plans for the Penobscot Mills and Ripogenus projects.

Because the issue of what islands are owned by the PIN under the Settlement Act is a question of State law, the Maine Attorney General's Office also undertook an extensive review of this matter. DOI has not disagreed with the legal and factual conclusions of the Maine Attorney General's review of this matter. The Attorney General of Maine summarized the results of this review in a letter to Michael J. Anderson, Associate Solicitor with DOI, dated December 16, 1993 (see Appendix B). The Maine Attorney General concluded that:

1. "With the exception of the Indian reservation and Indian territorial lands set forth in the Settlement Act, the Settlement Act extinguished all claims to land and islands which the Maine Indians, Indian Tribes, and Indian Nations asserted prior to enactment of the 1980 Settlement Act;

2. The islands in the branches of the Penobscot River are not part of the Penobscot Reservation defined in 30 M.R.S.A. 6203(8), and further, these islands historically were never part of the Penobscot Reservation; and

3. Under the Settlement Act and the Maine Implementing Legislation, Maine law is explicitly required to be applied to resolve land disputes arising under these acts and prior treaties:" (see Letter of Michael E. Carpenter, State of Maine, Attorney General to Michael J. Anderson, Associate Solicitor, Division of Indian Affairs, U.S. DOI (Dec. 16, 1993)).

E-185

GNP-38
Cont

Notably, the PIN has previously taken the position that it held only the islands in the main stem of the Penobscot River. The islands in the main stem of the river between Old Town and Mattawamkeag were originally granted to the PIN in a 1796 agreement and further reserved for the PIN by a Treaty signed in 1818. The fact that the reserved islands do not include islands on the branches of the Penobscot River was evidenced by the admission of the PIN's former counsel, Harvard Law School Professor Archibald Cox. Professor Cox, in a letter dated March 22, 1977 and accompanying background documents sent to Judge William B. Gunter, President Carter's appointed representative to resolve the Indian's land claims, wrote (p. 29):

> "In 1818 the Penobscots, who had fallen on hard times, sent word to the State that they wished to sell an additional ten townships. The Commonwealth responded by appointing three commissioners to treat with the Tribes for the release of all its remaining lands. The Tribe reserved from the conveyance four townships near the point where the east and west branches of the Penobscot River converge. The Tribe also reserved the islands in the river which had been previously reserved."

The islands "previously reserved" were those in the 30 mile stretch of the main stem as indicated by Cox's conclusion that "today the Penobscot Tribe has only the islands in the Penobscot River between Old Town and Mattawamkeag". Research Summary at p. 30 (see Appendix B). Thus, the PIN's own counsel admitted that the 1818 Treaty only reserved those islands lying between Old Town and Mattawamkeag in the main body of the River.

Further, Professor Cox's view on what the Penobscots really owned was shared by the DOI which conveyed similar conclusions to the Justice Department in a letter dated January 10, 1977 (see Appendix B). This DOI letter describes the 1818 Treaty as follows:

> "Most of the rest of Penobscot territory was lost as a result of the treaty of June 29, 1818 between the Penobscot Nation and Massachusetts. Reserved from an otherwise complete cession of all their lands above the thirty-mile tract lost in the 1796 transaction were four townships now identified as Mattawamkeag, Woodville, Indian Purchase, and Millinocket. Those townships were purchased by the State of Maine in 1833. None of these transactions appear to have been executed in accordance with the Non-intercourse Act. As a result, the Penobscot Nation today holds only the islands in the Penobscot River between Old Town and Mattawamkeag. (*emphasis added*) (*Senate Hearings*, Vol. 1 at p. 261)."

This letter indicates that DOI has, in the past, recognized that the PIN claim to the islands in the branches was limited to the islands on the *main* stem of the river.[8]

GNP-38 Cont

Thus, after conducting a lengthy review of the relevant legal and historical documents relating to these island claims, DOI concluded last year that it would not seek to exercise its conditioning authority of Section 4(e) in connection with the Penobscot Mills Project. In its letter withdrawing the Supplemental Motion, DOI stated that:

> "Upon review, the Department has concluded that it will not exercise this authority in connection with the Penobscot Mills Hydroelectric Project." See Letter from Kerry O'Hara, DOI, Office of the Solicitor, to Ms. Lois D. Cashell, Secretary, FERC re Penobscot Mills Hydroelectric Project, No. 2458-009 (March 3, 1994).

DOI reached this conclusion after a thorough review of the complete record, including its own documents and evidence, whatever support the PIN presented to DOI, and the documents and analysis offered by Great Northern and the State of Maine. Since DOI's year-long review of this issue failed to substantiate the PIN claims and DOI declined to exercise its Section 4(e) conditioning authority, this issue *should* be *considered* resolved in the FEIS.

[8] It should be noted that the legal views of Professor Cox and DOI are supported by the actual, historical understanding of the Penobscots' land ownership by the State of Maine. Numerous surveys and reports to the Maine Legislature and the Maine Department of Health in the last century and as recently as 1952, indicate that the State of Maine considered only the 146 islands in the main river between Old Town and Mattawamkeag to be reserved by the PIN.

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COMMENTS FROM GOVERNOR KING AND DONALD MC'NEIL ON UPPER PENOBSCOT RIVER BASIN DEIS

February 16, 1995

The Honorable Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426

Re: Great Northern Paper, Inc.; Project Nos. 2572 and 2458
Memorandum of Understanding

Dear Secretary Cashell:

The State of Maine and Great Northern Paper, Inc. have carefully considered and discussed the draft DEIS and what we believe are FERC's goals and obligations to assure reasonable shoreline protection for these projects in a manner consistent with its mandate to balance environmental and energy needs. Our cooperative discussions have led to an agreement to present FERC with an approach to shoreline protection which we believe meets FERC's needs and is consistent with the land use policies of the State. In addition, we believe that the approach we propose also addresses the concerns expressed by landowners and local residents while relieving Great Northern of a potential economic burden which could have serious adverse consequences for it and the State's economy.

1. The State of Maine and Great Northern have concluded that all of these important objectives can be met through conveyance to the State by Great Northern of conservation easements which follow many of the successful concepts already in place on areas of the West Branch. This time tested approach of voluntary conservation easements with State recreation management of easement lands has been a major factor in the national acclaim which this area has achieved for its recreational, aesthetic, fishery, water quality and other significant values. A copy of a Memorandum of Understanding between Great Northern and the State further describing the easements to be conveyed is attached.

As the FERC staff knows from public comments at the January 25, 1995, hearing on the DEIS, as well as the comments filed by the State of Maine and Great Northern, a key concern is the DEIS proposal to expand project boundaries surrounding the impoundments to 200 feet and impose buffer zone/setbacks to limit building and forestry

RESPONSES TO GOVERNOR KING AND DONALD MC'NEIL ON UPPER PENOBSCOT RIVER BASIN DEIS

1. The State revised its land use assessment and recommendations in the FEIS (see section 4.9). Within the Ripogenus Project area, the recommended alternative proposes two options: (1) accepting the conservation easement proposed by GNP and the State of Maine; or (2) a 200-foot boundary expansion on GNP-owned lands. Within the Penobscot Mills Project area, the recommended alternative proposes expansion of the project boundary on GNP-owned lands to 200-foot from the highwater mark of the impoundments. The staff recommends development of a Shoreline Management Plan for the boundary expansion areas in consultation with various resource agencies. The proposed easements and/or boundary expansion would provide for protection of valuable shoreland resources. See section 4.9.3 of the FEIS for further discussion.

COMMENTS FROM GOVERNOR KING AND DONALD MC'NEIL ON UPPER PENOBSCOT RIVER BASIN DEIS

activities in the expanded boundary. The agreements reached in the Memorandum of Understanding will more than achieve FERC's objectives on 73 miles of shorefront for Ripogenus and Chesuncook Lakes and in a manner which is not inconsistent with, or contradictory to, State policy.

Finally, since all major landowners, including the State of Maine, whose land would be affected by FERC's proposal, have indicated an unwillingness to sell their land or convey any interest in it to comply with the DEIS' proposed recommendations, we believe the Memorandum of Understanding provides very significant new protection while avoiding a potentially contentious situation in which landowners and leaseholders could be forced to engage in long, bitter and nonproductive proceedings to protect rights to their land.

1. Cont

We hope FERC will join with us in viewing the approach reflected in this letter and the Memorandum of Understanding as a positive and significant alternative to the land use recommendation contained in the DEIS. If FERC agrees, we believe a simple condition requiring the conveyance of the easements could be contained in the licenses to be issued. It is our intention that these easements would be granted in lieu of any further project boundary expansions or shoreline land use restrictions in the nature of those described in the DEIS on any of the impoundments in either project. To the extent licenses granted by FERC meet this objective, as you can see from the enclosed Memorandum of Understanding, Great Northern is committed to granting these easements.

Thank you for your attention and cooperation and thanks to the FERC staff for its long and diligent efforts during these relicensings.

Sincerely,

Angus S. King, Jr.
Governor, State of Maine

Donald G. McNeil, President
Great Northern Paper, Inc.

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RESPONSES TO GOVERNOR KING AND DONALD MC'NEIL ON UPPER PENOBSCOT RIVER BASIN DEIS

COMMENTS FROM GOVERNOR KING AND DONALD MC'NEIL ON UPPER PENOBSCOT RIVER BASIN DEIS

MEMORANDUM OF UNDERSTANDING

MEMORANDUM OF UNDERSTANDING, DATED February 17, 1995 between the STATE OF MAINE (the "State") acting through its Governor and Great Northern Paper, Inc., a Delaware corporation having an office in Millinocket, Maine ("Great Northern")

The State and Great Northern acknowledge the existence of valuable resources in the area adjacent to the West Branch of the Penobscot River and Chesuncook Lake and that protection of these resources can best be achieved by carrying out the provisions of this Memorandum of Understanding ("Memorandum").

The purpose of this Memorandum is to assist in protecting those resources within a framework of continued use of the river corridor for timber harvesting, recreational uses, other traditional uses of the region's forest lands, and hydroelectric power generation and transmission.

1. Great Northern agrees, upon fulfillment of the terms of this Memorandum to contribute to the State a renewable Conservation Easement, on 73 miles, more or less, of shorefront land, within 250 feet of the normal high water mark of certain areas on Chesuncook and Ripogenous Lakes and Brandy and Black Ponds, measured as horizontal distance landward of such high water mark as shown on attached Exhibit A and to be more specifically described in the aforementioned Conservation Easement. The purpose of said Easement shall be to prohibit additional commercial and residential structures and to grant to the State the right to manage recreational activity within the 250 foot zone. The term of this Easement shall be the same as the term of any license (including any renewal thereof) issued for the Ripogenous and Penobscot Mills projects by the Federal Energy Regulatory Commission ("FERC") or its successor entity and the covenants, restrictions, exceptions and reservations shall be consistent with those set forth in the Conservation Easements granted by Great Northern Nekoosa Corporation to the State of Maine on or about August 14, 1981 (the "1981 Easements").

2. Great Northern further agrees, upon fulfillment of the terms of this Memorandum, to contribute to the State a perpetual Conservation Easement, in order to prohibit additional commercial and residential structures and to grant to the State the right to manage recreational activity thereon. Said Easement shall cover the following real estate:

RESPONSES TO GOVERNOR KING AND DONALD MC'NEIL ON UPPER PENOBSCOT RIVER BASIN DEIS

a. 1/2 mile, more or less, of shoreline on Lobster Lake T3R14 within 500 feet of the normal high water mark thereof, measured as horizontal distance landward of such high water mark as shown on attached Exhibit A and to be further described in said Conservation Easement. The purpose thereof being to convey an easement on those additional lands on Lobster Lake acquired since the grant of the 1981 Easements to the State of Maine.

b. 5 miles, more or less, of shoreline on the West Branch of the Penobscot River, T4R14, within 500 feet of the normal high water mark, measured as horizontal distance landward of such high water mark as shown on attached Exhibit A and to be further described in said Conservation Easement. The purpose thereof being to convey an easement of those additional lands on the West Branch of the Penobscot River acquired in fee since the grant of the 1981 Easements to the State of Maine.

The covenants, restrictions, exceptions and reservations of this Easement shall be consistent with those of the 1981 Easements.

3. All rights reserved or retained by Great Northern in connection with the donation of said Conservation Easements are and shall remain subject to applicable requirements, regulations, and laws of state and local governmental bodies having jurisdiction thereof.

4. The State will add the proposed Conservation Easement areas to its existing recreation management plan for the 1981 Easement area. The State recognizes that because Great Northern is the owner in fee of said easement lands, as well as lands adjacent thereto, the cooperation of Great Northern is essential to the successful operation of the aforementioned recreation plan. In order to facilitate recreation management, Great Northern will grant property leases to the State, upon terms satisfactory to Great Northern and the State, within the easement lands, in order that administrative structures and areas as defined in the Deed of Conservation Easement, may be erected, maintained and utilized.

5. It is the intent of Great Northern and the State that land uses within the proposed easement area shall be subject to requirements no less stringent than applicable zoning and land use standards of the Maine Land Use Regulation Commission in effect at the time of execution of this Memorandum.

6. The State and Great Northern understand and agree that conveyance of the Easements described herein is intended to provide for shoreline protection and multiple use in a manner consistent with the policy and goals of the State of Maine. The parties intend that

the Easements be conveyed as soon as practicable following issuance of licenses by FERC for the Ripogenus and Penobscot Mills projects. Provided, however, that if any order by FERC issuing a new license for the Ripogenus or Penobscot Mills projects imposes conditions or requirements with respect to land use or shoreline protection for any shoreline areas of the impoundments of the Ripogenus and Penobscot Mills projects which differ materially from those imposed by the Conservation Easements described in paragraphs 1 and 2 hereof, either party shall have the right, within 30 days of the date of said order, to provide written notice to the other that it is withdrawing from the obligations of this Memorandum. Upon such notification, this Memorandum and all obligations of either party hereunder shall be void and withdrawn.

IN WITNESS THEREOF, the parties hereto have duly caused this Memorandum to be executed, as of the day and year first above written.

In the presence of:

GREAT NORTHERN PAPER, INC.

By _____
Donald G. McNeil, President

In the presence of:

STATE OF MAINE

By _____
Angus S. King, Jr.
Governor, State of Maine

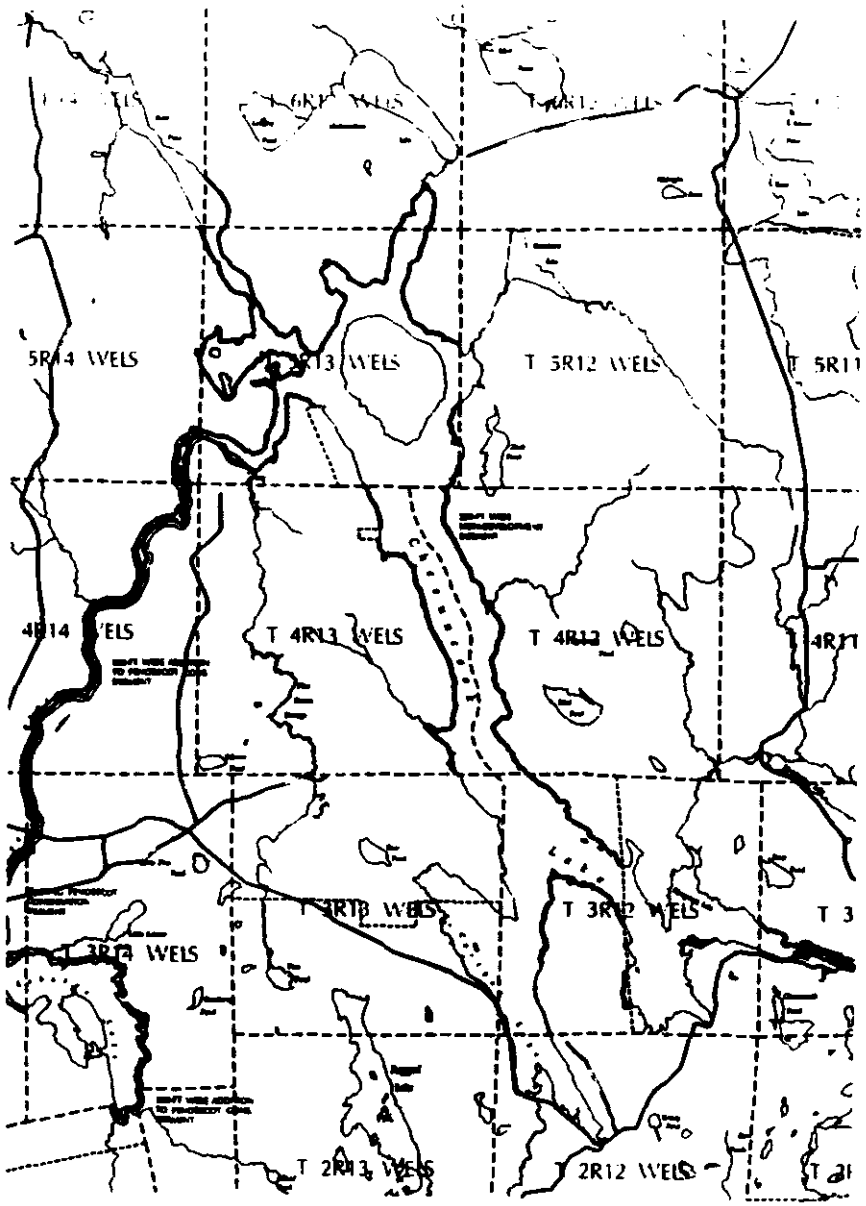

EXHIBIT A. RIPOGENUS PROJECT AREA SHOWING PROPOSED EASEMENT

Office of the Governor and Council
Richard H. Hamilton
Governor
Arnold E. Neptune
Lt. Governor
Priscilla Attean
Representative

Community Building
Indian Island
Old Town, Maine 04468
(207) 827-7776
FAX (207) 827-8042

February 21, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N. E.
Washington, DC 20426

,009 ,005

RE: FERC PROJECTS #2458 AND #2572; INITIAL COMMENTS AND RECOMMENDATIONS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE PENOBSCOT RIVER BASIN IN MAINE

E-193

Dear Secretary Cashell:

The Penobscot Indian Nation (PIN) submits the following initial comments on the Draft Environmental Impact Statement (DEIS) for the Penobscot River Basin, Maine, issued by FERC Staff ("Staff") in December, 1994. The original comment deadline for this DEIS was February 8, 1995. By letter dated January 18, 1995, the PIN requested a thirty (30) day time extension, until March 10. By notice dated February 2, FERC extended the deadline to February 22, 1995. The PIN did not make its request for a time extension lightly, and in fact was forced to request the extension until at least March 10 because of the near concurrent issuance of the DEIS for the lower Penobscot River projects (with comment period ending February 17) and the small size of our review staff, which did not permit us to effectively deal with both DEIS documents simultaneously. PIN-1

The potential impact of the decisions forthcoming from both the lower and upper Penobscot River Basin environmental impact analyses, on PIN lands and resources for future generations of tribal members, is so significant that we cannot permit ourselves to be forced into a schedule that is unreasonable in terms of the capacity of our staff to respond.

The purpose of this initial response is to identify for FERC the primary areas within the DEIS that are at issue with the PIN, and to provide notification of our intent to submit additional comments and recommendations by March 10, 1995.

FIDUCIARY RESPONSIBILITY

As a Federally-recognized tribe, the PIN expected Staff to recommend and ultimately prescribe license conditions that are protective of tribal lands and resources. To date, there is little evidence that FERC has considered, much less implemented, any of PIN's recommendations as contained in earlier scoping and comment letters. FIN-2

PIN-1 Opinion noted. We have also considered comments in your letter of March 9, 1995.

PIN-2 The staff reviewed available information regarding the Penobscot Indian Nation's claims to lands and resources within the West Branch region. The staff concurs with the Maine State Department of the Attorney General findings that the Penobscot Indian Nation retains no ownership or title to lands within the branches of the Penobscot River (see section 4.11.1.2). The staff finds consideration of the Penobscot Indian Nation's traditional practices within the project area are outside the scope of Section 106. The staff, therefore, does not recommend that GNP include the Penobscot Indian Nation as a concurring party to the Programmatic Agreement associated with the Ripogenus and Penobscot Mills projects. The staff acknowledges Penobscot Indian Nation's interest in the management of historic properties potentially eligible for listing in the National Register of Historic Places within the project areas. Accordingly, the staff recommends that GNP should consult the Penobscot Indian Nation during the development of the revised Cultural Resource Management Plans for the Penobscot Mills and Ripogenus projects.

COMMENTS FROM PENOBSCOT INDIAN NATION ON UPPER PENOBSCOT RIVER BASIN DEIS

to an extent even greater than with the Lower Penobscot Basin DEIS, for which PIN has submitted comments. FERC has ignored its responsibility to protect the natural and cultural resources of the PIN.

LAND OWNERSHIP

PIN-2 Cont

There is a conflict in the DEIS between the discussion of regional land use issues in Section 3.11.1 (page 3-41) and the section entitled "PIN Claims to Islands in the West Branch" (4.11.1.2, page 4-69). In 3.11.1, the DEIS states that the applicant "owns in fee or holds flowage rights to all the project lands and most land surrounding the project area." However, the DEIS also states, in Section 4.11.1.2, that the PIN "claims islands in the West Branch of the Penobscot pursuant to terms of the 1980 Maine Indian Claims Settlement Act...GNP refutes PIN's claim to the islands within the Penobscot tributaries but proposes no actions related to this claim." The DEIS goes on to state: "To date, PIN claims remain unsubstantiated. This issue and associated impacts remain unresolved."

In fact, the PIN's claims are substantiated. The PIN's original title to the islands in the Penobscot River, including those occupied by the Ripogenus and Penobscot Mills projects, was recognized as early as the 1796 and 1818 treaties with the State of Massachusetts. Though the treaties lacked congressional approval, PIN's title and rights under them were affirmed with the enactment of the Maine Indian Claims Settlement Act (MICSA, 25 U.S.C. § 1721 et seq.) which approved the Act to Implement the Maine Indian Claims Settlement (30 MRSA § 6201 et seq.). MICSA is a modern treaty; it is the product of government-to-government negotiations between PIN and the State which the United States approved as trustee. MICSA confirmed the Penobscot Indian Reservation which consists of Indian Island and islands in the Penobscot River upstream thereof. Among the rights reserved to the PIN by MICSA was the right to fish free of State regulation for sustenance purposes in the waters of the Penobscot River that lie within the Reservation boundaries (30 MRSA § 6207(4)). In consideration of those rights, PIN gave up its claims to a substantial portion of the State of Maine, including extensive land holdings occupied by the applicant, except those lands reserved by treaty.

PIN-3

However, in this proceeding, FERC is barred from hearing or disposing of any challenge by the applicant to PIN's ownership of the Penobscot River islands occupied by the Ripogenus and Penobscot Mills projects, or PIN's fishing rights. Section 17(a) of Public Law 99-495 (Electric Consumers Protection Act) provides that, with respect to each license, permit, or exemption issued under the Federal Power Act after October 16, 1986, FERC shall have no authority under the Federal Power Act to "alter, amend, repeal, interpret, modify, or be in conflict with, the Treaty rights or other rights of any Indian tribe." The conference report on this 1986 act makes it clear that the act applies to all Indian rights and not just to the protections created by sections 4(e) and 10(e) of the Federal Power Act.

> With respect to Indian rights, this legislation does not affect or modify any treaty or other right of an Indian tribe. Additionally, nothing in this legislation is intended to affect or modify any existing protections under sections 4(e) and 10(e) of this Act.

RESPONSES TO PENOBSCOT INDIAN NATION ON UPPER PENOBSCOT RIVER BASIN DEIS

PIN-3 Section 17(a) of the Electric Consuments Protection Act (ECPA), P.L. 99-495, is a savings provision. It does not grant or deny the Commission any power or authority, but states that no provision of ECPA shall be considered to "alter, amend, repeal, interpret, modify, or be in conflict with, the Treaty rights or other rights of any Indian tribe."

COMMENTS FROM PENOBSCOT INDIAN NATION ON UPPER PENOBSCOT RIVER BASIN DEIS

House Conference Report No. 934, 99th Cong., 2d Sess. 33 (1986). reprinted in 1986 U.S.C.C.A.N. 2496, 2550.

Whatever claim the applicant asserts against PIN's rights under MICSA regarding the islands occupied by the Ripogenus and Penobscot Mills projects is derived from the settlement negotiated by the State on its behalf. As an entity created pursuant to State law and whose property rights are subject to State law, the applicant should be required by FERC in the first instance to present its dispute with PIN through the State representatives to the Maine Indian Tribal-State Commission (MITSC), established by Section 6212 of the Maine Implementing Act. Section 17(a)(5) of Public Law 99-495 requires that this threshold procedure, along with any other proceedings that may be authorized to resolve disputes over PIN's rights, be exhausted as a precondition to the issuance of a license (if one is to be issued at all). The Section 17(a) prohibition also creates a bar to FERC's issuance of a license for the purpose of enabling the applicant to assert eminent domain authority under Section 21 of the Federal Power Act (16 U.S.C § 814), against PIN's interest, because issuing a license under that circumstance would be "in conflict with, the Treaty rights or other rights of any Indian tribe."

PIN-4

The applicant has also contended that the Penobscot Reservation is not a reservation as defined in the Federal Power Act. To support this contention, it cites Federal Power Commission v. Tuscarora Indian Nation, 362 U.S. 99 (1960), in which it was held that lands purchased and held in fee simple by the Tuscarora Indian Nation were not a reservation under the Federal Power Act. We believe that there are substantial reasons why that precedent is inapplicable to the Penobscot Reservation, but also believe, in view of Section 17(a)(5) of Public Law 99-495, that they are not subject to adjudication by FERC. The PIN also adheres to its claim of ownership of the islands occupied by the Ripogenus and Penobscot Mills projects, and points out that Section 17(a)(5) of Public Law 99-495 prohibits FERC from interpreting PIN's rights in that regard as well.

PIN-5

It should also be noted that, since the applicant's submission on July 8, 1993 (FERC Reference: GNP 1993(c)), there have been numerous contacts between the applicant and the PIN. The PIN's ownership of the islands occupied by the projects need have no adverse effect on the applicant's interest, and it has communicated those views to the applicant. It would be a loss of tragic proportions for FERC to indulge the applicant's unfounded fears over its operational needs at the expense of PIN's Reservation islands in which the applicant appears to have no interest beyond their location within project boundaries. In view of the prohibitions in Section 17(a)(5) of Public Law 99-495, and the firm belief by PIN that reasoned negotiation with the applicant could produce a satisfactory resolution of this conflict, FERC should advise the parties that no license will be issued until the parties have either negotiated a settlement or adjudicated their differences in an appropriate forum. In the meantime, FERC can issue annual licenses for the projects pursuant to 16 U.S.C. Section 808(a)(1) until the matter is resolved.

PIN-6

FISHERY RESOURCES

Staff's approach to fishery resource management is to assume a static condition. As Staff correctly points out in Section 3.5.1, the upper Penobscot River, including the project areas

PIN-7

RESPONSES TO PENOBSCOT INDIAN NATION ON UPPER PENOBSCOT RIVER BASIN DEIS

PIN-4 See response to PIN-3. Section 17(a) of ECPA does not mandate any particular procedure for resolving disputes over title to land or treaty rights.

PIN-5 See response to PIN-3

PIN-6 Opinion noted.

PIN-7 Opinion noted. We added text to the affected environment and impact sections that better describes the American eel resources in the project area and the effects of project operation on eels. We conclude that the enhancements we incorporated into Alternative 2 will benefit the American eel population to some degree.

PIN-7 Cont

before much of the habitat was destroyed and fish migrations were terminated by the construction of numerous dams without fish passage, historically supported populations of anadromous fish species. Restoration of these species in the Penobscot River drainage is a PIN goal, and habitat expansion in the upper basin, through restoration, rehabilitation, and enhancement, is considered necessary for the future realization of this goal.

The upper basin also represents a potentially significant habitat resource for the production of catadromous American eels, which, while present in the project areas, are in serious decline throughout the Penobscot River drainage. Historical declines in the numbers of young eels reaching upper production areas and the number of adults reaching the estuary, though to an unquantified level, are likely due in large part to the construction of numerous dams in the drainage without adequate upstream and downstream fish passage, and in the case of these projects, dam construction without any upstream (except North Twin) or downstream fish passage facilities. The DEIS inadequately addresses past and continuing adverse impacts to eel populations in the Penobscot River, as well as impacts resulting from Staff's recommended licensing alternatives for these projects. Mitigation in the form of modification of project structures and operations, possibly similar to that required for Great Bear Hydropower, Inc., at its Columbia Dam Project (FERC #8396-013), must be considered for the Ripogenus and Penobscot Mills projects.

INSTREAM FLOWS

PIN-8

The PIN lands contained within the main river channel below Stone Dam must be sufficiently watered on a permanent basis to permit travel by canoe (navigation), meet all other applicable Federal and State water quality standards, and support native and indigenous fish species on a sustainable basis, in habitat where they once flourished, and in sufficient abundance, size, and quality to provide for the opportunity for a sustained subsistence harvest by PIN tribal members.

PIN-9

The DEIS, in Section 3.5.2.12, recognizes that potential habitat in this reach of river is extensive. Elsewhere, the DEIS points out that Staff-recommended flow releases will not permit this reach to meet applicable water quality standards, including navigability and habitat for indigenous fish species. These overt violations regarding tribal fishing and navigation rights, and general water quality law, cannot be permitted.

PIN-10

We note that Staff has continued to utilize a water allocation scenario for the reach below Stone Dam which depends on bringing additional water from sources further up in the drainage. Staff then advances the possibility that such a scenario may adversely impact other water-use related enhancements proposed by the applicant or Staff in the project areas, and generally casts flow allocation to this reach in a negative light with respect to overall water-use related enhancement in the project areas. The alternative of providing flow by a direct split of that inflow which would otherwise arrive at Stone Dam, as a result of whatever other upstream water management practices that are in place, continues to be ignored, despite the PIN clearly pointing out this viable alternative in our scoping *comments*, and in other filings with FERC on these projects.

PIN-8 See response to PIN-2.

PIN-9 Opinion noted. The legal status of the Back Channel relative to Maine's 401 WQC will be addressed in the order for the project.

PIN-10 We agree that the 2000 cfs minimum flow required at Millinocket by the WQC and the state charter could technically include flows provided to the Back Channel, as we explain more fully in revised Appendix D (section D.3.3) of the EIS. The minimal resource benefit of providing flow to the BC is the primary factor in determining its feasibility.

COMMENTS FROM PENOBSCOT INDIAN NATION ON UPPER PENOBSCOT RIVER BASIN DEIS

PIN-10 Cont

Until Staff seriously evaluates this water allocation alternative for the reach below Stone Dam the EIS remains conceptually flawed and entirely inadequate with respect to this instream flow issue.

WATER QUALITY

PIN-11

The DEIS fails to adequately address the cumulative impact of project impoundments, project area thermal discharges, and the loss of radiational cooling due to water diversion away from natural free-flowing river channels, on the summertime temperature of the water emerging at the lower end of the Penobscot Mills project area, despite the PIN requesting this analysis in our October 4, 1993 scoping comments. We originally requested the analysis because of the critical relevance of human-induced warming of the Penobscot River to the Atlantic salmon restoration program currently underway in the Penobscot drainage. This EIS must fully address these issues, and include recommended conditions for the mitigation of cumulative water temperature impacts due to continuing project operation.

PIN-12

In addition, mitigative measures at the Dolby impoundment to enable this water body to meet applicable water quality standards have not been adequately considered in this DEIS.

MERCURY CONTAMINATION OF SEDIMENTS, WATER, AND BIOTA

PIN-13

The impact of historic use of mercuric compounds in the pulp and paper industry, and the impact of extensive annual impoundment drawdowns, or project operation in general, on mercury contamination levels and dynamics, have been irresponsibly diminished or dismissed in this DEIS. Beyond the critical pertinence of these issues towards the safe consumption of fish and wildlife resources from the project areas by tribal members, the impacts of mercury contamination in project sediment, water and biota may be detrimentally impacting bald eagles, which are, much like Atlantic salmon, culturally significant to the PIN.

BIODIVERSITY

PIN-14

The DEIS does not address, nor even mention, the cumulative impacts of existing project operation, the applicant's or Staff's proposals for relicensing, or other licensing action alternatives identified by PIN and others, on aquatic biodiversity in the project areas, or in the Penobscot River ecosystem as a whole. The PIN requested this analysis in its scoping comments on this EIS, and this issue is considered pertinent in the recently issued DEIS for the lower Penobscot River project licensing actions. The issue of the extent to which dam construction, impoundment drawdowns, and flow regulation/diversion has adversely impacted aquatic biodiversity is just as important in the upper drainage as it is for the lower river basin, because the underlying objective of maintaining or restoring biodiversity is long-term ecosystem health (i.e. the whole river system). Until this issue is fully addressed within Staff's proposed licensing actions for these projects, including a discussion of potential mitigative measures, this DEIS is considered inadequate.

RESPONSES TO PENOBSCOT INDIAN NATION ON UPPER PENOBSCOT RIVER BASIN DEIS

PIN-11 Your request for the EIS to address the cumulative effect of the projects on water temperature of the Penobscot River downstream of the project area is not reasonable. FERC considers the baseline condition to be the existing projects; your request assumes that preproject conditions should be the baseline. You have suggested no specific reasonable alternative that could be evaluated to mitigate for a presumed effect on temperature. In fact, summer temperatures are probably cooler throughout much of the West Branch basin because of discharge of cooler hypolimnetic waters from the projects' larger impoundments.

PIN-12 You did not suggest specific mitigation for the Dolby impoundment. No evidence shows that project operations affect dissolved oxygen (DO) in Dolby Pond. DO problems resulting from BOD loads from the mill are not within FERC jurisdiction; this issue will be discussed further in the license order for the project.

PIN-13 FERC required additional studies to address whether project operations are causing an increase in mercury bioaccumulation in biota inhabiting the project waters. We reviewed the results of this study and concluded that the data do not support the contention that fluctuating water levels are affecting the bioavailability of mercury in drawdown reservoirs. See our response to EPA's comments EPA 9-11.

PIN-14 Opinion noted. The DEIS for the lower Penobscot River considered biodiversity more fully because that DEIS included a new, unconstructed project. In the upper Penobscot River DEIS, the projects have existed for as long as 100 years, and there are no unique or unusual habitats in the area that appear to require additional enhancements beyond those proposed by staff.

COMMENTS FROM PENOBSCOT INDIAN NATION ON UPPER PENOBSCOT RIVER BASIN DFIS

CULTURAL RESOURCES

In Section 3.1, Staff correctly concludes that "The region is also home to the Penobscot Indian Nation (PIN), much of whose cultural heritage is closely associated with the river and the resources it provides." However, in conflict with this statement, the discussion in Section 3.13 conveniently but inaccurately writes PIN out of the history of the upper Penobscot River after the late 18th century. We have always used these lands and waters, still do, and will continue to do so in the future.

PIN-15

Sixty-one aboriginal sites are reportedly eligible for listing on the National Register of Historic Places, and we have not been consulted. These were our homes and hunting and fishing camps. A Programmatic Agreement for the management of these historic places is recommended in Section 4.11.1.1 and PIN is not included. The Programmatic Agreement must include the PIN.

CLOSING

This concludes our initial comments on the DEIS for the upper Penobscot River Basin, and serves to alert the Commission and its Staff as to the primary areas (but, not necessarily all areas) where we intend to provide additional or detailed comments, to be filed with the Commission by March 10, 1995. Please feel free to contact me (207-539-8219) should you have any questions.

PIN-16

Sincerely,

Paul Bisulca

Asst. to the Governor
on Environmental Affairs

Distribution

FERC Service Lists #2458; #2572

RESPONSES TO PENOBSCOT INDIAN NATION ON UPPER PENOBSCOT RIVER BASIN DEIS

PIN-15 Phase I and II archeological surveys and SHPO's review identified 7 archeological sites within the Penobscot Mills project area and 15 archeological sites within the Ripogenus project area potentially eligible for listing in the National Register of Historic Places (see section 4.11). Although the staff finds that consideration of the Penobscot Indian Nation's traditional practices within the project area are outside the scope of Section 106, the staff acknowledges the Penobscot Indian Nation's interest in the management of these historical properties. Accordingly, the staff recommends that GNP consult the PIN during the development of the revised Cultural Resource Management Plans. The staff, however, does not recommend that GNP include the PIN as a concurring party to the Programmatic Agreement.

PIN-16 No response required.

COMMENTS FROM PENOBSCOT INDIAN NATION ON UPPER PENOBSCOT RIVER BASIN DEIS

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March 9, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, DC 20426

RE: FERC PROJECTS #2458 AND #2572; COMPLETION OF PENOBSCOT INDIAN NATION'S COMMENTS AND RECOMMENDATIONS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE PENOBSCOT RIVER BASIN IN MAINE

E-199

Dear Secretary Cashell:

The Penobscot Indian Nation (PIN) submits the following supplemental comments on the Draft Environmental Impact Statement (DEIS) for the Penobscot River Basin, Maine, issued by Federal Energy Regulatory Commission Staff ("Staff") to intervenors in December, 1994 (dated, however, November 1994). The original comment deadline for this DEIS was February 8, 1995. By letter dated January 18, 1995, the PIN requested a thirty (30) day time extension, until March 10. By notice dated February 2, FERC extended the deadline to February 22, 1995. The PIN filed initial comments within this extended deadline by letter dated February 21, 1995, identifying major issues for which we would be submitting detailed comments, and indicating that we needed the additional time to complete this work and would file our completed comments with the Commission by March 10, 1995.

PIN 17

These comments are provided in supplement to, not in substitution for, the comments we filed with the Commission on this DEIS on February 21, 1995. These comments expand on our initial discussion contained within that filing of the higher priority natural resource issues of concern to the PIN in the project areas, including water quality standards and flows in the Back Channel, mercury contamination in project waters and biota, biodiversity, and anadromous and catadromous fisheries impacts, management and rehabilitation/restoration.

INTERVENORS "DISREGARD" FOR APPLICANT'S ECONOMIC VIABILITY

PIN-18

On page 2-21 (last paragraph), the DEIS states that "Alternative 1 includes measures proposed by the CI and other parties to maximize or substantially increase benefits for various resources, particularly fisheries, without regard to economic effect for GNP".

RESPONSES TO PENOBSCOT INDIAN NATION ON UPPER PENOBSCOT RIVER BASIN DEIS

PIN-17 No response required.

PIN-18 Opinion noted.

COMMENTS FROM PENOBSCOT INDIAN NATION ON UPPER PENOBSCOT RIVER BASIN DEIS

We assume PIN is included among "others parties" While on the surface this may seem a rather innocuous statement, it is anything but that, and the PIN takes very strong exception to this characterization. First of all, the portion of Staff's statement indicating disregard for the applicant's economics demonstrates that Staff is unfamiliar with the objectives and content of the innumerable consultation meetings, negotiation sessions, comment filings, hearings, and other interactions that CI, PIN and others have had with the applicant over the past several years.

PIN-18 Cont

Obviously, if PIN and others were proposing changes in project operation "without regard to economic effect", we would not be even remotely considering allowing the applicant to continue with several of the most substantial, and most adversely impactive, water use components of historical and proposed project operations. Included among these are its extensive impoundment drawdowns, artificially high flows in the West Branch below McKay, or diversion of the overwhelming bulk of available water (a public resource) at Stone Dam away from the natural river channel for private power production purposes. And if we were seeking to *maximize* fisheries and water quality enhancement without regard for the applicant, we would be calling for selective removal of some of the project dams, since this would be the most beneficial scenario towards our long term resource management goals in the Penobscot River drainage.

PIN-19

Beyond this mischaracterization of the consultation process to date, Staff's statement also reflects an overall deficiency with respect to understanding the need to balance developmental and non-developmental uses of a waterway. The West Branch is currently entirely out of balance with respect to these competing uses. With the exception of the reach between McKay and North Twin impoundment, nearly the entire remaining length and gradient of the West Branch, between the head of Ripogenus impoundment and its confluence with the East Branch, at Medway is currently impounded. In addition, the small remaining reach of potential free-flowing habitat available in the Penobscot Mills Project area, the Back Channel, has been and continues to be relegated to a non-functional (ecologically) dryway.

PIN-20

What PIN and others seek pales in comparison to the privileges that the applicant has enjoyed in the past, and will continue to enjoy for the foreseeable future, even if every one of the most impactive (to the applicant) water use restrictions under consideration are implemented. What PIN and others hope to achieve is the restoration of the lost natural functions and values that the West Branch represented prior to the applicant assuming control of water use in the drainage.

ADEQUACY OF RESOURCE IMPACT ANALYSES

PIN-21

The PIN requested a number of cumulative and site-specific impact analyses in our EIS scoping comments. Staff has addressed only very few of these, and has omitted the remainder from further consideration. While it is cumbersome to identify each and every instance where these omissions have occurred, we would point out that several of the most important ones towards addressing our concerns in these proposed licensing actions were among those omitted, including:

PIN-22

1. Cumulative impacts of project existence and operation on water temperature in the West Branch, particularly at the point where water leaves the project area and approaches its

RESPONSES TO PENOBSCOT INDIAN NATION ON UPPER PENOBSCOT RIVER BASIN DEIS

PIN-19 Opinion noted.

PIN-20 Opinion noted.

PIN-21 Opinion noted.

PIN-22 See response PIN-11.

confluence with East Branch waters

PIN-23

2. Cumulative impacts of project existence and operation on biodiversity in the West Branch.

PIN-24

3. Cumulative impacts of project existence and operation on mercury deposition and bioaccumulation in project area sediments, water, and biota (the DEIS does provide some site-specific discussion of this issue, but subsequently dismisses it from consideration within Staff-recommended licensing actions, and provides no cumulative impact analysis at all).

PIN-25

4. Cumulative impacts of project existence and operation on American eel populations in the West Branch and in the entire Penobscot River basin (see additional comments below under AMERICAN EEL IMPACT ANALYSIS).

PIN-26

We continue to recommend that these analyses be conducted and included in the EIS. We also recommend that Staff revisit our scoping comments and identify additional EIS requests which we made but which were omitted by Staff, and either include the requested analyses in the EIS, or provide a detailed explanation in the EIS as to why these were not included.

PIN'S CHOICE NOT TO APPEAL STATE WATER QUALITY CERTIFICATIONS

E-201

PIN-27

We frequently see comments to the effect that PIN's (or others) failure to appeal a State Water Quality Certification reflects an acceptance of the conditions contained therein. At least in the case of PIN, this should not be assumed, and in terms of the specific projects at hand, this is absolutely not true. It should be readily apparent from our difficulty in meeting some of FERC's filing deadlines that PIN is of limited staffing and financial resources, and must carefully choose how to commit those resources. We also understand the political forces at play in State Water Quality Certifications and are unwilling to squander resources on lost causes.

It should also be pointed out that the State has no fiduciary responsibility to PIN, whereas the FERC does. Therefore, our expectation is that FERC, not the State, will afford proper consideration of the impact of hydropower operations on a federally-recognized tribe such as PIN. In short, we believe that our time and effort is better spent presenting our arguments before FERC than before any State proceedings, which, in the case of these projects, are heavily dominated by the Paper Industry.

RESPONSES TO PENOBSCOT INDIAN NATION ON UPPER PENOBSCOT RIVER BASIN DEIS

PIN-23 See response PIN-14.

PIN-24 Although we have found no evidence that project operations contribute to mercury mobilization in the project area, we nevertheless concurred with the 401 WQC requirement for the GNP conduct studies on mercury in the Ripogenus Project area and recommend GNP cooperate with MDEP and EPA in mercury studies that those agencies conduct in the areas of those projects.

PIN-25 Our baseline for evaluating project alternatives is existing conditions. Thus, we have not addressed the issue of how the existence of the project may be affecting an eel stock that might exist in a no-project, no-dam scenario. We have, however, expanded our discussion of eels in section 3 of the FEIS.

PIN-26 Opinion noted.

PIN-27 Opinion noted.

COMMENTS FROM PENOBSCOT INDIAN NATION ON UPPER PENOBSCOT RIVER BASIN DEIS

SPECIFIC COMMENTS

I. BACK CHANNEL

A. Instream Flow Requirements and Potential Natural Resource Values

Legal Requirements

PIN-28

On page 4-13, Staff concludes that Class C water quality standards for designated uses are unlikely to be met under the leakage flows proposed for the Back Channel (BC) by the applicant and Staff. While navigation is identified as one designated use which would not be met, the DEIS fails to identify additional designated uses, such as habitat for indigenous fish species and other aquatic life, that will also not be met under leakage flows. We also doubt that the BC at leakage meets dissolved oxygen standards during the warm summer months. The applicant's additional study of this aspect was inadequate to determine this, and oxygen measurements that were made were not taken early enough in the morning (i.e. 0600-0700 hours), when DO levels are expected to be lowest.

Staff then incorrectly concludes that there is "no apparent demand for navigation in this river reach". As we discuss in more detail below, the PIN identified the need for navigable flows for tribal transportation in the BC as early in this process as November of 1990. Finally, Staff concludes that there is "no compelling basis for challenging the state's decision to waive certification for Backchannel".

While we strongly question why these direct violations of State and Federal water quality laws are not "compelling" enough for Staff to seek correction of DEP's poor judgement, Staff has also apparently ignored other major statutory requirements. These include:

1. FERC's fiduciary responsibility to protect the PIN Reservation and natural resources.

PIN-29

2. FERC's clearly defined responsibility, as contained in the ECPA amendments to the FPA Section 10(a), to consider the "recommendations (including fish and wildlife recommendations) of Indian tribes affected by the project" (i.e. proposed licensing actions).

3. FERC's equally binding requirement, contained in ECPA amendments to Section 4(e) of the FPA, to give "equal consideration to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of, fish and wildlife (including related spawning grounds and habitat), the protection of recreational opportunities, and the preservation of other aspects of environmental quality", in deciding whether to issue any license.

PIN-30

As we discuss in more detail below, Staff has also mischaracterized, underestimated, or ignored significant potential environmental benefits of increased flows in the BC. Had these aspects been comprehensively and objectively assessed and discussed, the resulting analysis would have added to the already strong foundation upon which DEP's abandonment of their legal responsibilities in the BC should be challenged.

RESPONSES TO PENOBSCOT INDIAN NATION ON UPPER PENOBSCOT RIVER BASIN DEIS

PIN-28. The staff reviewed available information regarding the Penobscot Indian Nation's claims to lands and rights within the branches of the Penobscot River and concurs with the decision of the Maine State Department of the Attorney General (see section 4.11.1.2). The staff finds that consideration of the Penobscot Indian Nation's traditional practices within the project area are outside the scope of Section 106. The staff, therefore does not recommend including the Penobscot Indian Nation as a concurring party to the Programmatic Agreement associated with the Ripogenus and Penobscot Mills projects. The staff acknowledges the interest of Penobscot Indian Nation's interest in the management of historic properties potentially eligible for listing in the National Register of Historic Places within the project areas. Accordingly, the staff recommends that GNP consult the Penobscot Indian Nation during the development of the revised Cultural Resource Management Plans for the Penobscot Mills and Ripogenus Projects.

PIN-29 See response PIN-3.

PIN-30 Opinion noted.

COMMENTS FROM PENOBSCOT INDIAN NATION ON UPPER PENOBSCOT RIVER BASIN DEIS

Navigation

The DEIS summarily ignores the repeated requests by the PIN for navigable flows in the BC. We know this to be the case, by comparing comments filed to date with the applicant and the Commission, and relevant consultation meeting minutes, with Staff's incorrect conclusion on page 4-12 that "there is no apparent demand for navigation in this river reach". The PIN was excluded by the applicant from the Initial Stage Consultation, including numerous agency consultation meetings on BC issues, and was excluded from participating in the instream flow/habitat study conducted on the BC. Had we been included in these early proceedings, we would have certainly raised this issue at those times.

PIN-31

In our filings of November 15, 1990 (to Carson, GP) and February 27, 1992 (to Cashell, FERC), we admittedly, and perhaps mistakenly, characterized our need for navigation flows as "recreational canoeing" flows, or, even more generally, flow allocation as it would relate to compliance with Class C water quality standards, including all designated uses. However, as early in this process as February, 1991, the PIN clearly, and unequivocally, identified to the applicant the importance of this issue to the PIN (see meeting minutes from consultation meeting held between PIN and the applicant on February 4, 1991). Subsequently, in filings with the Commission dated May 21, 1993 (Recommendations for Final Terms and Conditions) and October 4, 1993 (Comments on Scoping Document 1), the PIN again clearly raises the importance of this issue. Given the frequency at which we have raised this issue, we can only assume that Staff has chosen to ignore our comments in the preparation of this DEIS.

E-203

In addition, we find that Staff has confused legal mandates to provide for navigation with enhancement of whitewater boating, has failed to require the applicant to conduct the necessary navigation flow studies to the level of adequacy which PIN, and initially the Commission itself, had requested of the applicant, and leads the reader to believe that it has independently studied navigation flows as part of this DEIS preparation, when it has not.

Staff's confusion with the meaning of navigation (i.e. not a whitewater rafting enhancement, but rather a requirement to meet water quality law and Federal fiduciary responsibility to the PIN) is clearly indicated by statements, on page 4-14, that "Flows as high as 350 cfs still would not provide sufficient water for navigation of the BC (see section 4.8); consequently, this flow regime probably would not be sufficient to meet all Class C water quality criteria...", and on page 4-48, "FERC decided not to evaluate the potential for whitewater boating in these two streams [referring to Millinocket Stream as well] in this DEIS because the significant flows that would be required to make these streams navigable [emphasis added] would jeopardize other environmental enhancements (FERC, 1993c)".

PIN-32

Clearly, navigation/transportation by canoe, and whitewater rafting, are relatively exclusive of each other, in terms of purpose, in terms of the legal basis for addressing them, and in terms of the amount of water that would be needed to accommodate each of them. While we disagree with Staff's conclusion that there would be no desire on the part of whitewater enthusiasts for expansion of raftable water into this reach of the West Branch, we are only concerned within this context with flows adequate to allow passage up and down by canoe with a minimum of

RESPONSES TO PENOBSCOT INDIAN NATION ON UPPER PENOBSCOT RIVER BASIN DEIS

PIN-31 See response PIN-28

PIN-32 See response PIN-28

PIN-32
Cont

portage Since neither the applicant nor Staff has adequately studied the flows that would be needed for navigation (see next paragraph), we find Staff's negative conclusion concerning whether 350 cfs, or any other reasonable flow allocation in the BC, would provide for navigation, as unfounded.

The applicant has failed to provide adequate study of the issue of navigation in the BC, despite PIN's request to do so, and despite the Commission's *order* of June 8, 1992 (see Item 2 of FERC's AIR to the applicant) requiring that the applicant conduct additional study on the BC, including an investigation as to how recreation and navigation criteria would be met under their flow allocation proposal. Unfortunately, while the Commission ordered these investigations, it never conducted the proper follow up to assure that the "study" done by the applicant met the objectives of the PIN or FERC. This failure to follow up and require adequate study occurred despite the PIN pointing out the inadequacy of the applicant's response to the AIR in our comment letter dated May 21, 1993. The resulting "assessment" of this issue by the applicant was limited to one sentence. "As indicated by the enclosed video, the BC is not navigable by canoe" (applicant's response to AIR Item 2, dated 12/07/92). Since PIN was never provided the referenced video tape, despite requesting it from the applicant, we must assume that it was a tape of the BC at leakage, showing, obviously, that the reach was not canoeable at that flow. We see no other evidence in the applicant's response, nor in the application, that the objectives of PIN's *repeated requests* for navigation flow *study*, or FERC's AIR, were ever met by the applicant. Certainly, the referenced video tape would not adequately address the pertinent objectives, since we know that the BC would become navigable by canoe at some flow within the *range* that has *been* discussed for *fisheries* and *other purposes* in *these proceedings*.

E-204

Lastly, the DEIS leads the reader to believe that Staff conducted an independent study of this issue (although, as pointed out above, Staff has confused navigation with whitewater rafting), when in fact they have not. Referring to the statements quoted four paragraphs above, note that the first *statement* refers to section 4.8 (implying that more *explanation* is provided there). The only point in section 4.8 where this issue is mentioned is in the second quoted statement in the above-referenced paragraph, which cites "FERC 1993c", again implying that additional analysis or study is available from that citation. FERC (1993c) is Scoping Document 2 (SD2) for these projects. We reviewed SD2 in detail again. Page 21 (4.7) identifies whitewater boating in the BC, and page 20 (4.3) identifies compliance with water quality standards (which include designated uses) in the BC, as site-specific issues to be addressed in the DEIS. However, we note that, at the only other point in the document where whitewater boating is identified (FERC response under Item 6.10, page 32), Staff contradicts its obligation set forth in 4.7, by summarily dismissing the potential for whitewater boating enhancement, despite never having studied it. And in the only other section of SD2 where navigation flows could be addressed, namely, under 6.6 - Water Quality, we find that, despite the commitment that FERC sets forth to address PIN's and others' contention that leakage flows proposed for the BC are inadequate to *meet* applicable water quality standards (including designated uses), the DEIS fails to even mention, much less address to an adequate level, navigation flows in the BC.

Thus, the situation with respect to either navigation or recreation issues in the BC is that Staff has essentially no pertinent information to base an informed decision on, and has chosen instead

to neglect its responsibilities regarding these issues, and to falsely portray its conclusions as being based on some internal or independent analysis, which in fact was never conducted.

PIN-32 Cont

These inadequacies with respect to the issue of navigation in the BC must be fully addressed and resolved in the EIS.

Fisheries and Fisheries Management in Backchannel

On page 3-20, Staff recognizes that potential fish habitat in the BC is extensive. On page 4-28, Staff concludes that species other than salmon, including brook trout, would benefit from flow increase to the BC. Inexplicably, however, Staff fails to follow up these potential benefits to any meaningful level in the DEIS. Instead, Staff clings desperately to its contention that the only possible fisheries value from increased flows in the BC that it should have to address is that for landlocked salmon. This is a very narrow-minded approach, and demonstrates the strong tendency evident throughout this DEIS to avoid devoting any independent, insightful, or creative thought to these issues. In addition to mischaracterizing the potential for landlocked salmon management in this reach, the DEIS also fails to adequately consider other potential fishery management values of increased BC flows, and demonstrates general conceptual flaws in the overall approach to fisheries management for a zone of river where direct prior experience or empirical data is unavailable. We address each of these issues separately, starting with general conceptual issues, followed by landlocked salmon, followed by other potential fisheries enhancements.

PIN-33

E-205

General Concepts. Both the applicant and Staff have relied heavily on the robust landlocked salmon fishery that is currently supported in the West Branch below McKay station to rationalize resisting change in the flow regime for that reach. The applicant routinely has utilized the quality of this fishery to exempt it from having to consider other flow/fisheries management options below McKay which could impact its hydropower generation. While we do not dispute the quality of this fishery, the DEIS fails to recognize that this fishery developed purely by chance, as a direct result of decades of operation of the applicant's projects without flow and drawdown restrictions, and their overriding objective of maximizing annual hydropower generation from West Branch waters. There was no State management plan in place nor any significant management activities or monitoring by either the State or the applicant until comparatively recent times.

While the situation below McKay appears to have worked out to the mutual benefit of both the State's and the applicant's respective desires for landlocked salmon fisheries and hydropower, this by no means indicates that the current flow regime is optimal for salmon populations and fisheries, only that this fishery is of relatively high quality when compared against the statewide average. The point here is, that there were no predetermined fisheries goals either sought or required when the applicant began its artificial manipulation of flows in the West Branch decades ago. Instead, the projects have been operated for decades to maximize hydropower generation, which has resulted in the sacrifice of most of the resident brook trout fisheries that would have been available in this reach, in lieu of benefits toward salmon populations. As the West Branch drainage became more accessible and anglers became more affluent, they began arriving in ever

PIN-34

PIN-33 Opinion noted.

PIN-34 Opinions noted. Staff considers the applicant's proposed management of project waters, including the West Branch below McKay Station and the Back Channel to be the most balanced, reasonable alternative; we also conclude that their proposed measures are entirely consistent with state fisheries management plans from which staff take guidance in establishing enhancement measures and supported by the state fisheries agency (MDIFW). Therefore, we have not recommended additional modeling of the West Branch or enhancements in the Back Channel.

increasing numbers. They "discovered" the high quality salmon fishery that had developed there. Today, at the first real opportunity for the public to evaluate past project operations in relation to environmental protection or enhancement, the existing salmon fishery in the West Branch below McKay becomes worthy of the utmost level of protection in the eyes of those users who have become accustomed to its high quality. We do not question the validity of this perception by others.

PIN-34 Cont

What we do question is the tendency in this DEIS and similarly in the DEIS recently issued for the lower Penobscot River hydro project licensings (which was prepared by some of the same consultants which prepared this DEIS, including the lead fisheries consultant and deputy project manager), for Staff to presume that fishery management goals and objectives, and even year-to-year population sizes, must be firmly established for the entire next licensing term (i.e. 30-50 years), before Staff can assess such potential within its proposed licensing actions. This approach does not provide for any flexibility, or opportunity for experimentation and reevaluation, and thus we find this approach unrealistic and contrary to the way fisheries management actually occurs.

We believe that the situation with the BC, having been relegated to dry way for so many decades, dictates that considerable flexibility be afforded to the managers in terms of developing a fishery management scheme for that river reach. This is particularly true considering that we (collectively) lack empirical water quality, aquatic life, or fisheries data collected under a long-term adequate flow regime in the BC, to use as a baseline. Instead, we are faced with an existing condition and historical operating scenario that greatly constrains the level of certainty as to what the fisheries management options in the BC could or would be, once a stable flow is established during periods of non-spill. Had Staff addressed the BC instream flow issue with objectivity, it should have realized this.

Furthermore, if Staff had devoted the level of thought to this issue that we believe is necessary to fulfill its "equal consideration" mandates, it would have discovered that these management "constraints", instead of representing obstacles to be pitted against potential but uncertain fishery management objectives, actually represent a rare opportunity for resource managers, the applicant, and the Commission to become innovative and creative in developing fisheries management options in this reach. It is indeed unusual for managers to come upon a situation where there are no concrete expectations; most would be excited about the opportunity to have such a situation at their disposal. Again, Staff must recognize that DIFW's abandonment of the instream flow issues and fisheries management in the BC during the latter stages of consultation was not a biological decision.

PIN-35

Landlocked Salmon. In trying to support its pessimistic prognosis regarding the potential for a landlocked salmon fishery, Staff has relied exclusively on the data from the instream flow study, the applicant's subjective interpretation of those data, and the applicant's subjective opinion of the overall fisheries potential of the BC. Staff has not conducted any independent on-site evaluation, and it is doubtful that Staff has even seen any part of the BC when it contained flows in the range that have been considered for fisheries development in that reach. In employing this approach, Staff has drawn several unsubstantiated or erroneous conclusions, has

PIN-35 In our evaluation of the fisheries production potential of the Back Channel, we took into account all available data and study findings, including the results of the IFIM study in which both state and federal fisheries agencies participated. Species selection for that study was done in consultation with the fisheries management agencies, and we note that brook trout was not one of the species designated for consideration. The results of that report were reviewed and commented on by those agencies. We do not interpret those study findings as representing simply the "...applicant's opinion..." but as scientifically valid characterizations of the existing habitat. We have no data or information by which to validate your suggestions that the existing habitat may change in response to changes in flow regimes, and must thus consider it to be unsupported speculation. Our review of the record does not show that DOI or MDIFW raised that issue during the IFIM study. Our argument concerning the possible displacement impacts from spillage relate to the short length of the Back Channel above Grand Falls. While we have revised our text to reflect the fact that adult salmon might be able to ascend Grand Falls, it is not likely that young life stages would be able to do so. The Back Channel would also not benefit from any recruitment through displacement into the existing nursery habitat of young fish produced upstream, since no salmon production occurs above Stone Dam. Thus, the conditions in the Back Channel are quite different than those in the West Branch below McKay Station, where 27 miles of free flowing river occur, and movements of all life stages within this river reach are relatively unrestricted. Regarding predation, all existing data support our conclusion that Dolby Pond supports substantial populations of pickerel and smallmouth bass. Such population densities would not exist in a free flowing river system, and thus the level of potential predation downstream of Grand Falls is much greater than would occur in a natural riverine environment. Finally, we evaluated the need for flows in the Back Channel within the context of fisheries objectives established by the applicable fisheries management agency, MDIFW. FERC is not a fisheries management agency, but only seeks an appropriate balance among principal resource values within a waterway. We

failed to consider all viable alternatives for providing such a fishery, and has unjustifiably diminished the value of such fisheries.

Apparently, Staff defers to the applicant's opinion in contending that there is only a "very small amount" of potential adult salmon habitat in the BC (pages 4-29, 4-31). Based on the rather limited scope of the instream flow study, this might be a valid contention (PIN was not invited to participate in the flow study, and therefore cannot verify the applicant's conclusions from that study). However, the PIN participated in an on-site visit over the entire length of the BC at a flow of 50 cfs. While this flow was inadequate for adult salmon, we observed at least three long, deep ledge pools in the last quarter to half mile of the BC. We do not believe that any of these pools were included in the applicant's instream flow study area, however, with proper flow, these pools appear to have good potential for adult habitat and refugia during the warmer summer months. Since it is well documented that adult salmon readily move up and down throughout the West Branch below McKay, depending on season and food availability, spending some time in virtually every habitat type available (including deadwaters/flowages in the winter), we see no reason why the same naturalized scenario could not occur in the BC. Just because the preponderance of adult habitat is located in one particular section of the BC doesn't decrease the value or utility of that habitat for the life history purpose it would serve.

PIN-35 Cont

Similarly, Staff contends that spawning habitat is lacking in the BC. In doing so, Staff demonstrates that it is unfamiliar with where such habitat occurs, and what causes it to occur. First of all, spawning habitat for salmonids in general, at least in Maine, is almost always contained in localized pockets, where physical characteristics such as gradient, and where physical processes such as weathering and seasonal water flow patterns, come together to produce the exacting conditions that permit the appropriate substrate to accumulate, while simultaneously providing the microhabitat flow and depth characteristics necessary for the spawning substrate to successfully incubate salmonid eggs. In addition, it is well documented in the scientific literature that it takes only a relatively small amount (in proportion to other habitat types) of high quality spawning habitat to sustain a viable population. Because such habitat is localized, it is unlikely that the two study sites selected in the BC would produce representative data as to the true availability or adequacy of this specialized habitat in the BC. In addition, since the BC has only received spillage flows for many decades, whatever spawning habitat was there before the applicant assumed its control over the drainage would not have been historically maintained by other natural cleansing processes, and thus may have become embedded. The only way that true spawning habitat potential could be determined is by passing an adequate minimum flow during periods of non-spill for several years, to allow habitat characteristics and natural processes to stabilize under the new regime.

Even if it is true that existing spawning habitat is limiting or is embedded, we do not see how this precludes the possibility that new spawning habitat could be introduced, or that existing but embedded habitat could be physically cleaned to improve its suitability. The former option would be consistent with Staff's recent proposed action in the DEIS for the lower Penobscot River, where it recommended that the applicant place habitat in an existing project tailrace as mitigation for lost fishing and resting lies for Atlantic salmon.

PIN-35 Cont establish those resource values within the context of management objectives of the agencies responsible for their stewardship and do not establish independent management objectives.

PIN-35 Cont

Staff contends that annual spillage at Stone Dam will displace any salmon that might occur in the BC under increased minimum flows, that these fish will experience heavy predation in downstream waters, and that displaced fish would not be capable of returning to the BC because of Grand Falls. Concerning displacement, we would contend that this is an artificially contrived obstacle. First of all, high spring spillage flows occur in hundreds of regulated and unregulated stream and river systems throughout Maine, many of which contain robust, self-sustaining populations of coldwater species, including salmon. The fact that salmon thrive in the West Branch below McKay, at summer flows far higher than would occur naturally, indicates that they are well adapted to cope with such flows. Granted that spillage at Stone Dam is greater at times than the regulated flow below McKay, we would note that spillage also occurs at Ripogenus. We believe that any fish that may be displaced could find temporary refuge in one of the three large ledge pools we identified in our discussion above on adult habitat, until flow conditions allowed them to redistribute through the BC.

Staff's contention that any displaced salmon would not be able to move back over Grand Falls if they chose to, is unfounded. Staff has apparently not examined Grand Falls at flows in the range that is being considered. PIN viewed Grand Falls at 50 cfs, and, while this flow appeared marginal in terms of the ability for salmon to negotiate the falls, it was obvious that additional flow would markedly improve this situation. Grand Falls, while a total of 15 feet in height, actually was series of several smaller drops at 50 cfs, each with a small holding pool in between, and in our view could be surmounted by at least adult and larger sub-adult salmon at the proper flow (which has yet to be determined because the instream flow study did not address this issue).

E-208

Regarding potential losses of displaced fish to downstream predation, this would occur whether the applicant managed the waterway as it does today or if it were entirely undammed and unregulated. Predation losses are simply a fact of nature, and are not pertinent to the true potential for development of a salmon fishery in the BC above Grand Falls.

In summary, Staff's choice to approach the potential for management of salmon in the BC in a confrontational and obstructional way, and draw conclusions which are unsubstantiated in the record or conceptually flawed, reflects a fundamental level of negligence with respect to the Commission's own mandate to give equal consideration to fish and wildlife benefits in its consideration of licensing actions. We recommend that Staff abandon this misguided approach and instead concentrate its efforts in identifying and pursuing positive ways under which such potential could be realized, an approach that would be more consistent with its equal consideration obligations.

PIN-36

Brook Trout. While landlocked salmon was a "key" species for consideration in relation to increased BC flows, inasmuch as it was identified as such early in the consultation with DIFW, it is by no means the only species for which management in the BC could be attempted. It is a logical starting point, since the species is well established in project waters upstream and is in high demand in the region by anglers. The PIN was not included in early consultations nor in the salmon habitat/flow study conducted by the applicant. If we had been, we certainly would have asked that other logical potential indigenous species for providing a fishery, such as brook trout, also be examined.

PIN-36 Opinion noted. See response PIN-35.

PIN-36 Cont

Staff admits on page 4-28 that flows in the range being considered would benefit brook trout fisheries in the BC as well as their preferred food supply, macroinvertebrates. Staff also correctly identifies that native brook trout are present in the three tributaries to the BC. However, instead of pursuing this highly viable option, Staff again shrouds itself in the inappropriate assumption that only landlocked salmon, the "key gamefish of concern", should be seriously considered. However, as far as the PIN is concerned, landlocked salmon was singled out as a "key" species only because it is the species which DIFW initially was considering for management. Since DIFW has abandoned its initial plans for fisheries management in the BC, we see no reason why landlocked salmon must be the only species under consideration. The fact that the State chose to abandon its obligations to provide fisheries where an opportunity clearly exists should not preclude others, which have greater or more genuine interest in the resource potential represented by the BC, from pursuing that interest.

Further support for the potential value of the BC for a brook trout fishery stems from the fact that the flows being considered for the BC, including the highest flow of 945 cfs contemplated by USFWS, are significantly lower than the applicant's historic and proposed flows in the West Branch below McKay, which heavily favor salmon at the expense of brook trout. Since it is widely recognized in Maine waters that, all other factors being equal, flows that would be optimum for brook trout are likely to be lower than optimum flows for salmon, we see the potential for brook trout fishery management as going hand-in-hand with lessening the burden of BC flows on the applicant's economic interests. In fact, this would appear to be a perfect opportunity to at least initiate movement towards "equal consideration", and more balanced use of a waterway, at least for that portion of the river represented by Stone Dam, the BC, and the Millinocket power station and canal.

In addition, PIN, USFWS, TU and others have raised concerns in relation to lost brook trout populations and fisheries in the project areas due to impoundment drawdowns and artificially high flows in the West Branch below McKay, which favor salmon at the expense of brook trout. These groups have repeatedly argued that instream flow studies be conducted in the West Branch below McKay to quantify potential brook trout habitat at different flows, and to quantify the loss of brook trout potential due to the applicant's proposed artificially high flow regime. Beyond the issue of whether the Commission's decision not to require these studies is proper, the potential for a brook trout fishery in the BC should be viewed by Staff as a prime opportunity to mitigate for some of the almost certain diminishment of brook trout resources that has occurred historically, especially in the Ripogenus impoundment and the West Branch below McKay, due to the applicant's impoundment drawdowns and artificially high flow regimes.

Lastly, we would offer that a healthy mixture of both landlocked salmon and brook trout in the BC has just as much potential feasibility as a fishery dominated by either species, assuming an adequate and appropriate minimum flow is afforded.

PIN-37

American Eel. As reflected by our above discussion of brook trout potential in the BC, Staff's approach to BC fisheries has been unnecessarily restricted to a single species, and in essence, a single life stage (adult landlocked salmon) and purpose (sportfishing). While Staff routinely takes this approach in this DEIS, and similarly in the DEIS recently issued for the lower

PIN-37 Opinion noted. See response PIN-35.

E-209

PIN-37 Cont

Penobscot. this reflects a scientifically outdated. piecemeal approach to resource management issues. By failing to account for all potential benefits of adequately watered riverine habitat. and instead focusing entirely on a single resource entity within that habitat. the value derived from the flow allocation is grossly underestimated. and the cost/benefit relationship grossly overestimated. Staff fails to recognize that physical habitat is the ecological foundation for all biotic potential. One must have the habitat to work with before the full biotic potential of that habitat can be realized and developed. In contrast. Staff's approach of focussing on one species. usually one representing the top level of the ecological pyramid. and at the exclusion of all others. precludes the resource managers from ever having the opportunity to explore and develop the full ecological potential of the aquatic habitat that would otherwise be at their disposal.

A case in point concerns the American eel. While we discuss eels in more detail and broader context in a later section of our comments (see section "IV" below), increased flow in the BC stands to benefit American eel populations, and provide at least some initial mitigation for the extensive damages to these populations caused by the construction of numerous dams without fish passage, and in the specific case of the BC, due also to the disposal of this section of the West Branch to dryway for many decades. If additional flow were provided to the BC, it is likely that any subadult eels that do make it up as far as the Dolby impoundment would not only have the BC itself as additional potential production habitat, but will also have far better opportunity during the dry months to move further up into the drainage into areas where continuing impacts of hydro project operation have essentially eliminated viable populations from these waters. Upstream and downstream fish passage at Stone Dam would provide the best opportunity for this to occur. However, even without such passage, at least some additional eels will likely be able to enter upper project waters (by crawling over the face of, or around, Stone Dam), and thus enhance the total adult eel production potential of the drainage, particularly in comparison to the case under existing conditions, where the only passage route during no-spill periods would be up through the turbines at Millinocket Development (i.e. highly unlikely).

PIN-38

Anadromous Fisheries Restoration. Waters of the West Branch once provided high quality adult spawning and juvenile nursery habitat for all of the anadromous fish species native to the Penobscot River, except perhaps the sturgeons, prior to the construction of numerous dams without fish passage. The complete loss of these fisheries over a comparatively brief period of time greatly impacts present day opportunity for Penobscot Indians to harvest such fish for subsistence purposes. The significance of this loss is magnified by the fact that many resident fisheries of the West Branch (which could represent additional subsistence fishing resources), contain dangerous levels of contaminants such as mercury, causing them to be unfit for subsistence fishing purposes. Resident fisheries further downstream contain not only unsafe levels of mercury but also dangerous levels of dioxin and other complex chlorinated contaminants, also making them unsafe for subsistence consumption.

We recognize that the State ASRSC and DMR, respectively, identify no currently active plans to open up the West Branch for enhanced Atlantic salmon, or clupeid (alewife and shad), restoration. However, we believe, based on discussions with them, that this present-day approach reflects only their short term interest and management/restoration capability. We believe that both agencies would express interest in expanding these programs, particularly with

PIN-38 Any license issued for these projects would include an article that would ensure that fish passage facilities could be provided in the future, as deemed necessary by Interior.

Restoration of anadromous species to the west branch of the Penobscot River has not been proposed in any current plans and is therefore not a reasonably foreseeable action that can be considered in this EIS.

PIN-38 Cont

the assistance of others, to a point at least as far upstream as Stone Dam, as restorations advance and fish passage is constructed. The PIN is very interested in this potential long term eventuality, and we know that USFWS is also interested in, and supportive of, such future efforts. Based on the available data from the instream flow study, which indicates an abundance of juvenile landlocked Atlantic salmon habitat at fairly low flows (compared to the applicant's generation flows), and based on the extremely close similarity in juvenile habitat requirements between landlocked Atlantic salmon and anadromous Atlantic salmon, we see the potential long term value of increased flows in the BC (along with Millinocket Stream), toward enhanced juvenile Atlantic salmon production, to be quite significant as well as attainable within the term of any new license issued.

PIN's long term goals in the BC, and in Millinocket Stream, do include this consideration of the potential for enhanced juvenile production of Atlantic salmon in these waters. In the shorter term, adequate minimum flows in the BC will provide the opportunity to examine physical, chemical and biological aspects of this river reach while it develops and supports resident fisheries and other aquatic life under a permanently flowed condition. Thus, when anadromous fish restoration moves into the West Branch drainage, we will have a solid information base upon which to develop restoration and management strategies for these species in these reaches.

Biodiversity

PIN-39

In the same light in which we have portrayed the diverse potential for both enhanced sport and food fisheries from increased flows in the BC, we rationalize the expansion of broad ecological benefits, to include the very core of healthy, functioning aquatic ecosystems, namely, biodiversity. The PIN has expressed its concern to the Commission regarding the loss of biodiversity in the Penobscot River drainage due to the construction of dams, which convert physically and biologically heterogenous free-flowing habitats into homogenous impoundments. The PIN requested that Staff conduct a cumulative impact analysis on biodiversity in this DEIS. Staff neither heeded our request nor provided any explanation as to why this critical issue was ignored. However, beyond the fact that Staff's negligence in this area has caused this DEIS to be inadequate in terms of addressing the cumulative environmental impacts of the applicant's operation of these projects, Staff does imply that increased flows in the BC would have value in restoring part of the lost biodiversity (at least, macroinvertebrates, page 4-28) in the West Branch subdrainage, and particularly in the Penobscot Mills Project area. Under existing conditions, there is virtually no significant portions of free-flowing, permanently watered riverine habitat in the Penobscot Mills Project area, as essentially every foot has been converted to impoundment. The cumulative impact on aquatic organisms that depend partially or entirely on this habitat type for their survival, while never quantified (though we requested that it be), is likely substantial.

Increased flows in the BC affords an ideal opportunity to regain some of the lost diversity due to the numerous dams in the West Branch subdrainage. Staff should seriously consider this broad, ecosystem-based value of increased flows in the BC, along with continued consideration of traditional multiple resource enhancements such as sport and food fisheries, in determining

PIN-39 See response to PIN-14.

the overall value and benefit of increased flow in the BC.

I. BACK CHANNEL (continued)

B. Flow Allocation Options

PIN-40

Beginning with our comment letter to the Commission dated February 27, 1992 (Request for Additional Scientific Study), and continuing in filings dated May 23, 1993 and October 4, 1993, the PIN has recommended that Staff evaluate the allocation of flow to the BC by splitting the flow which would otherwise arrive at Stone Dam as a result of implementing the Water Use Plan for project waters above that point, rather than drawing additional flow from upstream waters (i.e. the applicant's long-standing approach). Despite these repeated requests, Staff has never addressed this highly pertinent alternative in this proceeding, even though there is absolutely no objective rationale for dismissing this option.

We find this omission very disturbing. Not only does it indicate, again, that our comments and participation in this process have been essentially ignored, but it also predisposes other portions of Staff's implied "independent" analysis, and "carefully considered" deliberation, to serious questioning in terms of the level of comprehensiveness, objectivity, accuracy, and responsibility provided in its proposed licensing actions.

In addition, the failure to consider this flow allocation alternative compounds itself in the DEIS, causing Staff's conclusions regarding the actual cost and indirect water availability impacts of BC flows to be inappropriate and indefensible. For example, all discussions contained on pages 4-5 through 4-8, and page 5-8 (and, perhaps elsewhere as well), where Staff attempts to cite adverse impacts of BC flows on other parts of the WUP, particularly those upstream of Stone Dam, are irrelevant, if flow is delivered in the way PIN recommends. The only project-related impact of a split-flow approach to BC flow allocation is the direct loss of hydro generation at Millinocket, which is currently undergoing plant rationalization with concurrent reduced energy requirements.

We continue to recommend that this flow allocation alternative for the BC receive equal consideration in this EIS, and if this does not occur, we will consider any subsequent EIS document issued by the Commission to be deficient and unacceptable, on this basis alone. And, in an effort to eliminate at the outset a potential obstacle to considering this flow allocation alternative, namely the 2000 cfs minimum flow requirement at Millinocket Development, we believe, based on discussions with DEP's Water Bureau in 1991, that they would agree to move the compliance point for this 2000 cfs requirement (which, according to them, is in place primarily, if not exclusively, for the purposes of diluting the waste water discharge from the applicant's Millinocket paper mill discharge), downstream to where flows from Millinocket Development and the BC would recombine, effectively removing this obstacle from the issue of providing BC flows via a split flow regime.

We can also identify other available options and innovations for providing increased flow to the BC, which could diminish the overall cost to the applicant, but which the DEIS fails to consider.

PIN-40 See response to PIN-2.

PIN-40 Cont

For instance, Staff could examine a seasonal flow regime, which could begin each spring with one flow allocation at the point when spill at Stone Dam falls below that allocation, but then could be seasonally varied to reflect what would happen, on a gross cyclical basis, if natural flows were occurring in this reach. In other words, flows to the BC could be gradually decreased from the spring starting point, over the course of the summer, until they reached a floor minimum in late summer, then increased slightly in the fall, and maintained through the winter, to protect any salmonid spawning that has occurred. This would save the applicant considerable amounts of water, particularly during the driest times of the year, and would be a functional approach regardless of the absolute numerical value of the spring flow allocation starting point.

Another viable option that could be considered, either independently or in concert with the above idea, would be to have specific minimum flow scenarios for dry, average, and wet years. We are unsure how predictable future monthly water availability during a given water year might be, however, it would seem that with one to two months of advanced predictability, subsequent monthly flow allocations to the BC could be adjusted to reflect the gross water storage availability for that water year at that time. If feasible, this would seem to be another option for providing adequate flows in the BC while cutting the cost of that allocation to the applicant, particularly in dry years when less total water would be available.

The feasibility of these flow allocation innovations should be studied and discussed in the EIS.

E-213

I. BACK CHANNEL (continued)

C. Cost of Flow and Cost Recovery Options

PIN-41

We put little stock in the applicant's contention that it will be forced to lay off significant numbers of workers if an increased minimum flow is allocated to the BC. We have observed in the recent past this same entity, during the proceedings related to their proposal to build a new dam at "Big A Falls" on the West Branch, making these same claims (in relation to the possibility that it would not get a license to build the project), only to have the claims proven false by intervenors in that process. We also suspect that the highly volatile and competitive industry and market for pulp and paper products is a much more significant driving force in terms of the employment at the applicant's mill than the comparatively small amount of lost generation (only 2.8% of annual generation at 350 cfs in the BC) that would occur with additional flow in the BC.

In addition, the likelihood that potential job losses due to increased flow in the BC are falsely inflated is born out in pertinent sections of the DEIS. On page 4-74 (4.12.3.3), the DEIS states that "GNP states that any minimum Back Channel flows greater than 50 cfs would directly jeopardize 238 mill jobs..." This would imply that job losses would go from none at 50 cfs, to 238 at, for example, 60 cfs. On page 4-73 (top paragraph), the DEIS states that "GNP contends that providing flows of 350 cfs in Back Channel...[will cost]...approximately 238 mill jobs". Since it is logical to conclude that the relationship between flow allocation and potential job losses, assuming any such losses would actually occur, is one of direct proportion between the

PIN-41 The staff agrees that Alternative 2 (final recommendation) would not adversely affect the competitiveness of GNP's mills, nor would it result in a loss of employment at the mills. We do not agree that there is a direct relationship between the amount of Back Channel flows and the potential number of jobs lost. A flow threshold exists that, if exceeded, would require shutting down an entire production line. It is difficult to identify the threshold at which an increase in the applicant's power costs due to increased flows in the Back Channel would be significant enough to cause production cutbacks and job loss. We conclude that the costs associated with flows in the Back Channel outweigh the few benefits that would result.

amount of flow and the number of jobs, then both of these statements cannot be true. Assuming that the applicant has carefully considered its interests in forwarding these statistics, we can only conclude that the 238 figure is relevant to the 350 cfs allocation, and that lesser flows would mean lower potential job losses. The DEIS fails to recognize this and thus overestimates the economic impact to the applicant of flows lower than 350 cfs, such as the 165 cfs figure that Staff considers in Alternative 2.

PIN-41 Cont

The DEIS also discusses the impact of BC flows on lost internal generation at the applicant's mills (about $400K/year at 165 cfs and 900K/year at 350 cfs). Since FERC has neither comprehensively assessed nor seriously considered the adverse impacts of the applicant's Millinocket and East Millinocket mills on the environment of the West Branch below the mills, anywhere within the context of these hydro project relicensing proposals (although we would prefer such an approach, since there is little doubt that adverse impacts such as mercury contamination and anoxic hypolimnetic waters in Dolby Pond are a result of the combination of hydro project operation and mill discharges), we find it inappropriate to assign such costs against the environmental benefits that increased BC flows, an issue which is an integral part of these licensing actions, would provide.

Lastly, the DEIS fails to consider at least one available cost-recovery option for lost generation due to increased BC flows, namely, the placement of an appropriately sized turbine at Stone Dam. We recommended in our scoping comments that this be evaluated. We see no evidence in the DEIS that it has been. This option should be seriously considered in this EIS.

II. MERCURY CONTAMINATION OF SEDIMENTS, WATER, AND BIOTA

PIN-42

The impact of historic use of mercuric compounds in the pulp and paper industry, and the impact of extensive annual impoundment drawdowns, or project operation/existence in general, on mercury contamination levels and dynamics, have been irresponsibly diminished or dismissed in this DEIS. Beyond the critical pertinence of these issues towards the safe consumption of fish and wildlife resources from the project areas by tribal members, the impacts of mercury contamination in project sediment, water and biota may be detrimentally impacting bald eagles, which are, much like Atlantic salmon, culturally significant to the PIN.

On pages 3-12, 3-13, and 4-8 through 4-11, the DEIS discusses the applicant's mercury contamination studies and basically reiterates the applicant's opinion and interpretation of the meaning and significance of the results. The discussion so provided demonstrates little if any independent or objective thought or analysis on the part of Staff. In choosing this casual approach, Staff has ignored pertinent information in the record supplied by PIN and others, and because of this shortcoming, draws erroneous or unsupported conclusions regarding mercury contamination issues in project sediments, water and biota. We provide several examples below. Subsequently, again compounding its initial errors in judgement, Staff dismisses mercury contamination issues entirely from its "Conclusions" section (5.0) and thus from its proposed licensing actions.

PIN-42 See response to PIN-13 and PIN-24.

PIN-42
Cont

In our first example, page 3-11 of the DEIS cites EPA (1993) in stating that "EPA's fish consumption guideline is 0.6 micrograms per gram of total mercury in edible fish tissue". We consulted EPA (1993) as it is listed in the literature cited. It contains nothing regarding mercury contamination guidelines and, instead, is Volume I of a pending four volume series by EPA on a myriad of fish contamination issues. Volume I only contains guidelines for how to collect, prepare, and analyze fish for contaminants. Volume II of this series, on the other hand, deals with risk assessment and consumption limits, is dated June, 1994, and has EPA reference number 823-B-94-004, which does not match the reference number in the DEIS citation. In addition, we cannot verify from Volume II, which contains EPA's contamination level guidelines, any level even near Staff's 0.6 mcg/g as being an EPA consumption guideline.

We are unsure where Staff actually obtained its information, however, it is incorrect and must be rectified in the EIS. We therefore recommend that Staff obtain the correct document and consult tables 3-55 through 3-59. Note that these tables are for methylmercury, not total mercury, because EPA has determined that the overwhelming proportion of mercury contamination in biota is of this form, which is the toxic form. The tables contain consumption rate guidelines for several combinations of age/sex grouping, time period over which consumption occurs, and category of human health impacts. For evaluation of the impacts of mercury contamination in project area fish in relation to tribal subsistence fishing, Staff should use the 12-ounce meal size column (i.e. above average meal size), and the lowest mercury concentration at which the recommended consumption limit changes from unlimited (UNLIM) to anything lower, since subsistence fishers must be permitted to safely consume fish as a primary food source and at unlimited levels.

In a second example, PIN recommended in our scoping comments that FERC consult several references concerning the historical use of mercuric slimicides by the pulp and paper industry (generally pre-1965), and also to investigate the existence of, and obtain, any records of such usage available from the applicant. We see no evidence in the DEIS that either of these tasks were ever addressed at even a cursory level, even though Scoping Document 2 (section 6.6, page 29) indicates that they would be. These investigations are very pertinent to determining possible reasons for significantly higher sediment mercury levels in Dolby Pond sediments (i.e. below the Millinocket mill) when compared to sediment levels in impoundments above the mill.

In a third example, the DEIS correctly indicates that PIN and USFWS were involved in the consultation on the applicant's mercury contamination study plan, developed in response to FERC's June 8, 1992 AIR to the applicant, Item 8. However, the DEIS fails to discuss the fact that, despite this consultation, the applicant did not feel it was compelled to address many of PIN's and USFWS's study design recommendations, including one that was crucial to the determination of the extent that project operation has contributed to mercury contamination in project waters. Both PIN and USFWS strongly recommended that sediment core samples, rather than traditional sediment surface, grab-type samples, be collected, and portioned into time series segments to correspond to major changes in human activity which could have influenced the deposition rate of mercury in project waters. The applicant refused to collect core samples, and FERC apparently never followed up, despite the PIN discussing in detail, in our May 21, 1993 comment letter, the limitation that this study design shortcoming would have on gaining insight

into the relationship of past project operation to mercury contamination in project waters

PIN-42 Cont

In a last example, the DEIS concludes that, regardless of what levels of mercury were found in project area fish tissue, the differences in those levels between project and non-project lakes were not statistically significant, thus, any link to project operation can be ruled out. Since there is no indication in the DEIS that Staff conducted any independent statistical analysis, we must assume that Staff has again simply reiterated what the applicant's interpretation of their own statistical assessment indicated. However, Staff has apparently ignored the December 30, 1992 letter and statistical analysis conducted by Dr. Terry Haines of the University of Maine, one of the foremost mercury contamination experts in the Northeast, despite this document being a part of the record for this proceeding. In contrast to the applicant's analysis of the mercury study results, Dr. Haines' analysis indicated that lake trout and smelt from project lakes had statistically significantly higher mercury levels than fish from control lakes.

In summary, we disagree with Staff's conclusions regarding the effects of project existence and operation on mercury contamination in project area sediments, water, and biota. We recommend that the two licensing conditions expressed in the pertinent section of our May 21, 1993 filing with the Commission (Terms and Conditions) be incorporated into any new licenses issued for these projects.

III. DOLBY POND

PIN-43

We continue to assert that existing water quality conditions in Dolby Pond cause that water body not to meet all applicable water quality standards, especially those addressing dissolved oxygen requirements and habitat for indigenous fish and aquatic life. We reviewed Staff's analysis and conclusions regarding Dolby dissolved oxygen levels, and we are not convinced that the analysis presented is logical, or that the conclusions so drawn are defensible. In contrast, we continue to believe that the combination of mill wastewater discharge and operation of the Dolby impoundment are the primary factors responsible for the failure of this water body to meet its riverine classification standard, and also the primary factors exacerbating the accumulation in Dolby impoundment sediments and biota of contaminants such as mercury.

We recommend that the applicant be required to conduct post-licensing study in consultation with PIN, and others as appropriate, to provide further insight into the connection between project operation and these water quality and contaminant problems in Dolby Pond. In addition, we recommend that the applicant be required, based on the results of such studies and an analysis of available remedial alternatives, to develop and implement feasible remedial measures, in consultation with PIN, and others as appropriate.

IV. AMERICAN EEL IMPACT ANALYSIS

PIN-44

The eel is a catadromous species which is native to the Penobscot River drainage and which was abundant in virtually all waters of the drainage, including the West Branch, prior to the industrial revolution and the subsequent construction of numerous dams in the drainage without fish passage. The eel is of high importance to the PIN in relation to our sustenance fishing

PIN-43 See response to PIN-12.

PIN-44 We reviewed the information you refer to and have added text to the affected environment and impact sections of the FEIS pertaining to American eel.

PIN-44 Cont

rights in the Penobscot River, and is subject to growing commercial fisheries. This importance is identified in our scoping comments, where we asked the Commission to conduct a cumulative impact analysis in this DEIS (which was never done), and in the extensive comments on this resource in our recent filing with the Commission on the lower Penobscot River DEIS. Recent insight from lifetime eel fishers, one of which also operated a hydro power dam on the Kennebec River in Maine for over 20 years, indicate that impacts to downstream migrating adult eels forced to pass through turbines are extensive, and likely much greater than anyone ever anticipated.

One eel weir fisher on the Passadumkeag River, a tributary to the mainstem Penobscot, has developed an agreement with a hydro operator upstream wherein the operator shuts down the turbines during selected overnight periods when the peak eel migrations are expected to occur each year. The eel fisher maintains that eel catch in his tributary increased substantially in years subsequent to this agreement. Further evidence supporting the significance of turbine passage impacts on eels is available from the Commission's own recent actions with respect to mitigation at the Columbia Dam Project (FERC #8396-013), where the licensee is being required to modify project structures and operations in order to at least partially mitigate for the adverse impacts of project operation on long term sustainability and viability of eel populations in the river in question.

The West Branch basin represents a potentially significant habitat resource for the production of American eels, which, while present in limited numbers in the project areas (but in progressively decreasing numbers as each impassable dam is encountered), are in serious decline throughout the Penobscot River drainage and in other large Maine rivers. Declines in the numbers of young eels reaching West Branch production areas, and the number of adults reaching the estuary, have almost certainly occurred, and are continuing to occur, in large part due to the presence of numerous dams lacking upstream (except North Twin) and downstream fish passage. The DEIS inadequately addresses past and continuing cumulative adverse impacts to eel populations in the Penobscot River, as well as impacts resulting from Staff's recommended licensing alternatives for these projects. We continue to recommend that this EIS provide an adequate cumulative impact analysis on American eel within the context of existing project operation and Staff's proposed licensing actions for these projects. Furthermore, we recommend that, in addition to the site-specific mitigation that could result from increased flows in the Back Channel (see discussion under "BACK CHANNEL: American Eel"), Staff should evaluate and adopt additional appropriate mitigation measures, including any of those utilized at the above-referenced Columbia Dam Project (FERC #8396-013) which could provide benefits here, in its licensing actions for these projects.

E-217

V. PRESENT AND FUTURE FISH PASSAGE NEEDS\ISSUES

PIN-45

On pages 4-25 and 4-26, the DEIS discusses fish passage issues and needs in the project areas. While we agree that anadromous species are currently absent from project waters, the DEIS fails to point out that the primary reason for this absence in the Penobscot Mills project area today is the total lack of fish passage facilities at the three lower dams on the West Branch, including the Medway Project Dam which is not operated by the applicant. In addition, the DEIS fails

PIN-45 See response to PIN-38.

COMMENTS FROM PENOBSCOT INDIAN NATION ON UPPER PENOBSCOT RIVER BASIN DEIS

PIN-45 Cont

to recognize that catadromous American eels require upstream, and especially downstream fish passage facilities, to minimize life history impacts of project operation on that species.

While we are not recommending fish passage facilities at Penobscot Mills Project dams at this time, we would alert FERC that it is likely that we will seek the construction of fish passage at one or more of the lower project dams within the term of any new license issued for this project. This foresight is consistent with our long term goals for restoration of native anadromous fisheries to the Penobscot River, including, eventually, waters of the West Branch where these species were historically present (see additional discussion under I. BACK CHANNEL, Anadromous Fish Restoration).

We expect that USFWS's reservation of Section 18 authority within any new license issued for this project would provide the mechanism for us to seek such facilities in the future.

PIN-46

Lastly, on page 4-26, under 4.4.1.7, the DEIS concludes that "impoundment and river reach populations [of smallmouth bass and pickerel] do not interact (i.e. they do not migrate between waters)". This implies that lack of movement between such reaches is a chosen behavior. Years of video tape data at the West Enfield Project upstream fishway window clearly indicate that this is not the case, at least not for bass. Countless numbers of bass move up and down through the fishway annually, indicating that, if given the choice (of behavior), at least some bass will likely choose to move between impoundment and river reach segments. The only reason that this movement may not occur in the project area now is because it is not physically possible for them to do so (i.e. no fish passage).

This concludes our supplemental comments on the DEIS for the upper Penobscot River Basin. Please feel free to contact me (207-539-8219) should you have any questions.

Sincerely yours,

Paul Bisulca

Asst. to the Governor
on Environmental Affairs

Distribution

FERC Service Lists #2458; #2572

RESPONSES TO PENOBSCOT INDIAN NATION ON UPPER PENOBSCOT RIVER BASIN DEIS

PIN-46 We have changed the wording of the FEIS to reflect that the non-migratory behavior may not be a chosen behavior. However, staff believe that fish passage for bass and pickerel is unnecessary and, in certain situations, undesirable. The proliferation of these species since their introductions to the Penobscot basin is an indication that they are capable of thriving in discrete riverine segments or impoundments.

PIN-47 No response required.

Office of the Governor and Council
Richard H. Hamilton
Governor
Arnold E. Neptune
Lt. Governor
Priscilla Attean
Representative

Community Building
BIOLOGICAL SCIENCES AND FA[illegible] Indian Island
Old Town, Maine 04468
(207) 827-7776
FAX (207) 827-8042

March 10, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, DC 20426

RE: FERC PROJECTS #2458 AND #2572; MINOR CORRECTION OF PENOBSCOT INDIAN NATION'S SUPPLEMENTAL COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE PENOBSCOT RIVER BASIN IN MAINE.

Dear Secretary Cashell:

PIN-47

By letter dated March 9, 1995, the Penobscot Indian Nation submitted its completion of comments to the Commission on the Draft Environmental Impact Statement for the Penobscot River in Maine (FERC Projects #2458 and #2572).

When our letter was in the final stage of preparation, an oversight occurred which caused two minor changes on the last page (p. 20) of our letter not to be executed. While we caught these omissions prior to serving copies of our letter on the Service List parties, unfortunately, the original and eight copies that were sent to your attention did not contain the corrections and had already been picked up by the overnight courier.

One of the two intended alterations was cosmetic only; a missing "close parenthesis" and period. The other, however, was of minor substance, in that, the correction was necessary to allow an errant sentence to make sense within the context of the paragraph where it was located. The sentence we refer to is the second sentence in the last full paragraph of the last page of our March 9 letter. The uncorrected version reads; "This implies that movement between such reaches is a behavioral phenomena". The corrected version should read; "This implies that lack of movement between such reaches is a chosen behavior".

All copies sent to Service List parties, and the copy sent directly to the FERC Staff Project Task Officer for this EIS, Edward Meyer, contain the corrected sentence. Only the original and eight copies sent to your attention do not. We would ask that this letter of notification be filed in the appropriate project docket(s), such that there is no confusion in the future as to why this minor difference exists between the Commission's and others' copies of our March 9 letter. If the Secretary would prefer that we supply a corrected original and eight new corrected copies, we would be glad to do so. Please have the project officer contact my staff assistant, Clem Fay, at 207-827-7776, ext 230) at his convenience, if this is desired.

We have included a copy of this letter with the corrected copies of our March 9 letter sent to the Service List parties in this proceeding. We apologize for any inconvenience due to this oversight. Thank you in advance for your attention to this matter.

Sincerely yours,

Paul Bisulca

Asst. to the Governor
on Environmental Affairs

E-219

COMMENTS FROM SAVE OUR SCENIC LAKES ASSOCIATION
ON UPPER PENOBSCOT RIVER BASIN DEIS

RESPONSES TO SAVE OUR SCENIC LAKES ASSOCIATION
ON UPPER PENOBSCOT RIVER BASIN DEIS

No response required.

SAVE OUR SCENIC LAKES ASSOCIATION

P.O. BOX 441
MILLINOCKET, ME 04462

January 25, 1995

COMMENTS

Lois Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 202426

RE: Application for Major License (Type of Application)

Penobscot Mills Hydroelectric Project (Project Name)

FERC No. 2458

Dear Secretary Cashell:

Mr. John McDevitt, President of the Save our Scenic Lake Association announced today that his organization is withdrawing their opposition to the re-licensing of the Great Northern Paper Dams in the Penobscot River Basin and he intends to support the company's relicensing efforts at the January 25th hearing in Millinocket.

The SOSLA had originally intervened in opposition to the relicensing because of the unrestricted water level fluctuation in the North Twin Impoundment. The SOSLA was also opposed to the water use plan's computer model that set August 15 as the date to begin the drawdown of the North Twin impoundment and argued in favor of August 22nd in order to provide more predictable water levels for those persons using the North Twin impoundment during the summer recreational season.

Now that the Federal Energy Regulatory Commissions's (FERC) Draft Environmental Impact Statement agree's with both positions of SOSLA - (pp. 4-55) and that Great Northern Paper officials intend to accept these staff recommendations which establishes stable water levels and sets August 22nd, as the drawdown date, we now feel that the re-licensing process has worked for the SOSLA and the company and nothing further can be served by SOSLA acting in opposition to the re-licensing.

Dedicated to the Preservation of Recreational Water Levels

COMMENTS FROM SAVE OUR SCENIC LAKES ASSOCIATION ON UPPER PENOBSCOT RIVER BASIN DEIS

Mr. McDevitt has been assured in conversations with Mr. Brian Stetson, manager of Environmental Affairs for Great Northern Paper that G.N.P. will accept the findings of the FERC staff that provides for stable water levels and establishes August 22 as the benchmark date for the beginning of the North Twin impoundment drawdown and that they will not comment in opposition to these recommendations at the January 25th hearing.

As a result of these recommendations and this accord with Great Northern Paper officials SOSLA is withdrawing its opposition to the re-licensing of the dams.

Mr. McDevitt would like to thank all of the people in the Katahdin region that supported the efforts of SOSLA during these past five years and he would also like to thank the officials of Bowater Great Northern Paper for their patience, professionalism and willingness to listen and compromise for the public good.

Sincerely,

John H McDevitt

Mr. John McDevitt,
President

RESPONSES TO SAVE OUR SCENIC LAKES ASSOCIATION ON UPPER PENOBSCOT RIVER BASIN DEIS

COMMENTS FROM MAINE STATE PLANNING OFFICE
ON UPPER PENOBSCOT RIVER BASIN DEIS

RESPONSES TO MAINE STATE PLANNING OFFICE
ON UPPER PENOBSCOT RIVER BASIN DEIS

STATE OF MAINE
EXECUTIVE DEPARTMENT
STATE PLANNING OFFICE

ANGUS S. KING, JR.
GOVERNOR

EVAN D. RICHERT, AICP
DIRECTOR

STATEMENT OF STEPHEN J. ADAMS BEFORE
THE FEDERAL ENERGY REGULATORY COMMISSION REGARDING THE
DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR RELICENSING THE
RIPOGENUS AND PENOBSCOT MILLS HYDROELECTRIC PROJECTS
JANUARY 25, 1995

My name is Stephen Adams. I am director of Policy Coordination for the Maine State Planning Office and am speaking today on behalf of the King Administration. The State Planning Office is responsible for the development of a consistent State position in Federal licensing and relicensing proceedings and for intervention on the State's behalf in all FERC licensing proceedings for hydropower projects in Maine.

1. The State intends to submit a more detailed written response to the draft EIS. This evening I want to express more general concerns regarding this report and its recommendations. We have two major concerns.

This Draft Environmental Impact Statement includes much useful information. However, the analysis and recommendations are colored by the archaic and increasingly discredited notion that somehow Washington-based bureaucrats are better able to manage Maine's resources than are the people of Maine.

1. Comment noted.

184 STATE STREET, STATE HOUSE STATION 38, AUGUSTA, MAINE 04333 TEL. (207) 287-3261 FAX (207) 287-6489

We believe that FERC staff have underestimated Maine's capacity and commitment to perserving this State's natural resources. Maine is very proud of its track record in developing creative and effective measures that balance the competing needs of landowners and recreational users and the imperative to protect our natural environment. Through a combination of regulation, public ownership, and cooperation, Maine has earned a national reputation as a leader in resource protection.

We also take exception to the recommendation that would require the licensee to purchase or otherwise take property in the project area to implement protections measures. The State of Maine owns Gero Island and shoreland in the vicinity of Chesuncook Village which is managed by the Bureau of Public Lands. This property is managed consistent with an approved management plan. The Bureau's policy is to issue no new residential or commercial leases on these lands. Moreover, timber harvesting on this property is subject to the Bureau's Integrated Resource Policy, developed after with public participation and subjected to interdisciplinary review.

The State of Maine has no intention of selling its property within the project area. We will strenuously oppose any effort to take it by emminent domain, and resent being placed in a position of potential conflict with a landowner with whom we have enjoyed fruitful cooperation in the preservation of natural resources. Instead, and as noted above, we believe

1. Cont

that the State's effective and balanced land use protection measures should be recognized and deferred to by FERC.

In closing, I submit that the State of Maine has been a very effective steward of its natural resources. FERC staff apparently agrees, finding on page 5-24 that "the state's land use and forestry practices regulations adequately protect the natural resources of this area." Likewise, the land in public ownership is afforded quality resource management. This result is because the people of this State take very seriously their stewardship responsibilities. I hope that in preparing its final EIS, FERC will re-assess Maine's resource protection capabilities and commitment. Moreover, I hope that FERC will recognize in the State of Maine a potential partner rather than a barrier to forging a balanced public policy regarding these natural resources.

Thank you.

COMMENTS FROM STATE PLANNING OFFICE
ON UPPER PENOBSCOT RIVER BASIN DEIS

RESPONSES TO STATE PLANNING OFFICE
ON UPPER PENOBSCOT RIVER BASIN DEIS

STATE OF MAINE
EXECUTIVE DEPARTMENT
STATE PLANNING OFFICE

ANGUS S. KING, JR.
GOVERNOR

EVAN D. RICHERT, AICP
DIRECTOR

February 17, 1995

COMMENTS

VEPSAR, INC.

Lois D.Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426

-005 -009

RE: Penobscot River Basin Docket Nos. 2572 and 2458

Dear Secretary Cashell,

Enclosed for Filing with the Commission are the original and fourteeen copies of Comments from the Maine State Planning Office on behalf of the State of Maine in the above-entitled matter, pursuant to your Rules of Practice.

Sincerely,

Evan D. Richert
Director

EDR:be
Enclosure

cc: Director, Division of Project Review - FERC
Angus King - Governor, State of Maine
Mr. Brian Stetson - Great Northern Paper/Bowater
Mr. Thomas E. Mark - LeBoeuf, Lamb, Leiby & MacRae
Mr. Dan Boxer - Pierce, Atwood
FERC Coordinating Committee
Thomas Harnett - Me. AG

184 STATE STREET, STATE HOUSE STATION 38, AUGUSTA, MAINE 04333 TEL. (207) 287-3261 FAX (207) 287-6489

COMMENTS FROM STATE PLANNING OFFICE ON UPPER PENOBSCOT RIVER BASIN DEIS

BEFORE THE

UNITED STATES OF AMERICA

FEDERAL ENERGY REGULATORY COMMISSION

Penobscot River Basin Docket Nos. 2572 and 2458

COMMENTS
February 17, 1995

The Maine State Planning Office, in response to the Draft Environmental Impact Statement on the Penobscot River Basin, Maine for Projects #2572 and 2458, hereby moves to Comment in the proceeding in accordance with the requirements of the Rules of Practice and Procedure, 18 C F R §§385 210, 211, 214 The grounds for these comments are as follows

1 The Maine State Planning Office (SPO) is an agency of the State of Maine, with an office in Augusta, Maine The SPO consists of the Director of State Planning and his staff Pursuant to the authority granted by Executive Order #13 FY86/87, the SPO is responsible for coordinating the State agency consultation for Federal Hydropower Licenses and Exemptions in the State of Maine The SPO is also responsible for the development of a consistent State position in Federal Licensing and Relicensing Proceedings and for intervention on the State's behalf in all FERC licensing proceedings for hydropower projects in Maine

2 The Maine Department of Environmental Protection (DEP) is an agency of the State of Maine, with principal offices in Augusta, Maine DEP consists of the Board of Environmental Protection (the Board), the Commissioner of Environmental Protection, and his staff (38 MRSA § 341, et seq.) DEP is responsible for administering and enforcing the Maine Waterway Development and Conservation Act (MWDCA), 38 MRSA §§ 630-636, in organized municipalities of the State

3. DEP is also responsible for certifying compliance with applicable water quality standards pursuant to Section 401 of the Clean Water Act, P L. 92-500 (as amended) 33 U. S. C §1341 (1988), for all activities located in whole or in part within organized municipalities subject to DEP's regulatory jurisdiction In order to approve a certification under the Clean Water Act, DEP must find that there is a reasonable assurance that the proposed activity will not violate applicable Water Quality Standards A water classification system establishing such standards has been adopted by the State and has been duly approved by the U.S. Environmental Protection Agency pursuant to the provisions of the Clean Water Act. The decision made by the Board on the Penobscot Mills application (FERC #2458), and the terms and conditions contained therein, represents the official position of the State of Maine regarding this project.

4 The Maine Land Use Regulation Commission (LURC) is an agency of the State of Maine.

E-228

SPO-1

RESPONSES TO STATE PLANNING OFFICE ON UPPER PENOBSCOT RIVER BASIN DEIS

SPO-1 No response required.

with principal offices in Augusta, Maine. LURC consists of a Commission of seven public members, an executive director and staff (12 MRSA §683, et seq.). LURC and its staff are responsible for implementing zoning and sub-division control in the unorganized and deorganized townships of the state. The Commission was established to preserve public health, safety, general welfare, ecological and natural values in these areas and to prevent inappropriate development or intermixing of residential, recreational, commercial and industrial uses detrimental to the value of these areas, to provide and encourage sound land use planning; to prevent the development of substandard structures or structures located unduly proximate to waters or roads, to prevent despoliation, pollution and inappropriate uses of water in these areas.

5. In addition to the responsibilities described in paragraph 4., LURC is responsible for administering and enforcing the Maine Waterway Development and Conservation Act (MWDCA), 38 MRSA §§630-636, in unorganized and deorganized townships of the State.

6. By authority granted in Executive Order #16 FY91/92,LURC is also responsible for certifying compliance with applicable water quality standards pursuant to Section 401 of the Clean Water Act, P.L. 92-500 (as amended) 33 U.S.C. §1341 (1988), for unorganized territories and townships. In order to approve a certification under the Clean Water Act, LURC must find that there is a reasonable assurance that the proposed activity will not violate applicableWater Quality Standards. A water classification system establishing such standards has been adopted by the State and has been duly approved by the U.S. Environmental Protection Agency pursuant to the provisions of the Clean Water Act. The decision by LURC on the Ripogenus application (FERC #2572), and the terms and conditions contained therein, represents the official position of the State of Maine regarding this project.

SPO-1 Cont

7 The Department of Marine Resources (DMR) is an agency of the State of Maine with principal offices in Hallowell, Maine. 12 MRSA §6001, et seq. DMR was established to regulate, conserve and develop marine and estuarine resources, to conduct and sponsor scientific research, to promote and develop marine coastal industries, to advise and cooperate with state, local and federal officials concerning activities in coastal waters and to implement, administer and enforce laws and regulations necessary for these purposes.

8. The Department of Inland Fisheries and Wildlife (IFW) is an agency of the State of Maine with principal offices in Augusta, Maine. 12 MRSA §7001, et seq. IFW is responsible for the administration and enforcement of inland fisheries and wildlife laws and for the management of all inland fish and wildlife in the State.

9 The Atlantic Sea-Run Salmon Commission (ASRSC) is a commission that consists of the Commissioner of DMR or his designee, the Commissioner of IFW or his designee, and three members of the public. 12 MRSA §6251-A, et seq. The Commission was established to undertake projects in research, planning, management, restoration and propogation of the Atlantic sea-run salmon in the State of Maine.

10 The Department of Conservation (DOC) is an agency of the State of Maine with principal offices in Augusta, Maine. 12 MRSA §5011-5012, et seq. DOC is responsible for the review of

COMMENTS FROM STATE PLANNING OFFICE ON UPPER PENOBSCOT RIVER BASIN DEIS

FERC licensed hydropower projects to ascertain the adequacy of recreational facilities, adequacy of flow releases for boating and canoeing, effects of projects on publicly owned lands or private lands if available for public recreation

SPO-1 Cont

1) The comments of the SPO in this proceeding are necessary to represent these agency interests and the public interest of the citizens of Maine. Absent the State's participation and commentary in these proceedings, that public interest will not be served. The SPO is responsible for the intergovernmental coordination of state level planning activities with a goal of comprehensive planing. The SPO is also responsible for intervening on behalf of the State in all FERC licensing proceedings for projects in Maine and has intervened in the above captioned hydropower projects. In this instance, SPO represents the natural resource agencies described above in support of these comments which follow

COMMENTS ON UPPER PENOBSCOT DEIS

SPO-2

Maine is committed to its current land use laws which are designed to balance the many and often conflicting uses of its public resources in the project areas. The draft EIS acknowledges Maine's effective stewardship in this regard but in the same breath requires Great Northern to forcibly acquire lands belonging to the State of Maine and private land owners, some of which have been in the same private ownership for over 100 years. That the DEIS attempts to encumber and limit use of these lands is inappropriate, inconsistent with the rights of existing users and in conflict with Maine's publicly developed, multiple use policy for shorefront lands

LURC Jurisdiction

SPO-3

References (page 4-45) to shoreland management on Gero Island (owned by the Maine Bureau of Public Lands), Nesowadnehunk Deadwater (under conservation easement ot the State), and Caribou Lake's southern shore (already managed as eagle habitat by another timber company) are all inappropriate. Management of these areas has been planned for and is administered by existing Department of Conservation (DOC)Programs and is subject to land use regulations administered by LURC. LURC represents the public interest in a public process where balancing of multiple uses is paramount. We assert that the FERC staff has underestimated Maine's capability to develope creative and effective mechanisms to balance the competing needs of landowners and recreational users in the context of preserving environmental values. The State of Maine has been a very effective steward of its resources. Through a combination of regulation, public ownership and cooperation, Maine has earned a national reputation as a leader in resource protection. These State owned properties are managed within a publicly approved management plan. The DOC's Bureau of Public Lands policy is to issue no new residential or commercial leases on these lands. Moreover, timber harvesting on this property is subject to the Bureau's Integrated Resource Policy, developed after exhaustive study and public participation.

RESPONSES TO STATE PLANNING OFFICE ON UPPER PENOBSCOT RIVER BASIN DEIS

SPO-2 Further staff review of LURC's land use regulations resulted in revised land use assessment and recommendations (see section 4.9). The staff recommends under the recommended alternative two options: (1) accepting the conservation easement proposed by GNP and the State of Maine; or (2) a 200-foot boundary expansion on GNP-owned lands. See section 4.9.3 of the FEIS for further discussion. For the Penobscot Mills project area, the staff recommends a 200-foot expansion of the project boundaries on GNP owned lands; existing structures would be grandfathered.

SPO-3 See response SPO-2.

COMMENTS FROM STATE PLANNING OFFICE ON UPPER PENOBSCOT RIVER BASIN DEIS

LURC is an agency of the State of Maine whose Comprehensive Land Use Plan is designed to balance the many and often conflicting uses of the public resources in the project areas. The State of Maine, based on sound management planning, has already made reasonable land use and shoreland zoning decisions which balance these resources and benefit the public interest. It is our understanding that while FERC intended the NEPA process to be an appropriate forum to resolve issues that might not be addressed in previous aspects of the hydro licensing process, the EIS procedure was not designed to be inconsistent with or deviate from existing State policy. LURC zoning, management policy and enforcement practices provide the preferred balance of our public resources and their uses. LURC is the steward and the local expert.

SPO-3 Cont

In June of 1990, after having conducted an exhaustive review of the natural resources, recreational values and development pressures on the wildland lakes in its jurisdiction, LURC adopted an Amendment to its Comprehensive Land Use Plan, specifically to address and improve the managment of the lake resources in the unorganized territories. Specific zoning and regulatory standards changed as a result of this action, which provides additional protection to those lakes with exceptional values and guides lakeshore development toward those lakes best suited to accomodate additional development without adversely affecting the resource. We believe that the protection and mangement of these resources is more appropriately achieved by these and other State of Maine efforts to balance resource protection, recreation and development in the context of a comprehensive management study, rather than through imposition of arbitrary expanded project boundaries and requirements by FERC through the hydropower licensing process.

SPO-4

The DEIS characterization of the LURC regulatory program with respect to shoreline development (Section 4.9.1.1) is misleading, as it exaggerates the actual shoreline build-out potential allowable under LURC standards based on a single factor (shoreline frontage), when in fact numerous site specific characteristics (eg. soil type, slope, lot size, access, compatability of the proposed development with surrounding natural resources and existing uses) are taken into account by LURC in determining the suitability of a shoreline parcel for development.

SPO-5

The timber harvesting section (Section 4.9.1.2) of the DEIS indicates that the LURC regulations for vegetative buffers in the project areas range from 50 to 100 feet from the normal high water mark of lakes and streams and expresses concern that these buffers may not adequately protect aesthetics and water quality because the required buffers are unrelated to the slope of the land. The DEIS fails to acknowledge that, with respect to vegetative clearing for development, including tree removal, LURC regulations require a 100 foot vegetative buffer to be retained for any standing body of water 10 acres or greater and for all flowing waters draining 50 square miles or more. These requirements allow for limited cutting of trees (up to 30% provided a well distributed stand of trees is allowed to remain) and require that ground vegetation (less than 3 feet in height) remain undisturbed. Additional, less stringent clearing restrictions apply at distances from 100 feet to 250 feet on these waterbodies and, in fact, are also applied to the full 500 foot depth of the (P-AL) Accessible Lake Protection Subdistrict, which surrounds a significant portion of the project areas in LURC jurisdiction.

In addition, LURC timber harvesting regulations applying to the project areas zoned (P-GP) Great Pond Protection Subdistrict, (A-AL) Accessible Lake Protection Subdistrict and

RESPONSES TO STATE PLANNING OFFICE ON UPPER PENOBSCOT RIVER BASIN DEIS

SPO-4 The staff revised potential build-out estimates to reflect LURC's subdivision regulations. As stated in the DEIS, the staff acknowledges that these estimates do not account for development limitations such as steep slopes, poor soils, wetlands, or access (see section 4.9.1.1).

SPO-5 Opinion noted. See revised sections 3.11.1.1, 4.9.1.2, 4.9.2.2 and 4.9.3.2.

COMMENTS FROM STATE PLANNING OFFICE ON UPPER PENOBSCOT RIVER BASIN DEIS

SPO-5 Cont

(P-SL 1) Shoreland Protection Subdistrict, provide for managment of a 250 foot forested buffer around waterbodies so zoned. Specific limitations and performance based standards on timber harvesting and forest management activities are applied to maintain the aesthetic, recreational and water quality values of the area. Although limited harvesting is allowed within 50 feet of these waterbodies, it must be conducted in a manner that leaves a well distributed stand of trees and that maintains an unscarified vegetative filter strip of variable dpeth depending upon slope, between the operation and the waterbody.

SPO-6

Section 4.10.1.2. of the DEIS indicates that the LURC requires, " only a permit for permanent boat docks." This statement fails to clarify that such a permit is issued only by, "special exception," a category of LURC permit which, in addition to complying with all other applicable standards and requirments, requires the applicant to demonstrate that there is no reasonable alternative or suitable site available for the proposed use and that the use can be effectively buffered from all other uses and resources in the area with which it may be incompatible.

SPO-7

The State of Maine has no intention of selling its property within the project area. We strenuously oppose any effort to take it by emminent domain and resent being placed in a position of potential conflict with a landowner with whom we have enjoyed fruitful cooperation in the preservation of natural resources. The State of Maine requests that FERC honor existing lease arrangements in the project area and if further protection is required it should be in the form of voluntary partnership between the landowner and the State. Through a variety of programs the State of Maine has acquired land outright or negotiated easements for lands which the State has found warrant protection or preservation for public benefit. The proposed approach by FERC staff to mandate non-development zones in the hydropower process abrogates the actions by the State to sustain cooperative, non-taking relationships with landowners.

SPO-8

The State of Maine requests prompt issuance of the new licenses for Ripogenus and Penobscot Mills and we request that these licenses be consistent with policies already established by the State. We ask the FERC to defer to the publicly crafted and considered decisions of the states in these matters and to respect the primacy of State authority and not rely on the recommendations of out-of-state advocacy groups whose land use agenda has very little to do with hydropower licensing and balancing of immediate uses. We urge FERC to respond to local residents and State officials and revise the Final EIS to reflect the State of Maine's land use recommendations for these hydropower projects and to delete those recommendations which seek to alter existing landowner rights and relationships.

The Primacy of State Authority

SPO-9

The state is the stakeholder and the accountable party which lives most immediately with the consequences of these decisions. The state is the entity most familiar with its own resources and in cases where there is a conflict between the State's preference and an advocacy group or a Federal agency recommendation, we believe deference should be given to the State's preference.

RESPONSES TO STATE PLANNING OFFICE ON UPPER PENOBSCOT RIVER BASIN DEIS

SPO-6 No response required.

SPO-7 The staff revised its land use assessment and recommendations in the FEIS (see section 4.9). We considered comments received during the DEIS comment period, GNP's proposed conservation easements for the Ripogenus Project area, updated land valuation information, and further assessment of LURC's land use regulations. The staff's recommendations (see section 5.3.4) provide measures to protect shoreland resources within the project areas while considering existing land regulatory controls. See sections 4.9 and 5.3.4 for further discussion regarding proposed protection zones for the Ripogenus and Penobscot Mills Project areas.

SPO-8 Opinion noted.

SPO-9 Opinion noted.

COMMENTS FROM STATE PLANNING OFFICE ON UPPER PENOBSCOT RIVER BASIN DEIS

Fisheries Considerations

SPO-10

The official position of the State of Maine is concurrent with the State Water Quality Certification and the recommendations for water levels, flows, and fisheries enhancements associated with the Ripogenus Project. Within the framework of seasonal flows that have been prescribed for the West Branch of the Penobscot River below McKay Station, maintaining stable river flows is a key component of these recommendations. We interpret stable flows to mean relatively consistent flows throughout each 24 hour period, with no short term special releases of water through Ripogenus Dam such as might occur purely for recreational boating.

Throughout the consultation process for the Ripogenus Project, IFW maintained a position that dramatic flow increases will adversely affect fishing opportunities as well as fishing success in the West Branch. Therefore, IFW opposes any last minute revisions in flow recommendations which do not thoroughly evaluate the adverse effects on fisheries. For example, any special recreational boating releases must be reviewed for their comprehensive effects upon fisheries habitat and angling use opportunity.

Wildlife Considerations/Eagles

Several parties have raised concern for bald eagles in the project area. It is a State and Federally listed endangered species. The Maine Department of Inland Fisheries and Wildlife will clarify some inaccuracies found in the DEIS and recommend appropriate measures for project operation on eagles behalf.

1 The West Branch basin is indeed an important area for bald eagles, especially the breeding population. Eleven of the 175 nesting pairs of eagles censused statewide in 1994 were resident in this watershed. This represents a significant inland aggregation but it is certainly an area of low nesting density relative to breeding eagle concentrations in coastal Maine.

SPO-11

2 The discussion of selective harvesting in Alternative 2 (page 4-45) to create new eagle perching areas, is confusing in intent and generally counter-productive to a more critical habitat management need: that of conserving nesting habitat. Harvesting in shoreland areas, an activity which is already subject to LURC standards, and the creation of snags are unecessary to enhance perching opportunities for bald eagles along lake shores which are as extensively forested as these impoundments are. A monitoring program to see if eagles perch along these manged shorelines is already incorporated into statewide nesting inventories.

3 Specific references (page 4-45) to shoreland management on Gero Island (owned by the Maine Bureau of Public Lands), Nesowadnehunk Deadwater (under conservation easement of the State), and Caribou Lake's southern shore (already managed as eagle habitat by another timber company) are all inappropriate. Great Northern Paper has a 25-year history of cooperative management of eagle nests, buffer areas and related perching/foraging sites on company-owned lands. Their resource managers have been working with DIFW to formalize long-term management of riparian zones and uplands in existing and potential eagle habitats in the project area. Forestry practices that perpetuate the availability of dominant white pines are featured in this

RESPONSES TO STATE PLANNING OFFICE ON UPPER PENOBSCOT RIVER BASIN DEIS

SPO-10 We do not recommend any special boating releases from Ripogenus Dam, but do recommend notification of spill events (see section 4.8.3.1).

SPO-11 Your statement that bald eagle is a state and federal listed endangered species is partially incorrect. The federal status of Bald eagle was officially downgraded under the Endangered Species Act from Endangered to Threatened in July 1995. It is still listed by the state of Maine, however, as endangered. We agree that the density of nesting eagles is low in the project area compared to concentrations in coastal Maine. Concerning the potential for creating snags in the vicinity of the project, we recommend that GNP confer with FWS and MDIFW to investigate the appropriateness of such actions. The availability of perching sites may be equally important as the availability of food resources for wintering bald eagles. Research has indicated that the most frequently used bald eagle perches are large mature live trees and snags that are no more than 15 meters from a shoreline. We have seen nothing in the record indicating that there is an over-abundance of such large trees and snags in this vicinity of the project shoreline. We view such enhancements as potentially appropriate, given the fact that the availability of perching sites are critical to wintering eagles, that such habitats would be relatively easy to create and are environmentally benign, and that such sites would only be created in consultation with FWS and MDIFW. Concerning shoreland management for eagles on Gero Island, Nesowadnehunk Deadwater, and the southern end of Caribou Lake, we have seen nothing in the record that indicates specifics for any existing cooperative habitat management program in these areas between GNP and MDIFW; therefore we cannot comment on it. Concerning vegetative buffers and conservation easements, building setbacks required under Alternative 1 could provide a minimum of habitat protection for nesting and non-nesting bald eagles. We have revised Table 5-2 to reflect that the proposed conservation easement and/or boundary expansion under Alternative 2 could also provide enhanced habitat protection for bald eagles. There is no reason that the protections under these alternatives would preclude GNP from further limiting development around areas they have designated as eagle nesting sites on their lands.

COMMENTS FROM STATE PLANNING OFFICE ON UPPER PENOBSCOT RIVER BASIN DEIS

strategy

4 Vegetative buffers and conservation easements are discussed at length relative to water quality and aesthetics (Table 5-1) but the narrative does not reference these measures as enhancements for bald eagles However, in the summary of environmental consequences (Table 5-2), these measures are listed as enhancements for bald eagles and other endangered species The benefits derived from use of vegetative buffers and conservation easements is defensible only in the context of possible water quality and aesthetic improvements The buffer/easement corridors cited in both alternatives are inadequate for eagles nesting habitat requirements which are the management priority for this endangered species

SPO-11 Cont

Other eagle habitat uses (perching and foraging) are not well served by generic management prescriptions Eagle activities away from nests have not required specific management because they have proven thus far to be in harmony with shoreland zoning If shoreland buffers and easements were to be designed for eagles, they should focus on nesting areas as the priority If enhancements of potential eagle habitat are an objective, shallow and slow flowing waters would accomodate their foraging needs

Water Quality Certification Conditions

As noted in the DEIS, the Maine LURC and the DEP issued Water Quality Certifications for the Ripogenus Project and the Penobscot Mills Project on April 15, 1993 and April 22, 1993 respectively Each of these certifications is subject to a number of special conditions which are summarized on pages 2-17 through 2-21 of the DEIS

The FERC staff takes the position in the DEIS, in accordance with a recent Commission licensing decision (Tunbridge Mill Coroporation, 68 FERC ¶61,078, issued July 15, 1994), that FERC has the authority to review the validity of water quality certification conditions, that only "water quality related" conditions are lawful and are thus subject to inclusion as mandatory conditions of a license and that conditions unrelated to water quality are unlawful and are thus not subject to inclusion as mandatory conditions in a license

SPO-12

After examining the State's certifications for the Ripogenus and Penobscot Mills Projects in accordance with the Tunbridge decision, the FERC staff concludes that several of the WQC conditions are not water quality related These conditions include, for the Ripogenus Project, Condition #5 (requiring LURC approval for any changes in project as proposed) and Condition #8 (limiting applicability of the certification to upstream projects); and for the Penobscot Mills Project, Condition #6 (Millinocket Lake Storage Dam) and Condition #8 (North Twin, Millinocket, Dolby, and East Millinocket Dams) each requiring consultation regarding a study of navigation hazards on the applicable project impoundments

The State strongly disagrees with FERC's position on its authority to review the validity of water quality certification conditions The Tunbridge decision effectively changes FERC's long-standing practice of leaving any review of the propriety of WQC conditions to the State courts

RESPONSES TO STATE PLANNING OFFICE ON UPPER PENOBSCOT RIVER BASIN DEIS

SPO-12 Opinions noted. The Commission's final determination on the legal status of the State of Maine's section 401 WQC conditions will be documented in any license orders for the projects.

We believe that this practice was in keeping with the express language of the Clean Water Act and controlling case law and should be continued. Further, we assert that FERC has no authority to either accept or reject state-imposed WQC conditions and that these conditions are subject to review by Maine's courts and ultimately, the U.S. Supreme Court. See generally, PUD No.1 v. Washington Dept. of Ecology, _U.S._, 114 S.Ct.1900, 1907-08; Roosevelt Campobello Internation Park v. U.S.E.P.A., 684F2d 1041, 1056.

The State contends that all of the conditions attached to the LURC and DEP certifications for the Ripogenus and Penobscot Mills Projects set forth limitations and monitoring requirements necessary to assure that the projects will comply with State water quality standards, and that all such limitations and monitoring requirements, "shall become a condition on any Federal license," for the projects, in accordance with Section 401(d) of the Clean Water Act.

SPO-12 Cont

The State of Maine is authorized to impose conditions necessary to insure that the continued operation of the Ripogenus and Penobscot Mills Projects will comply with all aspects of Maine's water quality standards, including designated uses, numeric and narrative criteria, and the State's antidegradation policy. See PUD No.1 v. Washington Dept. of Ecology,_U.S._, 114S ct. 1900. FERC staff has ignored this holding, as all of the conditions determined by the FERC staff to be, "outside the scope," of the WQC are in fact necessary to (a) to meet the State's designated uses of the affected waters for recreation in and on the water and other lawful uses, (b) to satisfy the provision of the State's antidegradation policy that existing in-stream water uses and the level of water quality necessary to protect those existing uses must be maintained and protected, and (c) to insure that changes in project facilities or operation that may affect water quality are approved by the State.

Furthermore, under applicable agency enabling statutes and regulations, the terms and conditions of the LURC and DEP certifications for the Ripogenus and Penobscot Mills Projects were subject to appeal by Great Northern Paper during the 30 days following each respective decision date. GNP did not appeal the conditions of the certifications within this jurisdictional time period and thus has effectively agreed to comply with all conditions attached to the certifications. Compliance with these conditions is now enforceable by LURC and DEP under State law. We expect, and LURC and DEP will enforce, GNP's compliance with all WQC conditions, whether or not they are included in any FERC license for the projects.

Conclusion

SPO-13

The State of Maine requests that the new licenses for Ripogenus and Penobscot Mills be consistent with Maine State policy and that the FERC defer to the carefully crafted and considered decisions of the State in the matters discussed above. By deferring to the primacy of State authority FERC will be serving the true public interest rather than the interest of national advocacy groups whose agendas may be less sensitive to State and local interests than to winning support from their memberships whose concerns may be more philosophical than realistic. The DEIS does not recognize the balance reached by LURC in balancing project uses with non-project

SPO-13 No response required.

SPO-13
Cont

uses in a public process. If further protection is required it should be in voluntary cooperation between the landowner and the State. We urge FERC to revise the Final EIS to reflect the positions of the State and local residents and to delete or modify recommendations which would alter existing landowner rights and land use options.

Wherefore, the Maine State Planning Office respectfully requests that these comments be given due weight and consideration by the FERC.

Maine State Planning Office

Evan D Richert
February 17, 1995
Maine State Planning Office
State House Station #38
184 State Street
Augusta, Maine 04333
207-287-3261

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CERTIFICATE OF SERVICE

I hereby certify that I have served a copy of the foregoing Comments upon the parties in this proceeding by mail, prepaid, addressed to the parties herein as follows

(Name and Address of Applicant's Representative)

Mr Brian Stetson

Manager Environmental Affairs

Great Northern Paper Company/Bowater Inc

One Katahdin Avenue

Millinocket, Maine 04462-1398

207-723-2664

Done and Dated at Augusta Maine this seventeenth day of February, 1995

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

EATON PEABODY BRADFORD & VEAGUE P.A.
ATTORNEYS AT LAW
ECOLOGICAL S...
OFFICE LOCATIONS

February 21, 1995

Lois Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426

005 / 009

Re: Great Northern Paper, Inc.
Ripogenus Hydroelectric Project (FERC No. 2572)
Penobscot Mills Hydroelectric Project (FERC No. 2458)

Dear Ms. Cashell:

We enclose for filing with the Commission an original and eight (8) copies of the comments of several intervenors, including the Town of Millinocket (the "Town") and the Association in Support of a Sustainable Supply of Energy and Timber ("ASSSET"), on FERC's Draft Environmental Impact Statement ("DEIS") for the above referenced projects.

The comments use the format of the DEIS document. Thus, the Commission and Staff will have the benefit of ease of reference in reviewing our specific comments on each section of the DEIS.

The comments include discussion of these important points:

T&AS-1

1. **The Schedule for the Final EIS Should Be Expedited.** The licensing and related environmental review process is currently well behind the schedule detailed in the second scoping document for these projects. A release of the DEIS was predicted for the spring of 1994, with a final EIS in the fall of 1994. Given that the DEIS issued as of the end of November 1994, we urge FERC to issue a final EIS and a license by early summer 1995.

T&AS-2

2. **The Final EIS Should Give Greater Consideration to the Broad Socioeconomic Impacts of Any Further Enhancements.** We gratefully acknowledge FERC's appropriate consideration

E-239

RESPONSES TO THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN

T&AS-1 Opinion noted.

T&AS-2 The staff finds no conclusive evidence, based on our economic analysis, that the Applicant's Proposal or either version of Alternative 2, would adversely affect the competitive position of GNP's mills. These alternatives would produce only small increases in annual power costs, and small declines in annual power output, ultimately, these small changes would not translate into a significant increase in the cost of production at the two mills. As a result, these alternatives would not result in production cutbacks and the accompanying indirect regional losses in employment and income. The negative annual net benefits under Alternative 1 would be large enough to adversely affect the competitiveness of the two mills.

The potential multiplier effects of closing a plant that could occur under Alternative 1 have been decreased from the levels presented in the DEIS, although there would still be a significant adverse economic effect on the regional economy if a shutdown took place. The multiplier effects presented in the FEIS are for the State of Maine's economy.

in the DEIS of socioeconomic impacts, particularly to those of the three towns in the immediate Katahdin Region.

T&AS-2 Cont'd

Between 1980 and 1992, the population of the three area towns dropped by 7.5%, as compared to a statewide increase of 9.9% during the same period, representing a gap of 17.4%. The Great Northern mills have seen an approximate 50% work force reduction in the last decade, resulting in the loss of 2,000 well paid jobs. Federal and State agencies have had to respond to the new economic challenges facing the Katahdin region by investing several million dollars to stabilize the region's economy.

However, beyond the impacts to the Katahdin region, we recommend that FERC give careful consideration to the socioeconomic impacts of these Projects throughout Central and Northern Maine, and the State of Maine generally. Some examples include:

- As to regional impacts, in 1993, Great Northern's employees represented about 20% of the manufacturing employment base of all of Penobscot County. Indirect impacts extend to Piscataquis, Aroostook, and Washington Counties, which have seen the loss of hardwood mills, a 1994 potato blight, the closure of Loring Air Force Base, and potentially, the loss or reduction of an east-west rail line.

- Statewide, papermaking is important to the entire State economy. Paper accounts for 35% of the State's manufactured product and, with lumber and wood products, accounts for almost half of the State's manufactured product. The overall health of Maine's forest products economy is tied to competitive mills, including the Great Northern mills.

We recommend that FERC interview the proper officials at the Maine State Planning Office ("SPO") and Eastern Maine Development Corporation as to the broad socioeconomic impacts of the Projects.

As the DEIS reports, Great Northern's competitive position in the energy intensive paper industry depends on the availability of a reliable source of inexpensive electric power. Imposing additional production costs for replacement

T&AS-2 Cont'd

power and mandated land conservation will adversely affect the viability of the Millinocket and East Millinocket mills, which FERC properly characterize as the economic base for the Towns; as noted, the importance of the mills extends to Northern and Central Maine, and the State more generally.

T&AS-3

3. **Great Northern's Water Use Plan Requires No Further Changes Beyond Those Recommended in the DEIS.** For a century, these hydro projects have provided very substantial natural resource and societal benefits. Those benefits now include:

* A world class landlocked salmon fishery;

* White water rafting on the West Branch, some of the best technical rafting on the East Coast;

* Significant flood control; and

* A guaranteed flow of 2000 cfs at Millinocket which provides instream river flows that enhance aquatic life.

These benefits exist because of the dams and how they are managed; they result from the storage and steady metering of water in and through the hydro system.

The Water Use Plan, as fine tuned during the State 401 certification proceedings and FERC's proceedings (including the summer 1993 negotiations in Orono, Maine with interest groups), only enhances these environmental, recreational and resource benefits.

FERC has correctly concluded that, given the far greater fisheries habitat and recreational opportunities present on other sections of the river system and the economic costs of greater flows, the EIS should recommend:

1. In Millinocket Stream, a minimum flow of 60 cfs between May 1 and October 15, and 20 cfs (rather than 30 cfs) during the rest of the year;

2. In the Back Channel, leakage and spillage flows;

3. In the Upper Gorge, only leakage from fall through spring; otherwise, the same as those under the

E-2-1

T&AS-3 No response required.

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

Applicant's Proposal (as outlined in the Application and the DEIS); and

4. At all other locations, the same as those under the Applicant's Proposal.

T&AS-4

4. **FERC Should Not Require an Expansion of the Project Boundaries.** FERC should carefully re-evaluate the wisdom and costs of expanding the project boundaries. Before FERC succumbs to the allure of the environmental Coalition's logic for mandated land conservation, the Town and ASSSET respectfully ask that FERC consider:

- **Deference to LURC.** Consistent with well established principles of federalism, FERC should give strong consideration and, as appropriate, defer to the State's regulation of lands in the unorganized territories, including those around the Ripogenus Impoundment. The proof of the State's success in managing thes shorline is the good water quality and aesthetics that FERC now seeks to protect. LURC, which oversees nearly two-thirds of the State's lands, has effectively regulated these lands for many years as the steward of Maine's vast natural resources. Such land use regulation is largely a State matter. As Steve Adams of the Maine SPO quoted from the President's January 24, 1995 State of the Union address:

> If the States can do it, we should let them do it. If they can do it better, we should get out of the way.

Before imposing this federal mandate, FERC should first consult with the State agencies who currently administer the State's land management and water quality protection programs.

- **The Private and Public Landowners on Ripogenus Impoundment are Good Stewards.** There is a strong tradition of resource stewardship practiced by the public and private landowners on the Ripogenus Impoundment. As stated in the testimony of Larry Philbrick, the private landowner tradition on the Rip Impoundment extends through five generations. The State's stewardship of lands in the area is also notable and includes Baxter State Park and, more

RESPONSES TO THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN

T&AS-4 Opinion noted. Further staff review of LURC's land use regulations resulted in revised land use assessment and recommendations (see section 4.9).

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

specifically, Gero Island in the middle of Chesuncook Lake.

T&AS-5

* **Socioeconomic Impacts.** The broad socioeconomic impacts of such measures on the majority of people who currently own or occupy land on the Project Impoundments and will be negatively impacted by the proposed land conservation requirements.

T&AS-6

* **Direct Economic Impact on Great Northern/ Acquisition Cost.** The economic impact of the land acquisition mandate on Great Northern. In the DEIS, FERC estimates that the cost of acquisition only is $2,000,000, using the price per acre value of a "comparable sale." The $2 million cost estimate which FERC assigns to the proposed land conservation proposal equates to $4.59 per waterfront foot of land to be acquired.

As set forth in the consulting report of Lowell T. Sherwood, ASA (Certified General Appraiser- ME #9), FERC derives that cost estimate from the voluntary "Rangeley Lake" acquisition by the Rangeley Lakes Heritage Trust. Indeed, that acquisition (on Mooselookmeguntic and Cupsuptic Lakes) assumes a price per waterfront foot of $51 for a conservation easement and $71 for the fee title. Combining severance damages and other likely costs in the eminent domain process (because both the State of Maine and the larger landowners on the Rip Impoundment have publicly stated their unwillingness to sell voluntarily), the likely cost falls within a range between $13,000,000 and $43,000,000, with an economically realistic cost of $22,000,000 (based on the Rangeley Lakes Heritage Trust acquisition).

* **Economic Impact on Great Northern to Conserve Lands.** The economic impact of mandatory land conservation on Great Northern is also far more significant than FERC suggests, if at all, in the DEIS.

As stated in the consulting report of Lowell T. Sherwood, the "lost opportunity" cost to Great Northern of subjecting its own land on Rip Impoundment alone to a conservation easement equates to the likely cost of having to acquire the fee title or conservation easement on lands it does not own. Whereas Great

RESPONSES TO THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN

T&AS-5 The staff revised its land use assessment and recommendations, and under the recommended alternative, the proposed easements and/or project boundary expansion would be only on GNP-owned land (see section 4.9). The staff determined, therefore, that the potential socioeconomic effects would be insignificant.

T&AS-6 The staff revised potential cost estimates for the shoreline easements upon review of comments received during the DEIS comment period and updated land valuation information. The staff estimated that the potential cost of approximately $24.6 million, based on waterfront footage for the easements proposed in Alternative 1, would be greater than previously determined in the DEIS. Our evaluation of benefits suggests that the additional protection of the 500-foot expansion does not merit the much higher cost of that alternative as compared to the recommended alternative ($24.6 million versus no direct costs). See section 4.9 for further discussion.

T&AS-6 Cont'd

Northern would have to acquire 82.5 miles of shorefront from other landowners, it would have to give up developments rights on its 82 miles of shore frontage. The details supporting the discussion in this paragraph and the foregoing paragraph are contained in the Comments and the Sherwood report, attached as Exhibit A to the Comments.

* **Speculative Positive Impacts.** Such adverse impacts should be balanced against the speculative positive impacts in the eyes of "back country canoeists" and other recreationalists who yearn for the remote "wilderness" experience free of human habitations.

The undersigned have each engaged in such recreation, albeit on the Allagash Wilderness Waterway. The remote wilderness experience abounds in Maine, but it is a genuine stretch of logic to characterize the present day working forest lands near the Ripogenus impoundments as remote "wilderness."

T&AS-7

* **Review LURC Study Results.** With regard to the mandatory land acquisition proposal for the Ripogenus Project, we also recommend that FERC carefully review the study results of the Maine Land Use Regulation ("LURC") in a Fact Sheet dated March 6, 1990 and titled "Land Use Plan and Rule Amendments Regarding the Development and Conservation of Lakes in Maine's Unorganized Areas", a copy of which is attached to our Comments as Exhibit B.

We ask FERC to consider that the need, if any, does not (1) warrant an intrusion into the Maine Land Use Regulation Commission's traditional jurisdiction for regulating such shorelands, (2) warrant disrupting the longstanding private and public landowner tradition and stewardship in the ownership of such lands, (3) justify the significant socioeconomic impacts that the imposition of such a mandate would cause, and (4) justify the very substantial direct economic costs Great Northern would have to incur in order to acquire lands it does not own and to conserve its own lands.

In conclusion, we believe that FERC has done an excellent job in sorting through the often competing, and sometimes inconsistent, requests and demands of the participating agencies and groups. We thank you for this opportunity to comment and

T&AS-7 See response T&AS-4.

T&AS-7 Cont'd

wish FERC Staff and the Commission well as they develop the Final Environmental Impact Statement and prepare to issue a final license.

Sincerely,

P. Andrew Hamilton
Counsel for ASSSET

Dean A. Beaupain
Counsel for the Towns

cc: Service List

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

RESPONSES TO THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Great Northern Paper	)	
	)	Penobscot Mills
	)	Project No. 2458,
	)	Maine and
	)	Ripogenus Project
	)	No. 2572, Maine
	)	

COMMENTS OF ASSSET, TOWN OF MILLINOCKET, TOWN OF EAST MILLINOCKET, MILLINOCKET CHAMBER OF COMMERCE, EAST MILLINOCKET-MEDWAY CHAMBER OF COMMERCE, EASTERN MAINE DEVELOPMENT CORPORATION, KATAHDIN REGIONAL DEVELOPMENT CORPORATION, INTERNATIONAL ASSOCIATION OF MACHINISTS AND AEROSPACE WORKERS LOCAL #156, UNITED BROTHERHOOD OF CARPENTERS AND JOINERS LOCAL #658, UNITED PAPERWORKERS INTERNATIONAL UNION LOCAL #24, INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS LOCAL #567, AND UNITED PIPEFITTERS AND PLUMBERS LOCAL #485, UNITED PAPERWORKERS INTERNATIONAL LOCAL #12 CONCERNING DRAFT ENVIRONMENTAL IMPACT STATEMENT

By: Dean A. Beaupain, Esq.
4 Hill Street
Millinocket, Maine 04462

And

P. Andrew Hamilton, Esq.
Eaton, Peabody, Bradford,
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WRITTEN COMMENTS ON
DRAFT ENVIRONMENTAL IMPACT STATEMENT

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EXHIBITS

EXHIBIT A -

Consulting Land Appraisal Report of Lowell T. Sherwood, ASA Concerning Conservation Easements on 82.5 Miles of Shore Frontage on Ripogenus Impoundment.

EXHIBIT B -

Fact sheet of Maine Land Use Regulation Commission entitled "Land Use Plan and Rule Amendments Regarding the Development and Conservation of Lakes in Maine's Unorganized Areas."

EXHIBIT C -

Memorandum from James Haskell, Millinocket Town Planner, to James Kotredes, Millinocket Town Manager, dated February 16, 1995, attaching Table entitled "Great Northern Paper Company Employee Levels: 1985-1994."

EXHIBIT D -

Testimony of David Cole, Vice President of Eastern Maine Development Corporation, at FERC's January 25, 1995 Public Hearing on DEIS.

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

Comments In re: FERC's Draft Environmental Impact Statement
Great Northern Paper Co.
Penobscot Mills Hydroelectric Project (FERC No. 2458)
Ripogenus Hydroelectric Project (FERC No. 2572)

INTRODUCTION

We commend you for a thorough effort and generally careful analysis of a significant range of complex economic and environmental issues. Moreover, we are impressed that FERC is now looking to complete the Environmental Impact Analysis promptly so that licenses can issue by early summer 1995.

However, there are several issues where we believe your analysis needs to be corrected by either minor adjustments or wholesale change, including the following:

T&AS-8

1. Streamflows. Your analysis of the Applicant's data concerning availability of water for Back Channel flows is inaccurate and flawed. The Applicant's data shows sufficient water is not available to sustain flows of either 350 cfs or 165 cfs, without violating water quality certifications issued by the Maine Land Use Regulation Commission and the Maine Department of Environmental Protection. These State certifications are FERC's legally binding, baseline constraints on the Applicant's operation of the project (as FERC properly notes at Section 5.5.1).

   Notably, fisheries resources would also be jeopardized by such flows. Accordingly, while we agree with your conclusion that flows of either 165 cfs or 350 cfs should not be required, we assert that such a conclusion results not only from economic, but also from environmental requirements. We believe that your over-reliance on "average year" model simulations is misplaced and leads you to incorrect conclusions as to the availability of water for any significant Back Channel flows.

   You have correctly concluded that higher streamflows are in many cases not warranted, given the far greater fisheries habitat and recreational opportunities present in other sections of the river system. For the reasons detailed in these comments, we recommend that you adopt the following streamflows:

   a. in Millinocket Stream, a minimum flow of 60 cfs between May 1 and October 15, and 20 cfs during the rest of the year;

RESPONSES TO THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN

T&AS-8 We have clarified the EIS to indicate that not all flow-related enhancements could be satisfied simultaneously if flows are provided to the Back Channel in addition to the 2000 cfs minimum flow required at Millinocket. We provide more detailed comments on various aspects of the water use model and streamflow requirements below.

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

T&AS-8 Cont'd

b. in the Back Channel, leakage and spillage flows;

c. in the Upper Gorge, only leakage from fall through July 1; otherwise, the same as those outlined under the LURC water quality certificate (as outlined in the DEIS); and

d. at all other locations, the same as those under the Applicant's Proposal.

T&AS-9

2. Fisheries. Your discussion of impacts on fisheries omits significant environmental impacts to fisheries by limiting the discussion to "average" years. The data demonstrates that you should (1) reconsider your conclusion that sufficient water is available for substantial Back Channel flows; and (2) discuss the fisheries impacts on West Branch salmon stocks below McKay Station and on establishment of a self-sustaining togue population. Your conclusion that flow enhancements would cause only minor changes in impoundment drawdowns may be accurate in average years, but it is certainly not accurate for drawdowns in worst case years. As an immediate example, requiring a flow of 165 cfs down the Back Channel during dry and worst case years would result in outflows from Ripogenus being reduced "below desired levels for 4 to 5 weeks."

T&AS-10

3. Wetlands. In its Relicensing Regulations, FERC states its policy that "evaluation and consideration of the appropriateness of requiring enhancement measures is done in the context of today's environment and in relation to today's needs and problems, not in the context of the world as it existed 50 years ago." Similarly, in discussing water flows in the Back Channel, FERC specifically acknowledges that existing conditions provide the baseline for its environmental analysis. See section 4.3.1.3.

However, in analyzing wetlands impacts, FERC goes against its stated policy and its analysis of other environmental issues and looks to rectify "continuing adverse impacts." The language and analysis in the DEIS presupposes that present project operations are resulting in water level fluctuations that are now causing adverse impacts to wetlands, which would require mitigation even under the "no action" alternative.

You should reexamine your analysis of wetlands impacts and substantially reduce the mitigation required of the Applicant.

RESPONSES TO THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN

T&AS-9 Detailed responses are provided below.

T&AS-10 Detailed responses are provided below.

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

T&AS-11

4. Expansion of Project Boundaries. You should carefully reevaluate the wisdom, need and cost of expanding the project boundaries. Before you conclude that aesthetic impacts alone justify such radical surgery, we ask that FERC consider the following:

a. **Deference to LURC.** Consistent with well established principles of federalism, FERC should give strong consideration and, as appropriate, defer to the State's regulation of lands in the unorganized territories, including those around the Ripogenus impoundment. LURC, which oversees nearly two-thirds of the State's lands, has effectively regulated these lands for many years as the steward of Maine's vast natural resources. Such land use regulation is largely a state matter. Before imposing this federal mandate to expand project boundaries, FERC should first consult with the state agencies who currently administer the state's land management and water quality protection programs and reevaluate the need for further federal protection.

b. **Land stewardship; unwilling sellers.** The private and public landowners on Ripogenus impoundment are good stewards, have fought hard in getting and/or defending private and public landowner rights, and will not willingly give up those rights. There is a strong tradition of resource stewardship practiced by the public and private landowners on the Ripogenus impoundment. As stated in the testimony of Larry Philbrick, the private landowner tradition on the Ripogenus impoundment spans five generations. State stewardship of lands in the area is also notable and includes Baxter State Park and, more specifically, Gero Island in the middle of Chesuncook Lake.

As Steve Adams (State Planning Office), Senator Leo Keiffer (Maine Senate Majority Leader), and Representative Richard Gould (Co-chair of the Maine Legislature's Natural Resources Committee) stated at the public hearing on January 25, 1995, the State is not interested in parting with public lands. Mr. Philbrick, on behalf of the many private landowners on Ripogenus impoundment, similarly observed that the private landowners on Ripogenus impoundment would not be willing sellers. Condemnation of such lands will therefore be required to implement an expansion of project boundaries on non-Applicant lands.

RESPONSES TO THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN

T&AS-11 See response T&AS-4.

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

T&AS-12

c. **Undetermined socioeconomic impacts.** You have yet to assess the broad, and as yet undetermined, socioeconomic impacts of this measure (expanding project boundaries) on the majority of people who currently own or occupy land on the project impoundments and who would be negatively impacted by the proposed mandated land conservation requirements.

T&AS-13

d. **Direct economic impacts/Great Northern's acquisition cost.** The economic impact of the land acquisition mandate on Great Northern has been severely undervalued. In the DEIS, FERC estimates that the cost of acquisition alone is $2 million, using a "price per acre" value of a "comparable sale." The $2 million cost estimate which FERC assigns to the proposed land conservation proposal equates to $4.59 per waterfront foot of land to be acquired. As U.S. District Court Judge Hornby stated in a recent federal court decision here in Maine, the proper valuation basis for waterfront land is price per waterfront foot, not price per acre. See Exhibit A.

As set forth in the consulting report of Lowell T. Sherwood, A.S.A. (Certified General Appraiser - ME #9), a copy of which is attached as Exhibit A to these comments, FERC derives that cost estimate from a voluntary "Rangely Lake" acquisition by the Rangely Lakes Heritage Trust. Indeed, this acquisition (which actually occurred on Mooselookmeguntic and Cupsuptic Lakes) assumes a price per waterfront foot of $51.00 for a conservation easement and $71.00 for fee title. Combining severance damages and other likely costs as part of an eminent domain process (because neither the State of Maine nor the larger landowners on the Ripogenus impoundment will voluntarily sell), the likely cost falls within a range between $13,068,000 and $43,560,000. This cost is far in excess of $9.5 million, which the DEIS found unacceptable.

e. **Economic Impact/Great Northern's Mandatory Conservation of Its Own Lands.** The economic impact of mandatory conservation on Great Northern is also far more significant than FERC suggests in the DEIS. Indeed, the DEIS does not discuss the "lost opportunity" cost to Great Northern of subjecting its own land on Ripogenus impoundment to a conservation easement. As noted in the consulting report of Lowell T. Sherwood, that lost

RESPONSES TO THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN

T&AS-12 See response T&AS-5.

T&AS-13 See response T&AS-6.

T&AS-13 Cont'd

opportunity cost likely equates to the cost of having to acquire a fee title or a conservation easement on lands it does not own. Whereas Great Northern would have to acquire 82.5 miles of shorefront from other landowners, it would also have to give up development rights on its 82 miles of shore frontage.

f. **Speculative Positive Impacts.** As stated in our comments as to recreational issues, the extreme minority of the boating population on the impoundments engage in back country canoeing, which the environmental intervenors in part assert as the basis for the mandatory land conservation. Whereas many of the signatories to these comments have engaged in back country canoeing, they have done it in Maine on the Allagash Wilderness Waterway. The remote wilderness experience abounds in Maine, but it is a genuine stretch of logic to characterize the present day working forest lands near the Ripogenus impoundments as remote "wilderness."

T&AS-14

g. **Review LURC Study Results.** With regard to the mandatory land acquisition proposal for the Ripogenus Project, we also recommend that you carefully review the study results of the Maine Land Use Regulation Commission ("LURC") in a fact sheet dated March 6, 1990 entitled "Land Use Plan and Rule Amendments Regarding the Development and Conservation of Lakes in Maine's Unorganized Areas," a copy of which is attached to our comments as Exhibit B.

We ask you to consider that the need, if any, does not (1) warrant an intrusion into the Maine Land Use Regulation Commission's traditional jurisdiction for regulating such shorelands, (2) warrant disrupting the longstanding private and state landowner tradition in the stewardship and ownership of such lands on Ripogenus impoundment, (3) justify the significant socioeconomic impacts (which you did not evaluate) that imposition of such a mandate would cause, and (4) justify the very substantial direct economic costs (which you substantially undervalued) that Great Northern would have to incur in order to acquire lands it does not own and to conserve its own lands.

T&AS-15

5. Broader Consideration to Socioeconomic Impacts in the Final EIS. You have appropriately considered in the DEIS a range of socioeconomic impacts, particularly to those of the three towns in the immediate Katahdin

T&AS-14 See response T&AS-7.

T&AS-15 See response T&AS-2.

region. Between 1980 and 1992, the population of the three area towns dropped by 7.5%, as compared to a statewide increase of 9.5% in the same period, representing a gap of 17.4%. The Great Northern mills have seen a 53% work force reduction in the last decade (between 1985 and 1994), resulting in the loss of 1,977 well paid jobs. See Exhibit C to these comments. Great Northern is currently pursuing further cost reductions. Federal and state agencies have had to respond to the new economic challenges facing the Katahdin region by investing several million dollars to stabilize that region's economy.

However, beyond the impacts to the Katahdin region, we recommend that you give careful consideration to the socioeconomic impacts of these projects throughout central and northern Maine, and the State of Maine generally.

As your DEIS notes, the pulp and paper industry is an extremely competitive and energy intensive industry. Great Northern's presence in certain markets and its competitive position in general depends upon the availability of a reliable source of inexpensive electric power. Great Northern mills are a critical component of the Maine forest products economy. Statewide, paper accounts for 35% of the State's manufactured product and, with lumber and wood products, accounts for almost half of the State's manufactured product.

T&AS-15 Cont'd

Accordingly, we urge you to maintain your position as to the streamflows recommended above and, where your recommendations depart from those listed above, to reconsider your position and adopt all streamflows as recommended above.

For the reasons stated in these comments, we finally note that the proposed operations, in accord with Great Northern's Water Use Plan (as amended by the State Water Quality Certifications and the further reasonable conditions which FERC may impose), will guarantee very substantial natural resource and societal benefits, including:

1. a world class landlocked salmon fishery;

2. whitewater rafting on the West Branch, some of the best technical rafting on the East Coast;

3. significant flood control;

4. a guaranteed flow of 2,000 cfs at Millinocket to provide instream river flows for water quality; and

5. direct and indirect economic benefits (including highly paid jobs, production of high quality paper, purchase of forest products and other goods, both direct and indirect, in the Maine economy, and significant tax revenues to the Katahdin area towns).

T&AS-15 Cont'd

These benefits exist because of the mills and the dams, and how they are managed. The resource benefits result from the storage and steady metering of water in and through the hydro system. The economic benefits result from the long term operation of the mills, which rely heavily on a reliable and inexpensive source of electric power from the hydro system.

T&AS-16

Again, we congratulate you on the fine work that you have done thus far in the Environmental Impact Statement. We urge you to consider the comments set forth above and promptly complete the Environmental Impact Analysis. We wish you well as you complete this analysis, and urge FERC to promptly issue new licenses.

The future of this region turns on the opportunity and ability of Bowater to modernize these mills so that they can compete in today's global forest products industry.

T&AS-16 No response required.

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

1.0 Purpose and Need for Action

1.2 Need for Power

You note that "GNP has limited options for replacing lost hydroelectric power." DEIS pg. 1-3. However, the information you cite to support that conclusion actually suggests that GNP has no means of replacing lost hydroelectric power. You cite three potential sources of replacement power: (1) cogeneration; (2) tie-in with Bangor Hydro-Electric Company (BHE); and (3) use of existing condensing turbines. You conclude, however, that based upon available data, those potential alternate sources of replacement power would be insufficient for GNP to sustain its operation and remain competitive in the industry.

T&AS-17

Cogeneration does not represent a viable alternative because GNP's recent mill modernization efforts, undertaken to reduce energy usage by conserving steam, has reduced the amount of steam available, with a corresponding loss in cogeneration capacity. Reliance on BHE as a primary source of energy is not realistic given that, as you note, the utility "may not have sufficient capacity to meet the growing needs of all its customers." Finally, use of existing condensing turbines could only be expected to provide an additional 10MW of sustainable condensing capacity. None of these alternate sources, alone or in combination, could replace GNP's need for clean, renewable hydroelectric power.

1.3 Scope of the EIS

1.3.2 Scoping Meetings

You note that the scope of the EIS was expanded to include, inter alia, socioeconomics as a major issue. Socioeconomics are, indeed, a major issue and we applaud your recognition of this fact. We were disheartened to find, however, that socioeconomics received only minor attention in the draft EIS. We would suggest that you expand its discussion in Sections 3.13 and 3.14 of the draft EIS.

T&AS-18

2.0 Proposed Action and Alternatives

2.3 Project Alternatives

2.3.1 Alternative 1

In Section 5.5.1 you have approved the State water quality certificates which require minimum flows below McKay Station and managing the North Twin impoundment for reestablishment of a self sustaining lake trout population. In our comments at Sections 4.2 and 4.4, we demonstrate that Alternative 1 and Alternative 2 will repeatedly violate these State water quality certificate

T&AS-19

RESPONSES TO THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN

T&AS-17 Your comment does not contradict the statement made in DEIS.

T&AS-18 Opinion noted.

T&AS-19 Commented noted. Detailed responses are provided below in T&AS-52 through T&AS-56.

T&AS-19 Cont'd

conditions over the term of the new licenses. Therefore, we question how either Alternative 1 or Alternative 2 (with Back Channel flows of 165 cfs) can be considered reasonable alternatives.

T&AS-20

The fourth item of the second paragraph suggests that the creation of building setbacks and vegetative buffers within the watershed are necessary to prevent development and potential subsequent degradation of water quality. That hypothesis assumes that development cannot be done in an environmentally-friendly manner and that current LURC rules inevitably result in the degradation of water quality. Neither assumption is correct. See our discussion at 3.11, 3.12, 4.9, and 4.10.

2.3.2 Alternative 2

T&AS-21

In Section 5.5.1 you have approved the State water quality certificates which require minimum flows below McKay Station and managing the North Twin impoundment for reestablishment of a self sustaining lake trout population. In our comments at Sections 4.2 and 4.4, we demonstrate that Alternative 1 and Alternative 2 will repeatedly violate these State water quality certificate conditions of the term of new licenses. Therefore, we question how either Alternative 1 or Alternative 2 (with Back Channel flows of 165 cfs) can be considered reasonable alternatives.

2.4.1.2 and 2.4.1.3 - Economic Comparison Alternative 1 & Alternative 2

The economic analysis of project costs for Alternatives 1 and 2 is seriously flawed primarily because you have grossly underestimated the cost of conservation easements as listed in Table 2-4 on page 2-27 and in Table 2-5 on page 2-28. See Exhibit A.

T&AS-22

The January 25, 1995 public hearing, held at the Stearns High School Auditorium (which seats 450 people), was attended by over 500 people from all over Maine. Their comments clearly demonstrated that the concept of project boundary expansion must be reexamined not only from the perspective of need, but also cost. The affected landowners, including the State of Maine, made clear that no voluntary sales will occur and that the exercise of FERC's power of eminent domain will be necessary.

The need and justification for project expansion by fee or easement acquisition as well as the cost of acquisition is addressed in these comments in detail at sections 4.9, 4.10 and 4.12.

T&AS-20 The staff review of LURC land use regulatory requirements resulted in revised land use assessment and recommendations (see section 4.9). Under the recommended alternative, the proposed conservation easements and/or boundary expansion would provide long term protection of valuable shoreland resources in accordance with LURC regulatory requirements (see section 4.9.3).

T&AS-21 Comment noted. Detailed responses are provided below in T&AS-52 through T&AS-56.

T&AS-22 See response T&AS-6.

It is our position that project expansion is not justified by the record in this case and that you have not properly assessed the cost of any required acquisition.

With respect to economic comparison, we believe that the cost of project expansion will vary from a low of $30.00 per waterfront foot to a high of $100.00 per waterfront foot plus attorneys' fees, appraisal and expert fees, and severance damages as a result of condemnation proceedings. See sections 4.9, 4.10 and 4.12 and Exhibit A to these comments for detailed substantiation and documentation of this range of value.

This range of value would give a total cost of conservation easements ranging from $13,068,000.00 (82.5 miles on Ripogenus not owned by Applicant x 5,280 feet/mile x $30/foot = $13,068,000) to $43,560,000.00 (82.5 x 5,280 x $100/foot = $43,560,000) plus attorney's fees, appraisal and expert fees and severance damages, which could be significant. Given the unwillingness of private and public landowners on Ripogenus to sell and, therefore, the certainty of the necessity of condemnation proceedings, most costs would not be incurred until the condemnation proceedings were completed in the future. The total cost would be discounted to a present value but the discount would undoubtedly not be significant relative to the cost of acquisition of conservation easements. Also, these costs do not reflect lost opportunity costs for development which Great Northern would have to forego on its property on each impoundment.

T&AS-22 Cont'd

Under Alternative 1, the total present value project costs would be:

	low	high
Ripogenus Wetlands Enhancements	$ 1,235,000	$ 1,235,000
Penobscot Wetlands Enhancements	$ 46,000	$ 46,000
Conservation Easements	$13,068,000	$43,560,000
Holbrook Enhancement	$ 20,000	$ 20,000
Total Present Value Cost:	$14,369,000	$44,861,000

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T&AS-22 Cont'd

Using a discount rate of 10% and a 30-year term results in a yearly cost of:

low	high
$1,504,587	$4,715,656

With annual generation of 620,400 mwh the cost is:

low	high
$2.43 (mils/kwh)	$7.60 (mils/kwh)

The discussion at sections 2.4.1.2 and 2.4.1.3, as well as Tables 2-4 and 2-5, must be revised to reflect the vastly higher cost of expansion of project boundaries should you decide such expansion is necessary, notwithstanding comments made at the January 25th public hearing concerning the more than adequate protections provided by LURC zoning.

These costs also do not reflect the future lost opportunity benefits of landowners forced to sell their property against their will nor do these costs reflect the foregone economic benefits to the area population and regional economy of development in the future in accordance with LURC's rules.

2.4.2.1 - Cost Assessment of Potential Alternative Power Sources

T&AS-23

We agree with your assessment of potential alternative power sources and your conclusion that all alternatives are not only prohibitively expensive but are in addition to the cost of running the hydro system even if production from the hydro system is reduced through the use of alternative generation.

2.4.2.2 - Estimated Cost of Lost Power Generation

T&AS-24

On page 2-29, you state the levelized cost of power from BHE is $76 per mwh. On page 2-30, you state the cost of lost power is based on obtaining power from BHE. Table 2-6 lists the cost of power as $83.22 per mwh. We assume the difference between $76 per mwh and $83.22 per mwh is the cost of upgrading the Applicant's existing tie to BHE.

2.4.2.3 - Estimated Cost of Lost Power Generation - Applicant's Proposal

T&AS-25

Your discussion states that managing the elevation at North Twin for recreation and fisheries will result in annual generation losses of 5500 mwh and that increased flows to Millinocket Stream will result in an additional loss of 350 mwh

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T&AS-23 No response required.

T&AS-24 Levelized cost of power from BHE on page 2-29 is the applicant's estimate. Levelized cost of power in Table 2-6 is the staff's estimate. The difference is due to the different data sources and methodologies used to calculate alternative power values. The staff's estimate is calculated from BHE's sales of electricity to industrial customers that were reported in the 1994 FERC Form 1.

T&AS-25 The 5,500 MWh estimate in the DEIS is a typographical error which should be 5,100 MWh. Total energy losses in Table 2-7 are mistakenly valued in dollars instead of MWh. Both errors are corrected in the FEIS. Annual costs associated with estimated energy losses in the FEIS are valued using an alternative power value of $73.92 mills/kWh.

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from North Twin and Millinocket for a total loss of 5850 mwh but Table 2-7 lists 5450 mwh.

T&AS-25 Cont'd

Table 2-7 lists total energy losses as dollars and it appears that you meant megawatt hours. The annual cost for the applicant's proposal should be:

19,450 mwh x $.08322/kwh x 1,000 kwh/mwh = $1,618,629.00.

Table 2-7 and Figure 2-4 should be corrected.

2.4.2.4 - Estimated Cost of Lost Power Generation - Alternative 1

Your discussion is not consistent with Table 2-7. Your discussion states that Ripogenus losses are 5355 mwh in addition to the applicant's loss of 5500 mwh. Table 2-7 shows a total of 8655 mwh for the Ripogenus project and should show 10,855 mwh.

Your discussion states that additional losses at Penobscot Mills would be 771 mwh for Millinocket Stream flows and 20,800 mwh for Back Channel flows so the total shown in Table 2-7 should be 27,071 not 26,671.

T&AS-26

Therefore, the total for Alternative 1 should be 46,026 mwh not 43,426 mwh.

The annual cost of Alternative 1 should be:

46,026 mwh x $.08322/kwh x 1,000 kwh/mwh = $3,830,283.70.

Table 2-7 and Figure 2-4 need to be revised to show the correct mwh cost of Alternative 1 as well as the annual cost of energy losses caused by Alternative 1.

2.4.2.5 - Estimated Cost of Lost Power Generation - Alternative 2

Your discussion states that additional flows in the Upper Gorge will result in an annual loss of 3,787 mwh. Therefore, Table 2-7 for the Ripogenus project should list 9,287 mwh for leakage in the Back Channel and 9,287 mwh for 165 cfs in the Back Channel, not the 7,087 mwh listed.

T&AS-27

Your discussion of the Applicant's proposal on page 2-31 states that managing North Twin for recreation and fisheries results in a loss of 5,500 mwh at North Twin. Your discussion on page 2-34 states that Millinocket Stream flows will result in an additional 388 mwh of loss. Therefore, Table 2-7 for the Penobscot Mills project - leakage in the Back Channel should list a loss of 5,888 mwh not 5,488 mwh. In addition, the Penobscot Mills project for 165 cfs in the Back Channel should list a loss

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T&AS-26 Additional flows in the Upper Gorge from Alternative 1 relative to the No-action alternative would result in the loss of 5,355 MWh of power generation from McKay Station. By contrast, GNP's proposal would result in the loss of 2,200 MWh. Both GNP and Alternative 1 would reduce annual generation at McKay Station by 3,300 MWh by maintaining flows from the Ripogenus impoundment to the West Branch of the Penobscot River below McKay Station to enhance recreation and fisheries. The additional energy loss to the Ripogenus Project from Alternative 1 relative to GNP's proposal is therefore 3,155 MWh for a total loss of 8,655 MWh, as stated in Table 2-7. The text in Section 2.4.2.4 has been corrected to clarify this point.

As stated on page 2-34 of the DEIS, the proposal to maintain year-round flows of 60 cfs in Millinocket Stream would reduce power generation from the North Twin and Millinocket stations by 771 MWh versus 350 MWh in GNP's proposal. Maintaining flows of 350 cfs in the Back Channel would reduce power generation from Millinocket station by an additional 20,800 MWh. Power losses to the Penobscot Mills Project associated with Alternative 1 would therefore be 5,100 + 771 + 20,800 = 26,671 MWh, as stated in Table 2-7.

T&AS-27 Additional flows in the Upper Gorge from Alternative 2 relative to the No-action alternative would result in the loss of 3,787 MWh of power generation from McKay Station. By contrast, GNP's proposal would result in the loss of 2,200 MWh. Both GNP and Alternative 2 would reduce annual generation at McKay Station by 3,300 MWh by maintaining flows from the Ripogenus impoundment to the West Branch of the Penobscot River below McKay Station to enhance recreation and fisheries. The additional energy loss to the Ripogenus project from Alternative 2 relative to GNP's proposal is therefore 1,537 MWh for a total loss of 7,087 MWh, as stated in Table 2-7 of the DEIS. This information is now included in Table 2-4 of the FEIS.

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of 15,788 mwh and not 15,388 mwh.

The total energy losses on Table 2-7 for leakage in the Back Channel should be 23,275 mwh not 20,675 mwh and the total energy losses for 165 cfs in the Back Channel should be 33,175 mwh not 30,575 mwh.

T&AS-27 Cont'd

Therefore, the annual energy loss cost of leakage in the Back Channel would be calculated as:

23,275 mwh x $.08322/kwh x 1,000 kwh/mwh = $1,936,945.00.

The annual energy loss cost for 165 cfs in the Back Channel is calculated as:

33,175 mwh x $.08322/kwh x 1,000 kwh/mwh = $2,760,823.00.

Corresponding changes should be made to Table 2-7 and Figure 2-4.

2.4.2.6 - No-Action Alternative

Your discussion should state that under this alternative the applicant would avoid the lost power generation cost of $1,618,629.00 which it accepts as part of its proposal. Your discussion should also note that this alternative will avoid the following annual costs as compared to Alternative 1:

	low	high
(Table 2-4) project costs	$1,504,587	$4,715,656
(Table 2-7) energy losses	$3,830,284	$3,830,284
Total:	$5,334,871	$8,545,940

T&AS-28

Your discussion should also note that this alternative will avoid the following annual costs as compared to Alternative 2 (leakage):

	low	high
(Table 2-5) project costs	$1,504,587	$4,715,656
(Table 2-7) energy losses	$1,936,945	$1,936,945
Total:	$3,441,532	$6,652,601

and as compared to Alternative 2 (165 cfs Back Channel):

	low	high
(Table 2-5) project costs	$1,504,587	$4,715,656
(Table 2-7) energy losses	$2,760,823	$2,760,823
Total:	$4,265,410	$7,476,479

RESPONSES TO THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN

T&AS-27 Cont — As noted earlier, the generation loss at the North Twin Station associated with the management of the elevation at the North Twin impoundment for recreation and fisheries during certain times of the year reported on page 2-31 should be 5,100 MWh not 5,500 MWh. Generation loss estimates reported in Table 2-7 are therefore correct.

T&AS-28 — The No-action alternative provides a consistent baseline of comparison for other alternatives considered. Your suggestions simply introduce multiple baselines and needlessly complicate the analysis.

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

3.0 **Affected Environment**

3.3.1 - **Streamflow - Regional**

We note that Dover-Foxcroft is located on the Piscataquis River and not on the West Branch or main stem of the Penobscot.

T&AS-29

We also note that Great Northern's dams and storage capacity are primarily responsible for flood control in the region and that flooding in the main stem of the Penobscot is caused by uncontrolled run-off from the Mattawamkeag and Piscataquis Rivers as well as the East Branch of the Penobscot.

Flood control is a major public benefit of past and proposed operation of the system and should be so noted.

3.4.1 - **Water Quality - Regional**

T&AS-30

Past and proposed operation provide predictable significant year round flows as compared to an unregulated river system. These flows provide irreplaceable dilution flows which allow attainment of water quality in the reach despite discharge from numerous industrial and municipal wastewater treatment flows. Dilution flows represent a major public benefit of past and proposed operation and should be so noted.

With respect to Table 3-5, we disagree that the "Back Channel", so-called, from Stone Dam to Shad Pond is classified by the State of Maine as Class C.

Maine law at Title 38 M.R.S.A. § 467 classifies river basins in the State of Maine. Subsection 7.C.1.f classifies the river in the area of the Millinocket mill. The statute reads as follows:

> (f) From the outlet of Ferguson and Quakish Lakes to its confluence with the East Branch of the Penobscot River, including all impoundments-Class C.

T&AS-31

You will note that the statutory definition uses the singular "outlet" to classify this section of the waterway. When Stone Dam was built in 1899 it diverted the West Branch to the east and through a canal which runs under the mill and is known as the West Branch Canal. A minimum of 2,000 cfs goes through the West Branch Canal and leakage flow goes through Stone Dam and down the Back Channel. Occasionally, spillage flow goes through the Back Channel.

Since the singular "outlet" is used, the Maine Legislature classified the West Branch Canal as Class C and did not classify the Back Channel at all.

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T&AS-29 We have deleted the reference to Dover-Foxcroft to avoid implying that it is located within the Penobscot River drainage. We describe flood-control benefits of the projects in Appendix D.

T&AS-30 We have added a statement regarding dilution flows from the projects which have lessened the impact of pollutants.

T&AS-31 Table 3-5 does not specifically list the Back Channel and therefore does not explicitly state how it is classified. This table is listed as provided in the cited documents from the state of Maine, and we therefore are not changing the table. We note that Maine DEP classifies the Back Channel as Class C waters (letter from D. Marriott to FERC, April 22, 1993). The state further waived its authority to certify that the Back Channel will meet applicable water quality standards, as we note in section 2.2.1.2.

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T&AS-31 Cont'd

Section 7.C.2.d is consistent with this construction by clarifying that Millinocket Stream from the terminus of the West Branch Canal to the terminus of the Back Channel is Class C (and not Class B), as it is upstream of the West Branch Canal. See 7.C.2.c.

Table 3-5 should be revised to reflect that the Back Channel is not classified under Maine law.

3.5.2.1 - Back Channel

T&AS-32

We note that Grand Falls is a barrier to movement of warmwater species. Flows in the Back Channel will govern the degree to which Grand Falls is a barrier to such movement. You should specifically state that Grand Falls and Stone Dam are important barriers to the spread of warm water species into the West Branch above Millinocket.

3.6 Wetlands

3.6.1 Basinwide

T&AS-33

In the Draft EIS, you observe that "about 30% of the total land area of Maine is estimated to have been wetlands before the 19th century." Notably, you cite no authority for this proposition.

We are unsure of the relevance of this factual observation, particularly given the Commission's stated policy that applicants seeking to renew licenses do not need to characterize the resource that existed prior to construction, or even prior to initial licensing of the project. As the Commission has stated in its preamble to the relicensing regulations, "the valuation and consideration of the appropriateness of requiring enhancement measures is done in the context of today's environment and in relationship to today's needs and problems, not in the context of the world as it existed 50 years ago." 54 FR 23756 (1989); 55 FR 10768 (1990).

Moreover, since Great Northern is not proposing any substantial modifications to project operation, it is appropriate that Great Northern's application be judged by reference to conditions more than adequately described in its application. (See Penobscot Mills Project application, Vol. II, Section E3.2 and Ripogenus Project application, Vol. II, Section E3.2).

If you determine that it is relevant to include historic information, we agree with your observation that:

"[S]ince the beginning of the 19th century, wetlands throughout the Penobscot River basin have been altered or

RESPONSES TO THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN

T&AS-32 We have revised the text of the EIS to better describe the extent to which Grand Falls acts as a barrier to fish movement.

T&AS-33 The citation for this estimate of wetlands before the 19th century is Dahl (1990), as indicated on page 3-21 of the DEIS. We estimated the quantity of affected wetlands based solely on current conditions at both projects. We do not agree that these wetlands have, as you suggest, reached a state of "equilibrium" and have "adjusted to drawdowns;" they remain affected by the present operation of the project, and would also be affected by the proposed operation of the project.

inundated to some degree by large-scale projects such as dams for the logging industry, water storage, and hydro electric generation."

DEIS at p. 3-21. As set forth in Great Northern's application, historical records document as many as 137 dams on the West Branch. (See Penobscot Mills Project application, Vol. I, Exhibit C, pp. C-1 through C-10, and Figure C-1).

Because of the historic impoundment of waters in and along the West Branch, and the consistent drawdowns associated with releases from those impoundments, the overwhelming evidence presented during state water quality certification proceedings was that impoundment wetlands had reached a state of "equilibrium" and had adjusted to drawdowns. Again, your examination should compare proposed operations to current operations and not to pre-project conditions.

T&AS-33 Cont'd

3.6.2 Ripogenus Project

Your discussion of the wetlands which border the Ripogenus impoundment accurately presents the findings of the applicant's wetland studies as reported in its application. We specifically note that the impoundment wetlands discussed at Page 3-22 of the DEIS accurately observes that "predominant plants within the shoreline zone are typical of those adapted to fluctuating water regime and disturbance." This observation supports the conclusion reached by State of Maine agencies during the water quality proceedings that the impoundment wetlands were in "equilibrium" and would not be impacted by proposed project operations any more than current operations.

3.6.3 Penobscot Mills Project

Your discussion of wetlands within the Penobscot Mills project boundaries accurately reports wetland study results from Great Northern's application. We specifically observe that the DEIS correctly notes that the substrate of the Main Channel and the Back Channel is predominantly large cobbles and boulders with some silt and sand accumulation in a few sections allowing development of small areas of wetlands, but only within narrow areas.

3.11 Land use Issues

3.11.1 Land Use Issues

3.11.1.1 Maine Land Use Regulation Commission

T&AS-34

The description of LURC's zoning classifications for the Penobscot Mills and Ripogenus Project areas, together with attendant setback and vegetative buffer standards, overlooks

T&AS-34 See revised sections 3.11.1.1 and 4.9.

several key elements of LURC's overall protection scheme. First, while timber harvesting is permitted in all of the districts, though a permit is required, there are specific regulations which govern how timber harvesting activities must be conducted. For example, timber harvesting in the P-SL1 and P-GP Protection Subdistricts must be conducted in accordance with the following:

(1) Within 50 feet of the normal high water mark, no clearcutting shall be allowed and harvesting operations shall be conducted in such a manner that a well-distributed stand of trees is retained so as to maintain the aesthetic and recreational value and water quality of the area and to reasonably avoid sedimentation of surface waters.

(2) At distances greater than 50 feet from the normal high water mark, harvesting activities may not created single openings greater than 14,000 square feet in the forest canopy. In such areas single canopy openings of over 10,000 square feet shall be no closer that 100 feet apart.

(3) Harvesting shall not remove, in any ten year period, more than 40 percent of the volume of trees 6 inches in diameter and larger measured at 4 1/2 feet above ground level. Removal of trees less than 6 inches in diameter, measured as above is permitted if otherwise in conformance with these regulations. For the purpose of these standards, volume may be determined as being equivalent to basal area.

Maine LURC Regs., Chapter 10.17.A.5.b.1-4.

T&AS-34 Cont'd

E-267

Second, where the operation of machinery used in timber harvesting results in the exposure of mineral soil, LURC mandates that the minimum width of the unscarified filter strip meet the following standards:

Average Slope of Land Between Exposed Mineral Soil and Normal High Water Mark (Percent)	Width of Strip Between Exposed Mineral Soil and Normal High Water Mark (Feet Along Surface of the Ground)
0	25
10	45
20	65
30	85
40	105
50	125
60	145
70	165

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

T&AS-34 Cont'd

Maine LURC Regs., Chapter 10.17.A.5.c. These standards are in place to ensure that the quality of the impoundment waters.

Finally, the discussion ignores the fact that the cottages constructed on both impoundments predate LURC. There has been very little development on either impoundment, comparatively speaking, since GNP adopted a moratorium on new leases over 20 years ago. While LURC's regulations recognize the right of "grandfathered" uses to continue, LURC's regulations are somewhat unique when it comes to reconstructing nonconforming structures which are damaged or destroyed. In order to reconstruct, in its original location, a structure which is damaged or destroyed the landowner must show that there is no alternative site or location available which would cause the structure to be more conforming. Said differently, the Commission is only allowed to waive its requirements "to the minimum extent necessary" and, in no case, may the Commission waive such standards so as to increase the extent of the nonconformity. Maine LURC Regs., Chapter 10.11.C. GNP's current moratorium, together with LURC's regulations governing reconstruction of nonconforming structures, virtually ensures that the project waters will not be degraded.

T&AS-35

3.11.1.4 Maine Forest Practices Act (MFPA)

The Forest Management Plans referenced in this section must include measures to address erosion control, windthrow, and wildlife.

Separation zones are required for any clearcut in excess of 36 acres. For clearcuts between 36 and 125 acres, those separation zones must be 1.5 times the number of acres in the clearcut. For clearcuts between 126 and 250 acres, the separation zone must be 2.0 times the number of acres in the clearcut.

T&AS-36

3.11.3 Proposed Land Uses

It should be noted that LURC is currently undergoing a review of its Land Use Plan (its "comprehensive plan"), together with its underlying regulations. It is probably safe to assume that the resulting regulations will be more stringent than existing regulations.

It should also be noted that development of land along the impoundments may, in many instances, require a zone change from LURC. Such zone changes are often denied.

T&AS-37

It is also important to note that neither GNP nor any other landowner or lessee within the project boundary have indicated that they have any future development plans.

RESPONSES TO THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN

T&AS-35 Opinion noted.

T&AS-36 Opinion noted.

T&AS-37 Opinion noted. The staff appropriately based the land use assessment on existing LURC regulations and not on assumptions that future regulations may be more stringent than existing regulations.

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

3.12 Aesthetic Resources

T&AS-38 You acknowledge that the Maine LURC conducted a Scenic Lakes Evaluation as part of its Wildland Lakes Assessment in 1990. Notably, LURC concluded as part of the Scenic Lakes Evaluation, that the Pemadumcook chain was identified as a chain which should be developed.

3.13.1.3 - Cultural Resources - Pulp and Paper Industry

T&AS-39 You have failed to note that establishment of paper mills in Millinocket and East Millinocket created these towns from the wilderness and also created economic circumstances that supported a significant population for generations.

T&AS-40 Due to the geographic isolation of the area, a unique industrial and community culture developed based upon a unionized workforce, substantial immigration from northern Maine, Canada and foreign countries such as Italy. This unique culture is entirely dependent on the existence and operation of Applicant's mills and the mills are entirely dependent upon the hydro, fiber and skilled unionized workforce resources in this area. This unique symbiotic relationship between the area population, its culture and the Applicant should be noted as well as the dependence of any significant human population in the area on the continued economic viability of the Applicant.

3.14 - Socioeconomic Resources

T&AS-41 We note that Penobscot and Piscataquis counties are not in "western Maine" but are located in north central Maine.

3.14.1.1 - Population

T&AS-42 You have not noted continued population losses in the local area since 1990 caused by job losses at GNP and that continued job losses will result in additional area population losses because of the area's geographic isolation and lack of employment alternatives.

3.14.1.2 - Employment

T&AS-43 The State of Maine Department of Labor has revised the employment multiplier for the paper and allied products industry from 1.61 to 3.2539. See Exhibit C to these comments. Thus, your calculation of area jobs which Great Northern supports should be revised from 3,200 jobs (2,000 x 1.61) to 6,508 jobs (2,000 x 3.2539). We note that Bowater/GNP employment in the Millinocket mill is 1,037 employees, and approximately 2,000 in the region.

RESPONSES TO THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN

T&AS-38 No response required.

T&AS-39 Information regarding the history of paper mills in the region relevant to these proceedings is provided in FEIS (see section 3.13).

T&AS-40 Opinion noted.

T&AS-41 Text revised.

T&AS-42 See section 3.14 of FEIS.

T&AS-43 The multiplier of 3.2539 is a state-wide multiplier and can only be used to estimate state-wide employment losses. It was incorrectly applied to the regional economy and therefore over-estimates the total number of regional jobs supported by GNP. The correct multiplier to use in estimating total regional employment attributable to GNP is 1.61.

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

T&AS-43 Cont'd

You should also note that, with employment of 3,716 employees in 1985 and employment of 1,739 employees in 1994, Great Northern's workforce has been reduced by 1,977 employees between 1985 and 1994. See Exhibit C (Table attached to 2/16/95 Memorandum of James Haskell).

The impact of Great Northern on northern Maine and state wide employment is not noted.

3.14.1.3 - Income

T&AS-44

We note that the 1990 labor contracts expire in 1995. We also note that declining employment opportunities, due to the geographic isolation of the area, lead directly to outmigration of population, lower regional income, and a lower ability of the Towns to provide community services. See also Testimony of David Cole attached as Exhibit D.

4.0 Environmental Impacts

4.1 Geology and Soils

4.1.1 Applicant's Proposal

T&AS-45

Any construction activities associated with GNP's proposed enhancements at the Ripogenus Project, including improvement of boat ramps, construction of changing facilities and additional parking areas, and development of the Holbrook Stream nursery area must be in accordance with all local, state, and federal regulations, laws, and ordinances. Your conclusion that "a sediment control plan in accordance with local, state, and federal regulations is necessary to ensure that adequate precautions would be taken during construction of the proposed enhancements" is somewhat misleading to the extent that local, state and federal regulations may not, in all instances, require a "sediment control plan." We suggest that you consider concluding "*compliance* with all local, state, and federal laws" is necessary to ensure that adequate precautions would be taken during construction.

4.2.2 - Streamflow - Alternative 1

T&AS-46

Your analysis of the Applicant's data concerning availability of water for Back Channel flows is inaccurate and flawed.

On page 4-5 you state only 2,350 cfs must be released at North Twin in order to pass 350 cfs down the Back Channel and 2,000 cfs through the mill. The Applicant calculated 2,610 cfs would be needed for this purpose because of physical equipment limitations for flow regulation, gate setting and control equipment sensitivities. See Applicant's April 5, 1994

RESPONSES TO THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN

T&AS-44 No response required.

T&AS-45 We have modified the text as you suggest. The orders for these projects will address FERC's requirements for erosion and sediment control plans for the projects.

T&AS-46 We do not state in section 4.2.2 that only 2350 cfs would need to be released at North Twin to provide 2000 cfs at the mill and 350 cfs to the Back Channel. We agree that more flow than this amount would be required due to physical equipment limitations for flow regulation, etc. We also agree that it would not be possible to consistently provide 350 cfs to the BC in addition to the 2000 cfs at the mill along with the 10% buffer, without violating other elements of GNP's water use plan and the state's WQC.

Although GNP has not provided the information needed to determine exactly how much buffer is needed, the exact amount is irrelevant. The 2000 cfs minimum flow required at Millinocket by the WQC and the state charter could include flows provided to the BC, as we explain more fully in Appendix D. Therefore, the economic consequence relative to the environmental benefit of providing flow to the BC is the primary factor in determining its feasibility.

additional response number 2 to your October 28, 1993 and January 14, 1994 Additional Information Request.

Your statement that only minor adjustments to 2,610 cfs must be made year round to save sufficient water for Back Channel flows assumes that the equipment is capable of such fine adjustment and it is not.

You should explain how the North Twin turbines can be adjusted to flow exactly 2,350 cfs. The Applicant's assumption merely reflects 10% error in the amount of water released because of inherent equipment and measuring device limitations. If the equipment is not capable of 100% accuracy in adjustment, it becomes the Applicant's burden to pass no less than 350 cfs in the Back Channel and 2,000 cfs through the mill. It is a real world constraint that 2,610 cfs must pass at North Twin to ensure these flows.

T&AS-46 Cont'd

In response to your January 14, 1994 request for additional information, the Applicant on February 14, 1994 submitted simulations for Back Channel flows of 350 cfs and 165 cfs. The data shows sufficient water is not available to sustain such flows without violation of water quality certificates issued by LURC and DEP which are legal constraints on the Applicant's operation of the project as you note at Section 5.5.1 Fisheries resources are also jeopardized by such flows.

THE AVERAGE YEAR

Simulation for the average year (82SAI350) shows that 18 of 52 weeks or 35% of the time have flows of 2,610 cfs. Sufficient water may not be available without depletion of overwinter storage if more than a third of the time only the minimum which is required to meet the flows can be predicted.

T&AS-47

The State water quality certificate for Penobscot Mills (L-17166-33-A-N) requires the water level at North Twin be maintained at or above the lake trout spawning/incubation level from October 15 through May 1. You note in Table 4-4 on page 4-23 that lake trout spawning occurs in October and November. The level on October 3 is 482.05 and drops thereafter for four weeks to levels as low as 478.61, violating the water quality certificate and dewatering lake trout eggs.

THE AVERAGE DRY YEAR

Similar problems are apparent from the flow simulation for the average dry year (84SAI350).

T&AS-48

Salmon in the West Branch spawn between October 15 and November 15 of each year and incubation flows must be maintained until June 7 of the following year. See Water Quality

T&AS-47 We disagree that model runs of 350 cfs to the BC for the average year indicate possible depletion of overwinter storage. We also disagree that these model runs indicate a possible violation of lake trout spawning and incubation levels. As shown in Figure D-11, panel C, North Twin lake levels reach a minimum at the end of October rather than in the middle of the month, as required. However, panel D of this figure shows that North Twin outflows were simulated at close to 4000 cfs from the end of August through mid-October. A reduction of this outflow during the first half of October would have resulted in the correct lake elevation for lake trout. However, these are moot points, since as we point out above and in Appendix D, the flow through the mill could be reduced to make up any short fall if flows were required to the BC.

T&AS-48 We did not evaluate the average dry year in the DEIS; however, our response to your comments on the dry year are applicable to the average dry year. As stated above, we agree that there is insufficient water in a dry year or a worst-case year (which you refer to as the typical year) to provide for all enhancements proposed by GNP in addition to 350 cfs to the BC and 2000 cfs through the mill plus an additional 10% buffer for equipment limitations, etc. However, the 2000 cfs minimum flow required at Millinocket by the WQC and the state charter could include flows provided to the BC, as we explain more fully in Appendix D. Therefore, the economic consequence relative to the environmental benefit of providing flow to the BC is the primary factor in determining its feasibility.

We disagree with your statements regarding simulations for the wet year. Figure D-10, panel B, clearly shows no difference between GNP's water use plan and the simulation of 350 cfs to the BC.

Certification WQC-001 issued by Maine Land Use Regulation Commission Page 7, Section 16.A.2.(a), 3rd and 4th paragraphs.

Salmon spawning flows range from a high of 2,300 cfs to a low of 2,000 cfs. However, flows are 1,280 cfs for four weeks in March violating the water quality certificate, dewatering virtually the entire year's egg production and restricting habitat for all life stages.

Togue spawning elevations in North Twin range from 480.31 to a low of 478.73 during mid-November, but elevations drop below those levels in March violating the water quality certificate and dewatering the eggs.

During 15 weeks or 29% of the time, flows from North Twin are 2,610 cfs, the minimum necessary to pass 350 cfs down the Back Channel. Lack of available water is a distinct possibility.

Note that available storage in Ripogenus at the end of March is less than 4 bcf precluding the possibility of supplementing flows from storage.

THE DRY YEAR

The problems are magnified and readily apparent for the dry year (85SAI350) which one can assume will occur over the new license terms since it is an actual year from the period examined (3-31-85 to 3-30-86).

E-272 **T&AS-48 Cont'd**

Salmon spawning flows range from 1,800 cfs to 1,400 cfs but flows fall to 690 cfs during March. Such flows grossly violate the water quality certificate, will dewater the entire egg production for the year and will severely compromise the habitat available for all life stages of salmon and all other fish species.

Togue elevations during October range from 483.56 to 480.34 but fall below the maximum for weeks which will violate the water quality certificate and dewater the eggs.

Flows from North Twin are 2,272 cfs for four weeks in March resulting in either partial or total dewatering of the back channel or passing less than 2,000 cfs through the mill which would violate state law and the water quality certificate.

Only during one week (11/10) will more than 2,610 cfs pass at North Twin; 51 of 52 weeks (or 98% of the time), only the minimum water required to pass 350 cfs and 2,000 cfs will flow through North Twin. Obviously, should an actual year drier than 1985 occur over the new license terms, sufficient water would not be available and an environmental and economic disaster would occur.

THE WET YEAR

Even the wet year will violate the water quality certificates and dewater fish eggs.

The simulation (76RAI350) shows that salmon spawning flows are as high as 3,900 cfs but drop to 2,000 cfs violating the water quality certificate and dewatering the eggs laid earlier.

Togue spawning levels are as high as 481.55 but levels later drop as low as 478.95 violating the state water quality certificate and dewatering togue eggs.

THE TYPICAL YEAR

The typical year (MN3AI350) is a disaster. Salmon spawning flows range from 1,400 cfs to 1,800 cfs but drop to 400 cfs for five weeks in March. 400 cfs will violate the water quality certificate, dewater all eggs, and restrict habitat to such an extent that the continued existence of all fish stocks will be in question.

Togue spawning levels are more than 476 but the elevation drops for four weeks in March violating the water quality certificate and dewatering togue eggs.

T&AS-48
Cont'd

Flows from North Twin are 2,610 cfs for 48 of 52 weeks and only half that level, 1,300 cfs, for the month of March; 1,300 cfs will result in dewatering the Back Channel, and violating both the water quality certificate and state law because 2,000 cfs cannot be passed through the mill. Once again, the data for this year simply cannot be used to justify the availability of water for 350 cfs down the Back Channel and, in fact, the data demonstrates that sufficient water for such flows is not available.

Note that available storage in Ripogenus at the end of March rises to only 3.5 bcf from 2 bcf and there is no possibility of supplementing flows from storage during this year.

SUMMARY

The data clearly shows violations of state water quality certificates and dewatering of salmon and/or lake trout eggs for all simulations with the possible exception of wet years. In addition, the simulations document that sufficient water is not available due to the high percentage of flows at or below the minimum of 2,610 cfs at North Twin which in dry years seriously deplete storage at Ripogenus.

E-273

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

You should note that supplementing flows from storage to boost flow in a particular year to avoid violations of water quality certificates or fisheries impacts is simply not possible during the average dry and dry year and during other years would be an unproven method of project operation with unknown impacts on future availability of water.

T&AS-48 Cont'd

We understand that this alternative must be examined because the self proclaimed guardians of the environment have chosen it as their mantra. However, your discussion must point out these obvious failings if for no other reason than to educate project opponents to the dangers of their proposal.

4.2.3 - Streamflow - Alternative 2

Your analysis of 165 cfs flows down the Back Channel also overlooks significant water quality certificate violations and dewatering of salmon and togue eggs.

THE AVERAGE YEAR

The average year (82SAI165) simulation shows that North Twin flows will be at the minimum, 2,420, cfs for 11 weeks or 21% of the time. Given the equipment and measuring limitations, it is very likely that either 165 cfs will not be available or 2,000 cfs will not pass through the mill during these weeks. Minimum flows 20% of the time leads us to conclude that availability of water is a limiting factor.

T&AS-49

Salmon spawning flows below McKay are as high as 2,400 cfs but drop below that level violating the water quality certificate and dewatering salmon eggs.

Togue spawning levels are as high as 481.94 but fall from that level resulting in dewatering togue eggs and violating the state water quality certificate.

THE AVERAGE DRY YEAR

As one would expect, the simulation for the average dry year (84SAI165) shows even greater impacts. Salmon spawning flows below McKay range from a high of 2,300 cfs to a low of 2,000 cfs, but flows are 1,680 cfs for the month of March violating the state water quality certificate, dewatering salmon eggs, and reducing habitat for all life stages.

Togue spawning levels are as high as 483.56 in North Twin but are lower than that level for the remaining weeks violating the state water quality certificate and dewatering togue eggs.

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T&AS-49 We disagree with your statements regarding simulations of 165 cfs to the BC for the average year and the wet year. As figure D-14 illustrates, there is no difference in wet year simulations with and without 165 cfs provided to the BC. In the average year, simulation flows from North Twin for the 165 cfs to BC scenario are the same as or higher than GNP's proposal, except for the last three weeks of the simulation when they are slightly lower (panel D). North Twin lake elevations under the 165 cfs scenario are lower after mid-October when compared with GNP's proposal (panel C), but except for two weeks in late October, are not in violation of the lake trout spawning requirements. This exception could have been prevented by slightly lowering the outflow from North Twin in early October.

See our response to comment T&AS-48 (above) with respect to 165 cfs BC flows for the average dry year and worst-case dry year.

Flows from North Twin are at or below the minimum required to pass 165 cfs down the Back Channel and 2,000 cfs through the mill for 14 of 52 weeks or 27% of the time. Insufficient water is more than probable under these circumstances.

Note that available storage in Ripogenus at the end of March is less than 3.8 bcf precluding the possibility of supplementing flows from storage during this year. An additional 100 cfs for 100 days (27% of the time) would consume almost 1 bcf of water.

THE DRY YEAR

The dry year (85SAI165), which is an actual year during the period of study and will undoubtedly reoccur during the new license terms, shows severe state water quality certificate violations and impacts on fisheries.

Salmon spawning flows are 1,800 cfs or 1,900 cfs for all but one week but fall to 1,420 cfs during the month of March violating the state water quality certificate and dewatering salmon eggs.

T&AS-49 Cont'd

Togue spawning levels in North Twin are as high as 481.51 and later as low as 479.51, violating the state water quality certificate and dewatering togue eggs.

Flows at North Twin are at the minimum required for 37 of 52 weeks or 71% of the time. It is a certainty that if a year drier than 1985 occurs, sufficient water will not be available and it is highly likely that at some point during those 37 weeks insufficient water will be available and either (1) flows in the Back Channel will be reduced from 165 cfs or (2) 2,000 cfs will not be passed through the mill. In either event, the flows will violate state law and/or the state water quality certificate.

Ripogenus storage at the end of March is 6.7 bcf and is insufficient to supplement flows without dangerously depleting available water since during this year minimum flows at North Twin occur 71% of the time. Depleting storage to supplement flows would be especially disastrous during back to back dry years.

THE WET YEAR

The wet year (76RAI165) also violates the state water quality certificate and impacts fisheries. Salmon spawning flows below McKay are 3,900 cfs and then drop to 2,000 cfs. However, flows are no higher than 3,300 cfs thereafter violating the state water quality certificate and dewatering salmon eggs.

Togue spawning levels in North Twin are as high as 481.55 but drop as low as 478.92 thereafter violating the state water quality certificate and dewatering togue eggs.

THE TYPICAL YEAR

The typical year (MN3AI165) also violates state water quality certificates and impacts fisheries. Salmon spawning levels below McKay range from a low of 1,800 cfs to a high of 2,000 cfs but flows during March drop to 400 cfs for 4 weeks violating the state water quality certificate, dewatering virtually all salmon eggs and reducing habitat for all life stages of salmon and all other fishery resources in the West Branch to such an extent that elimination of species must be considered a natural consequence of flows of 400 cfs for a month.

Togue spawning levels are as high as 477.865 in North Twin but fall as low as 475.37 thereafter violating the state water quality certificate and dewatering togue eggs.

The minimum amount of water passes at North Twin in 43 of 52 weeks or 83% of the time. It is highly likely that at some point during those 43 weeks insufficient water will be available and either the Back Channel will be wholly or partially dewatered or 2,000 cfs will not pass through the mill violating the state water quality certificate and state law.

T&AS-49
Cont'd

Ripogenus storage at the end of March is 3.5 bcf and is insufficient to supplement flows during the 43% of the time that minimum flows pass at North Twin.

SUMMARY

Every simulation for Alternative 2 shows violations of the state water quality certificate, dewatering of salmon eggs, dewatering of togue eggs, and under some scenarios, conditions which place the entire West Branch salmon fishery in jeopardy, dewater the Back Channel, jeopardize passing 2,000 cfs at Millinocket (violating state law and the water quality certificate), and seriously depleting Ripogenus storage.

We question how Alternative 2 can be considered a reasonable alternative in light of flows and elevation levels which violate the state water quality certificates and the impact on fishery resources, flows at Millinocket, and Ripogenus storage. However, if you insist on studying the alternative, these adverse environmental impacts should be noted throughout the EIS in relevant sections.

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4.2.5 - Fisheries - Summary

Your discussion omits significant environmental impacts on fisheries by limiting the discussion to "average" years.

T&AS-50

The data demonstrates that you should:

(a) reconsider your conclusion that sufficient water is available for substantial back channel flows;
(b) discuss the fisheries impacts on West Branch salmon stocks below McKay Station, and establishment of a self sustaining togue population.

4.3.1.3 - Back Channel

We disagree with your premise that the Back Channel is Class C under Maine law. Our comments on this issue are detailed at section 3.4.1.

T&AS-51

However, we agree that any comparison should be to existing conditions since, under Maine law, designated uses to be considered are only those that are actually present. Bangor Hydro Electric Co. v. Bd. of Environmental Protection, 595 A.2d 438, 442 (Me. 1991).

Table 4-5, Page 4-24

Table 4-5 summarizes the impact on the impoundments for the Applicant's proposal and the alternatives. Because it is based on "average" flows, it masks the impact on the impoundments of Back Channel flows.

Simulation for the average year (82SAI350) shows a maximum difference of at least seven feet in North Twin elevations between historical (no action) operations and this alternative, and significant differences for many weeks. Simulation for the average year (84SAI350) shows even larger differences in North Twin elevation between historic (no action) and this alternative than are shown for the average year. The dry year (85SAI350) shows significant elevation differences at Ripogenus and North Twin for this alternative and historic (no action) operation. The wet year (76RAI350) shows significant elevation differences at Ripogenus and North Twin for this alternative and historic (no action) operation. The typical year (MN3AI350) shows significant elevation differences at North Twin for this alternative and historic (no action) operation.

T&AS-52

Despite the simulation results, you have used "average" conditions in Table 4-5 and therefore erroneously shown Alternative 1 as having a smaller maximum change in elevation at North Twin than the "no action" case and a difference between the

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T&AS-50 We provided detailed responses above (see responses T&AS-46 to T&AS-49).

T&AS-51 See response T&AS-31.

T&AS-52 This table is not intended to present the full range of elevation changes for various alternatives. We discuss this in section 4.2 and Appendix D. Our discussion in section 4.4.3.5 covers alternatives 1 and 2. Changes in Ripogenus and North Twin elevations for average, dry, wet, and worst case typical year for GNP's WUP, versus 350 cfs in Back Channel, is also shown in panels A and C of Figures D-11, D-12, D-10, and D-13 in Appendix D. We have corrected the typographical error in the table.

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two at Ripogenus of .7 feet.

Your use of "averages" mischaracterizes the impact on elevation and surface area in the impoundment from the various proposals. In order to compare alternatives, your discussion needs to determine and discuss what will actually happen, not what "averages" show; the averages do not represent real world conditions. As presented, the reader would not suspect dewatering of eggs or overwinter storage depletion will occur repeatedly for the alternatives.

T&AS-52 Cont'd

The last line of Table 4-5 refers to "minimum elevation" but apparently lists "maximum elevation".

4.4.2.1 - Fisheries - Alternative 1 - Upper Gorge Flows

The discussion does not mention that, under certain circumstances (i.e. dry years and worst case years), flows from Ripogenus would be compromised at various times. Such a discussion should be added so that the reader is informed of additional environmental impacts over the license term. The impact would seem to affect overwintering habitat.

T&AS-53

4.4.2.2 - Fisheries - Alternative 1 - West Branch Flows

As noted in our comments to Section 4.2.2, this alternative has substantial impacts on fisheries below McKay Station that are not given even the briefest mention in your discussion.

Simulations for five scenarios for this alternative were submitted at your request. Three of those five simulations show substantial adverse impacts on spawning and incubation levels.

The average dry year (84SAI350) shows flows in March of slightly more than one half of spawning flows. These reduced flows will dewater a substantial portion of the year's eggs, substantially reduce available habitat for all life stages and violate the state water quality certificate. These impacts must be noted in your discussion.

T&AS-54

The dry year (85SAI350) shows March flows of 690 cfs once again leading to a greater loss of salmon eggs, habitat for all life stages and violation of the state water quality certificate. Maintenance of the world class salmon fishery under these conditions will be difficult since this is an actual year from the period of study, the impacts must be noted because it is highly probable that a year as dry will be experienced over the new license terms.

RESPONSES TO THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN

T&AS-53 Leakage flows occur during the time of the year when Ripogenus flows would be impacted, so this concern is not relevant.

T&AS-54 The model runs you describe were discussed fully in section 4.2 and in responses T&AS-46-49 above. Section 4.4.2.2 is only intended to indicate that no additional measures are proposed for that location.

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

T&AS-54 Cont'd

The typical year (MN3AI350) is the worst of all with March flows of 400 cfs or 20% of spawning flows which will eliminate salmon eggs, eliminate almost all habitat and violate the state water quality certificate. This simulation for a "typical" year predicts elimination of the world class salmon fishery and this impact should be discussed.

Limiting the discussion to "average" years serves only to hide from the public the true environmental impacts which would result from implementation of this alternative. The public is entitled to a discussion of all reasonably expected impacts.

4.4.2.4 - Fisheries - Alternative 1 - Back Channel Flows

Of the five simulations studied for this alternative, all but the "wet year" revealed long time periods during which the flow at North Twin would be 2,610 cfs or less from which we conclude that dewatering of the back channel is likely a recurrent event under this alternative. The impact of this event needs to be discussed.

On page 4-5 (Section 4.2.2) you correctly state that during dry and worst case years "Back Channel flows would have to be curtailed", but in this section you fail to discuss the impact on environmental resources in the Back Channel which would be impacted by curtailed flows over the new license terms.

T&AS-55

You note on page 4-29 that "portions of a salmon population ...probably would be displaced by ... high volume spillage ..." and note difficulties in recolonization. Impacts of dewatering the Back Channel during dry and worst case years would appear to be greater since those fish who do not detect diminishing flows and move downstream would be stranded and undoubtedly perish.

We also note that the extent that Grand Falls poses a barrier to fish migration would seem to be a function of the species involved as well as the flow. Flows that would allow warm water species to migrate above Grand Falls should be identified as contrary to DIFW's goal of preventing those species from moving into the West Branch above Millinocket because such follows enhance the risk of such movement.

We agree with your conclusion that 350 cfs flows would not significantly increase regional numbers of adult landlocked salmon, especially in light of recurrent dewatering of the Back Channel under this alternative.

RESPONSES TO THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN

T&AS-55 Back Channel flows would have to be curtailed in dry years only if flow through the mill were not reduced. Since no decision was ever made on how the Back Channel flows might be implemented, we have not addressed the issue of reduced Back Channel flows in dry years. Your other comments are noted.

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

4.4.2.5 - Fisheries - Alternative 1 - Impoundment Drawdowns

Your conclusion that flow enhancements would cause only minor changes in impoundment draw-downs may be accurate for average years but is certainly not accurate for dry and worst case years as noted on page 4-5 (Section 4.2.2).

The impact of impoundment levels several feet lower should be discussed, especially with respect to smelt and burbot spawning, Table 4-4, page 4-23. The simulation for the average dry year (84SAI350) shows elevation as low as 917.03 and storage as low as 3.3 bcf. Dry years will occur over the license term and this impact needs to be discussed in order to fully appreciate the alternative.

The impact on the North Twin impoundment also should be discussed, especially the effect of greater draw-downs on togue incubation levels and the impact on the togue restoration program.

T&AS-56

On page 4-5 you note, with respect to Millinocket Lake, that increased flows in Millinocket Stream "would adversely affect fisheries..." but you omit any discussion of the adverse affect in this section as well as section 4.4.2.3. on page 4-28. This omission should be rectified and the "significant" effects on resources noted on page 4-5 detailed for average years as well as dry and worst case years. It seems apparent that spawning and incubation for all affected species in the lake would be adversely impacted as well as fisheries resources in the stream should flows be curtailed due to lack of water.

4.4.3.1 - Fisheries - Alternative 2 - Upper Gorge Flows

Page 4-6 notes that 165 cfs down the Back Channel during dry and worst case years would result in outflows from Ripogenus being reduced "below desired levels for 4 to 5 weeks ...".

This impact which will occur over the new license term is not discussed. At a minimum, adult habitat will be impacted when flows are reduced.

4.4.3.2 - Fisheries - Alternative 2 - West Branch Flows

Five simulations were examined for this alternative, three of the five show dewatering of salmon eggs, reduced habitat and perhaps loss of the entire West Branch salmon fishery. These impacts are omitted from your discussion.

RESPONSES TO THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN

T&AS-56 Your comments assume that flows would be curtailed or that impoundment levels would be reduced in dry years, rather than reducing the flow through the mill. Since no decision has been made on this point, we chose not to discuss potential inpacts to fisheries or other resources. We fully discuss flow impacts in section 4.2 and Appendix D, and in response T&AS-46 to T&AS-49 above.

The average dry year (84SAI165) shows March flows of 1,680 cfs as compared to spawning flows as high as 2,300 cfs. Salmon eggs would be dewatered and habitat greatly reduced stressing all life stages. Obviously, the state water quality certificate would be violated.

The dry year (85SAI165), which is an actual year that can be expected to occur over the term of new licenses, shows spawning flows as high as 1,900 cfs and March flows as low as 1,420 cfs. Eggs would be dewatered, habitat reduced and the state water quality certificate violated.

The typical year (MNJAI165) shows March flows of 400 cfs or less than 25% of spawning flows which will eliminate all incubating eggs and put the entire fishery resource at risk.

All simulations except the wet year show substantial time periods with minimum flows at North Twin. This alternative is subject to great risk of insufficient water especially during the average dry year, dry year and typical year when Ripogenus storage is seriously depleted and even lower flows from Ripogenus and greater stress on fishery resources are likely.

T&AS-56
Cont'd

The foregoing impacts need to be discussed in order to fairly evaluate the alternative. Should you assume low flows can be supplemented from using storage from Ripogenus, you should discuss the impact of lower elevations on burbot spawning, smelt spawning, and the problems associated with lowering overwinter storage, especially in the context of several succeeding dry years.

4.4.3.3 - Fisheries - Alternative 2 - Millinocket Stream Flows

Your discussion concludes that enhanced flows "would provide some enhancement for salmon ..." The enhancement should be compared to the slight effect on fisheries and recreation noted on page 4-6, especially during dry and worst case scenarios.

4.4.3.4 - Fisheries - Alternative 2 - Back Channel Flows

On page 4-6 you note that during dry and worst case years flows from Ripogenus would be reduced and presumably flows in the Back Channel reduced or eliminated. The impact of reduced flows on fisheries resources in the Back Channel should be quantified since dry years will occur over the term of new licenses.

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

The combination of low Ripogenus storage and numerous weeks passing the minimum flow at North Twin for the average dry year, dry year, and typical year ensure that dewatering of the Back Channel will be a recurrent problem over the term of new licenses.

We agree that Back Channel flows would not significantly increase regional landlocked salmon stocks, especially in light of recurrent dewatering of the Back Channel.

4.4.3.5 - Fisheries - Alternative 2 - Impoundment Draw-downs

On page 4-6 you note that Ripogenus impoundment levels would be reduced under dry and worst case years. The impact on impoundment fisheries, especially smelt and burbot spawning (Table 4-4, page 4-23), should be discussed since dry years will occur over the new license term.

T&AS-56 Cont'd

Simulations for the average dry year (84SAI165), dry year (85SAI165) and typical year (MN3AI165) will all have steadily lowering elevations due to storage depletion.

In addition, the impact on North Twin togue incubation should be discussed since page 4-6 notes dewatering of this resource during dry years. Also, the impact on establishing a self-perpetuating stock of togue in North Twin should be discussed. Simulations for the average year (85SAI165), the average dry year (84SAI165) and the typical year (MN3AI165) all show elevations in North Twin falling, to varying degrees, after the maximum elevation during togue spawning season.

4.4.4 - Fisheries - No-Action Alternative

You have omitted the fact that this alternative avoids the substantial adverse fisheries impacts and state water quality certificate violations that will occur on a regular basis under Alternative 1 and Alternative 2. In order to fairly assess the alternatives, this benefit of the no action alterative should be noted.

4.5.1 - Wetlands - Applicant's Proposal

T&AS-57

In discussing Great Northern's proposed operation of the Ripogenus Project, and its asserted impact to wetlands within the project boundaries, you assert that the proposed operation "would continue to adversely affect" those wetlands that are hydrologically dependent on impoundment levels. DEIS at Section 4.5.1.1 at p. 4-33. This observation appears wholly inconsistent with the Commission's statement in the preamble to its Relicensing Regulations that "evaluation and consideration of the appropriateness of requiring enhancement measures is done in the

RESPONSES TO THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN

T&AS-57 The crux of your comments on wetlands relate to the notion that we have considered historic rather than existing conditions with regard to the project shoreline wetlands. You further suggest that there are no effects on shoreline wetlands owing to current or proposed project operation, and that it is therefore not appropriate to require enhancements for such effects. We disagree. It is clear that these shoreline wetlands are currently affected by the present operation of the projects, and would continue to be affected by the proposed operation of the projects. We have changed the language throughout the FEIS, however, to indicate that what we are recommending are enhancements, not mitigation. The requirements for the wetlands enhancements, however, will remain the same as in the DEIS for all of the project alternatives.

context of today's environment and in relation to today's needs and problems, not in the context of the world as it existed 50 years ago." 54 Fed.Register 23756, 23758, 23775-76 (1989); 55 Fed.Register 4, 8-9 (1990).

This statement in the preamble to the Relicensing Regulations should be contrasted with your observation in the Executive Summary relating to your recommended action that:

> "[T]he wetlands enhancements (affecting about 280 acres) included in Alternative 2 are sufficient to mitigate for the estimated acreage of wetlands that are adversely affected by impoundment draw-downs and would eliminate a long-standing adverse effect of the projects on the regional ecosystem."

DEIS at Executive Summary p. xvii.

Finally, this statement should be further contrasted with your observation on page 4-13 of the draft EIS:

> "Using existing conditions as the baseline, we conclude that GNP's proposed projects would not affect water quality in the Back Channel because GNP proposes no changes in the existing flow regime."

T&AS-57 Cont'd

Section 4.3.1.3, at p. 4.13 (emphasis supplied).

How do you justify using existing conditions as the baseline in one section of the DEIS consistent with FERC's Relicensing Regulations and, in the sections on wetlands, using pre-project conditions in a manner that is inconsistent with FERC's regulations?

As Great Northern noted in its application, in response to comments from the U.S. Fish & Wildlife Service, the assessment of project impacts is unique for relicensing of a project as it is directed at describing the existing environmental resources that have resulted from past years of project operation and assessing whether the effects of proposed project operation will be beneficial or adverse. Ripogenus Project Application, Vol. II at p. E3.2-30. Because Great Northern has proposed no significant changes to project operation, no additional impact to existing wetlands is likely. To the extent existing operations are being altered, in order to provide enhancements discussed in the Water Use Plan, those enhancements far outweigh the somewhat speculative impacts which longstanding impoundment drawdowns will have on impoundment wetlands. In this context, how can you justify wetlands mitigation estimated conservatively at $750,000.00?

As you note, wetlands that are hydrologically associated with the Ripogenus impoundment contain plant species that are somewhat tolerant of fluctuating water regimes and are not of high value to wildlife. This narrow band of affected wetlands occurs around the periphery of the impoundment and does not possess deep, organic substrates or sources of inflow independent of the impoundment. Thus, the vegetation, and the wetland systems which support it, are properly viewed as being "in equilibrium."

We agree with your observation that, because the Upper Gorge is extremely rocky and steep-sided, these conditions have precluded substantial wetlands development, and that the wetlands in the Upper Gorge would be adequately protected with leakage flows of about 12 CFS throughout most of the year.

Finally, we note a discrepancy between your recommended Alternative 2 and the acreage of impoundment wetlands within the Ripogenus project boundaries. Even if we assume that the Ripogenus project impoundment wetlands are "adversely impacted," the acreage of impacted wetlands totals only 250 acres. Without explaining the discrepancy in acreage, you propose under Alternative 2 that 280 acres of wetlands be created by Great Northern as mitigation. Again, even assuming (1) an adverse impact, and (2) an acre-for-acre compensation ratio for wetlands mitigation, FERC's Alternative 2 (as summarized at p. xvii of the DEIS) overcompensates. Given your subsequent observation that 350 acres of wetlands mitigation would provide "greater mitigation than is reasonable to compensate for the roughly 250 acres of presently affected wetlands," why would 280 acres of wetlands mitigation not also provide greater mitigation than is reasonable? See DEIS at 4.5.2, p. 4-37.

E-284 **T&AS-57 Cont'd**

PENOBSCOT MILLS PROJECT

Again, in light of FERC's stated policy in the preamble to its relicensing regulations, we do not understand the statement in the DEIS that "current operation of the Penobscot Mills project negatively affects wetland areas that are hydrologically dependent on the impoundments." Again, we understand FERC's policy to assess "adverse impact" by evaluating whether proposed operation of the project will have an additional negative impact beyond current operation. It appears that, in your assessment of impacts to wetlands, you are rewriting FERC's Relicensing Regulations to require a determination as to whether current operations result in an "adverse impact" and then requiring mitigation in conjunction with proposed operations. This is an inappropriate application of FERC's regulatory approach.

Your strained approach to assessing impacts to wetlands is further emphasized by your discussion of "status quo" wetlands conditions in the sections of the West Branch from the North Twin impoundment to Quakish Lake and from Millinocket Tailrace to Dolby Pond. Your statement suggests that relatively stable water levels can and should be viewed as a mode of project operation that will have no impact on wetlands within the project boundaries. From this approach, can we infer that (1) where project operations result in stable water levels, there is no or neutral impact on wetlands, but (2) where project operations result in fluctuating water levels, there will always be an "adverse impact" on wetlands within the project boundaries?

The problems with the methodology or approach you use are:

1. It is contrary to FERC's own Relicensing Regulations, which require a comparison of proposed project operations against current project operations to determine whether or not there is an "adverse impact". If existing project operations cause fluctuating water levels, how can proposed project operations which will result in relatively similar water level fluctuations cause an additional "adverse impact" on wetlands?

2. This methodology or approach would appear to assume pre-project historical conditions, if not hypothetical conditions, as the baseline for determining whether proposed project operations as part of a relicensing will result in "adverse impact." As Great Northern noted in its application, in response to an assertion by U. S. Fish & Wildlife that project operations will result in a "net loss of wetlands":

> "[T]he wetlands that now exist are the product of the construction of Ripogenus Dam. The question of what wetlands might exist if the Ripogenus impoundment were managed differently is entirely hypothetical. If a change in operation did create more wetlands, that would more properly be viewed as an enhancement of existing conditions."

Ripogenus Project Application, Vol. II at p. E3.2-20.

T&AS-57
Cont'd

E-285

BACK CHANNEL

We agree with your observation that "existing wetlands along the Back Channel probably would remain stable under the proposed leakage flows" and that "Great Northern's proposed leakage flows would adequately maintain the existing small quantity of wetlands

in the Back Channel." Thus, from the perspective of protecting wetlands resources in the Back Channel, there is no real justification for expanding or increasing flows in the Back Channel.

Further, as you note, increased flows could disrupt wildlife in the Back Channel, including the existing beaver population. To the extent that beavers have created dams in certain areas of the Back Channel that have created wetlands, disruption of the beaver population could adversely affect wetlands directly associated with the beaver dams. Thus, comparing to current conditions, an alternative to increase flows (that would impact the beaver population in the Back Channel) would result in an "adverse impact" to wetlands directly associated with those beaver dams.

T&AS-57 Cont'd

4.5.1.2 Wetlands Enhancements

Ripogenus Project. Given the "equilibrium" condition of wetlands along the project impoundments, and the fact that proposed project operations will be relatively unchanged from current conditions, we again fail to see the "adverse impact" to wetlands (comparing to the baseline of existing conditions). If there is no "adverse impact" to wetlands, then proposals to enhance or mitigate in response to such impacts are irrelevant and inappropriate.

T&AS-58

If you pursue a different analysis to wetland impacts, in order to appease the environmental Coalition intervenors, we would ask you to consider the socioeconomic impacts and determine whether the additional costs associated with requiring the applicant to undertake enhancements, which it has not offered as to the Ripogenus Project, justify such enhancements.

If, as stated above, you determine that, on an acre-to-acre basis, the Applicant should compensate for alleged adverse impacts to the 250 acres of impoundment wetlands in the Ripogenus project, a total of only 250 acres of wetlands for both projects should be enhanced, not 280 acres.

Penobscot Mills Project. Again, the justification for requiring wetlands enhancements is unclear under a proper analysis, particularly given FERC's Relicensing Regulations. However, if acre-to-acre compensation is to be required of Great Northern, Great Northern's proposal to enhance 45 acres of wetlands within the Penobscot Mills project boundaries (30 acres at Deep Cove and 15 acres at Wadleigh Brook) should be credited against the 250 acres of wetlands which you assert will be adversely impacted by proposed project operation.

T&AS-59

T&AS-58 Current operations at the Ripogenus projects negatively affect approximately 250 acres of shoreline wetlands. This estimate is based on existing, not past, conditions. We have therefore determined that enhancements are appropriate.

T&AS-59 Comment noted.

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

4.5.2 Alternative 1

T&AS-60 We agree, for all of the reasons stated above, that you could not reasonably require Great Northern to enhance 350 acres (100 acres at Quaker Brook and 250 acres at Black Pond) of existing, lower-quality, shoreline wetlands.

4.5.3 Alternative 2

T&AS-61 Again, for all the reasons stated above, we do not agree that Great Northern should be required to enhance 250 acres of shoreline wetlands. In conjunction with your Relicensing Regulations, in comparing proposed project operations with existing project operations (as opposed to pre-project historical conditions), you should conclude that proposed operations will not result in "adverse impacts" to wetlands.

We agree with your assessment that wetlands in the Back Channel provide relatively high wildlife values at year-round leakage flows. Increasing flows above leakage flows in the Back Channel, however, would not increase the total area or quality of wetlands for wildlife and could decrease the area or quality of such wetlands to the extent the beaver population in the Back Channel is adversely impacted by higher flows. For these reasons, we agree that wetland resources would be best served by maintaining current leakage flows (the appropriate baseline under FERC's relicensing regulations) in conjunction with Great Northern's Back Channel Wildlife Habitat Management Plan.

4.5.4 No Action Alternative

T&AS-62 We agree with FERC's assessment that the no action alternative would have no adverse effects on wetlands. If that is so, why do proposed operations result in "continued" adverse impacts to wetlands? Compare second sentence of Section 4.5.1.1 at p. 4-33.

4.6 Terrestrial Resources

4.6.1 Applicant's Proposal

4.6.1.1 Site Specific Impacts

RIPOGENUS PROJECT

T&AS-63 We agree with your observation that the use of herbicides to control vegetation along the transmission line corridor between McKay Station and Millinocket will not adversely affect water quality or wildlife habitat. As Great Northern observed in its application, Great Northern obtains the services of state-licensed contractors, who apply herbicides in accordance with

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T&AS-60 No response required.

T&AS-61 Opinion noted.

T&AS-62 We have changed the FEIS throughout to indicate that the no action alternative would have no additional adverse affects on wetlands (emphasis added).

T&AS-63 No response required.

T&AS-63 Cont'd

state and federal licensing requirements, and with the manufacturers' instructions. Ripogenus Application at Vol. II at p.E3.2-31.

PENOBSCOT MILLS PROJECT

T&AS-64

We agree with your observation that, under the requirements of Great Northern's Back Channel Wildlife Habitat Management Plan, continued operation of the Penobscot Mills project as proposed by Great Northern will not adversely affect or result in loss of additional terrestrial resources and will likely be beneficial to such resources within the project area.

4.6.2 Alternative 1

T&AS-65

As to the Penobscot Mills project, we agree that with a flow of 350 cfs under Alternative 1, project operations would then have adverse affects on the existing beaver population in the Back Channel. This disruption could adversely affect wetland resources directly related to beaver dams created in the Back Channel.

4.6.3 Alternative 2

T&AS-66

We agree that Alternative 2 would protect less terrestrial habitat in the immediate vicinity of the impoundment than the larger zone proposed in Alternative 1; however, as under Alternative 1, we see no justification for imposing any new mandatory easement or expanding project boundaries around the impoundment beyond what the Maine Land Use Regulation Commission already requires.

4.7 Threatened and Endangered Species

4.7.1 Applicant's Proposal

We agree with your observation that "project operations are not related to elevated mercury levels in fish within the project impoundment."

T&AS-67

We further observe and agree with your concurrence that:

1. nothing in the current literature directly or indirectly links impoundment drawdowns with elevated levels of mercury (a point which was clearly established after hours of expert witness testimony before the Maine Land Use Regulation Commission as part of Section 401 Water Quality Certification hearings); and

2. no evidence suggests that the fecundity of the eagle population at the Ripogenus project is affected by

T&AS-64 No response required.

T&AS-65 No response required.

T&AS-66 No response required.

T&AS-67 No response required.

current drawdowns in the Ripogenus project operation. This accords with the expert testimony of Dr. Ian Nisbet at the LURC Water Quality Certification hearings. LURC Transcript I, pp. 145-50 and 235-38.

T&AS-67 Cont'd

Indeed, the evidence before you suggests that the effective existing operations on threatened and endangered species (i.e., bald eagles) in the project study area has been beneficial. Open water below McKay Station has provided foraging opportunities for eagles overwintering along the West Branch. Ripogenus Project Application at p. E33-69.

Concerning wildlife associated with open water, fluctuating water levels on the storage impoundments have not had a significant impact on loon nesting success. Because nesting occurs after ice-out on the impoundments during the period mid-May to late June, and water levels typically recede less than one foot during the incubation period, no significant effects on nesting success is likely. See Ripogenus Project Application at p. E3.3-63.

You properly observe that, to the extent that U.S. Fish & Wildlife representatives believe that the long-tailed shrew and the North American lynx have ranges which overlap the project area, proposed operation would not have adverse impacts on such species because of their relative mobility.

4.7.2 Alternative 1

T&AS-68

Does CLF's assertion that artificial nesting platforms would help to alleviate some of the effects of impoundment fluctuation on nesting common loons and other aquatic birds assume a definite adverse impact to the nesting loon population? Such proof or evidence of adverse impacts due to impoundment fluctuations is neither provided nor referenced in the DEIS.

4.8 Recreation Resources

4.8.1 Applicant's proposal

4.8.1.1 Recreation Flows

Multiday Canoe Trips

T&AS-69

We fundamentally disagree with two of your observations: (1) that the West Branch offers one of the few remaining opportunities in the eastern United States for multiday canoe trips in a wilderness setting and (2) that there is any concreted evidence of such multiday trips on this section of the West Branch (particularly the Ripogenus Impoundment).

T&AS-68 As we indicated in the DEIS (4.7.1, p. 4-44), and subsequently in the FEIS, receding water levels of more than 2 feet can occur during the later part of the loon nesting cycle, potentially exposing the loon chicks, and increasing the likelihood of predation. Therefore, it is our view that recommending the artificial nesting platforms is appropriate.

T&AS-69 We agree that the West Branch above Ripogenus dam is not a "pristine wilderness". We use the term "wilderness" in the context of a relatively large natural area with little development and few permanent residents.

As to the first point, this section of the West Branch is not true "wilderness" as compared to the Allagash Wilderness Waterway located to the north of the Ripogenus Impoundments. If the Rip area is to be considered "wilderness" (because it is not significantly developed), then it must be recognized that it is not pristine "wilderness" in a spiritual or emotional sense, because it has been touched by man's hand. You should not buy into the emotional argument urged by the CLF and the environmental Coalition, but rather recognize that this section of the West Branch has for a century been shaped by man's hand.

T&AS-69 Cont'd

This section of the West Branch is perhaps the best case for the concept of a "multi-use forest." Harvesting activities, a quality road network, a world class salmon fishery, and remarkably open public recreational access all coexist. You should review the record in these proceedings and reexamine whether there is any evidence that shoreline development (particularly on the Rip impoundments), forestry practices, and water level fluctuations are, or will be, radically different than current operations. Also, please consider whether current operations are disturbing anything other than the sensibilities of an elite few who don't want to see a cabin in the woods when they canoe, and on most lakes, for every mile of shore frontage.

E-290

As for the second point, again, there is no evidence that there is significant use of the Rip impoundments for multiday canoe trips. In support of this observation, please note that page 56 of the DeLorme Maine Atlas and Gazetteer denotes that the start of the Allagash River Canoe Trip is at the Telos Lake/Chamberlain Lake thoroughfare, located approximately 5 to 7 miles northeast of the north end of Chesuncook Lake.

T&AS-70

In further support, we ask you to reexamine the use survey results in Great Northern's application. Unlike Penobscot Mills, access to Ripogenus Impoundment is gate-controlled; GNP has therefore been able to do studies based on gate surveys. This ability to more precisely survey facilitated the summer use assessment found at Ripogenus, Vol. III, p. E5.32. This assessment indicates that about 8,000 persons used the impoundment for business purposes (rather than used it to recreate). 4,000 visitors recreated. As to the 4,000 recreators, please note that there are eleven canoeing/kayaking sites (the study lumps them together) on the West Branch (Ripogenus, Vol. 3, p. E5-43).

Also, the Applicant conducted a study of residents, leaseholders and visitors on the Ripogenus Impoundment.

This study reveals that only a fifth of the area residents use the impoundment waters for canoeing; of those who do, 56.9 percent only canoe one to two times a year. Another third canoe

between three and nine times a year. Of the leaseholders surveyed, we find only 11 percent of the leaseholders canoe at all; of that 11 percent, 59.2 percent canoe once or twice a year; and another third canoe between three and nine times a year (Ripogenus, Vol. 3, E5-52) just as the resident, nonleaseholders do. If the nonresident, nonleaseholder use is similar, most of the canoeing/kayaking occurs in the West Branch, not the impoundment lakes; the West Branch is not burdened with development nor the threat of the same.

Further, kayaking, which presumably is almost exclusively a West Branch function, is included with canoeing, inflating the still-small number of participants. Notable again, however, is the much more prevalent use of presumably more intrusive recreational activities; fishing, motor boating, ice fishing, snowmobiling and game hunting are far more common activities than canoeing. (Ripogenus, Vol. III, p. E5-51 & 52).

T&AS-70 Cont'd

As three quarters of the users are Maine residents (Ripogenus, p. E5-3) and many of that three quarters are Millinocket area residents, several other statistics in the study bear note:

> Of area residents, about 61 percent said Ripogenus was being properly used or under-used; 49 percent said Chesuncook was being properly used of under-used; and 53 percent said Caribou Lake was either properly used or under used. About half the leaseholders also shared these assessments. Ripogenus, Vol. III, p. E5-50.

4.8.1.5 Access Fees

T&AS-71

The settlement between GNP and the Fin and Feather Club to provide free day use to Maine residents and the settlement agreement between GNP and MEPRO should be considered enhancements. Both agreements provide tremendous benefits to the public, especially low-income users and frequent local users. These benefits more than offset any adverse impacts.

4.8.2.2 Water Level Fluctuations

T&AS-72

We note that you have failed to discuss the impact of dry years, worst case years, and back to back dry years. You suggest that extra drawdowns would improve recreational access and use. We would note, however, that the opposite is true. Extra drawdowns would simply make it harder to use recreational docks and increase navigational hazards. This adverse impact, especially on Millinocket Lake, is not noted.

T&AS-71 We agree that the proposed elimination of access fees for Maine residents would be beneficial by making access more affordable to low-income and local residents and would potentially increase recreational opportunities and use. The staff finds, however, the elimination of fees for Maine residents and the maintenance of fees for out-of-state users would be discriminatory. In the preferred alternative, we recommend that GNP either eliminate fees or maintain reasonable fees for both Maine residents and out-of-state residents.

T&AS-72 We evaluated all of the alternatives using the same scenarios. We do not suggest that extra drawdown would improve recreational access and use. We have clarified Section 4.8.2.2 to indicate that increased drawdown at Millinocket Lake would adversely affect recreational uses.

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4.8.2.3 Recreational Fisheries

T&AS-73 We note that the potential severe impact on fisheries is not noted from dewatering salmon eggs, dewatering lake trout eggs, dewatering smelt eggs, dewatering burbot eggs, and dewatering the Back Channel over the term of new licenses.

4.8.2.4 Recreation Access and Facilities

T&AS-74 Access would be more difficult in dry years and worst case years because of the attendant decreases in water levels.

4.8.3 Alternative 2

4.8.3.1 Recreational Flows

T&AS-75 Spillage flows are usually greater than 1000-2000 cfs. If, at any time subsequent to the relicensing of the project, it can be shown that a minimum number of paddlers are taking advantage of the whitewater boating opportunities, then the flows should be terminated.

4.8.3.3 Recreational Fisheries

T&AS-76 We note that you have failed to consider, or at least articulate, the impact of dry years and worst case years on fisheries.

4.8.3.4 Recreation Access and Facilities

T&AS-77 We note that you have failed to consider, or at least articulate, the impact of dry years and worst case years on access.

4.8.3.6 Cumulative Impacts

T&AS-78 You have failed to mention the impact of successive dry years.

4.9 Land Use

4.9.1 Applicant's Proposal

4.9.1.1 Shoreline Development

T&AS-79 Your discussion suggests that LURC's existing regulations governing shoreline development are inadequate and that they do not guarantee long-term protection of the project waters for the duration of the project license. Setting aside momentarily the adequacy of LURC's regulations, it is our basic contention that, for a number of reasons, LURC's regulations should be used as the

RESPONSES TO THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN

T&AS-73 See response T&AS-56.

T&AS-74 The FEIS has been modified to reflect this comment.

T&AS-75 Opinion noted.

T&AS-76 We only discuss those areas potentially affected by the alternative. See response T&AS-56.

T&AS-77 See response T&AS-56.

T&AS-78 See response T&AS-56.

T&AS-79 The staff revised its land use assessment and recommendations in the FEIS (see section 4.9).

basis for ensuring continued protection. First, the preference of the people affected by the project for local control should be given deference. Admittedly, LURC is a state agency and, as a result, a significant amount of local control has already been lost. However, it is considerably easier for local preferences to be considered at the state level than at the federal level. Moreover, LURC, while it does so infrequently, has the capacity to amend its rules and regulations to reflect local conditions. Regulations or restrictions imposed by you are not so easily modified, even where appropriate.

Second, the State won't sell and unwilling private landowning sellers will force expensive and needlessly difficult condemnation proceedings. For the reasons stated below (and particularly as detailed under Section 4.9.2.3), condemnation proceedings would be an unfortunate and senseless result as to private landowners who have owned, in some cases, for five generations on the Ripogenus impoundments and have been good stewards of the resource. It is simply unreasonable to consider forcing acquisition of public lands owned by the State of Maine.

T&AS-79 Cont'd

Third, LURC zoning will reduce the amount of land otherwise involved in condemnation proceedings, enhance the local tax base, and encourage local private development for recreation. Zoning is considerably less costly than acquisition of a fee interest or a conservation easement. As discussed under Section 4.9.3.3, you have severely underestimated the costs that will be incurred to acquire such interests. See also Exhibit A to these comments.

Fourth, and in response to the concern that LURC may relax it regulations, we would note that LURC must meet certain statutory obligations in carrying out its zoning obligations. These statutory obligations are just as effective, if not more so, as a means of shoreline control.

By providing a technique for assessing the adequacy of local zoning laws and their enforcement, concerns that zoning would be unreliable are met. Moreover, this situation is considerably different from the Alabama Power case where it was held that local zoning ordinances were unreliable. In this situation we have a state governmental entity, fully-staffed by paid professionals, fully-funded, and closely monitored, which oversees zoning. LURC is not some small municipal governmental entity made up of citizens which may have little or no experience regarding administration and enforcement of zoning ordinances, where variances, zone changes, and lax enforcement are often the rule rather than the exception.

T&AS-80

You have grossly overestimated the potential extent of residential development in the project area. A single-family dwelling is allowed in the P-GP subdistrict only if the lot has a minimum of 200 feet of frontage (and the dwelling unit meets

T&AS-80 The staff revised potential build-out estimates to reflect LURC subdivision regulations. As stated in the DEIS, the staff acknowledges these estimates do not take into account development limitations such as steep slopes, poor soils, wetlands, or access (see section 4.9.1.1). Also, see response T&AS-79.

other extensive requirements). LURC Regs., Section 10.17.B.1. However, only two such lots may be created in this fashion over a five-year period. If a parcel of land is divided into more than two lots over a five-year period, a subdivision is created. Subdivisions are prohibited in P-GP subdistricts. LURC Regs. Chapter 10.16.B.3.d. Consequently, even if each individual lake and impoundment were considered a "parcel", the 2-lot/5-year limitation would result in a maximum number of only 201 dwellings for all impoundments.

You should also analyze the extent to which the shores of the Ripogenus Project impoundments are protected by LURC's Protection-Accessible Lakes (P-AL) Zone. Almost all of the shoreline of Chesuncook Lake, for example, is zoned P-AL which only allows one camp or residential structure for every mile of shore frontage.

LURC's existing regulations not only severely restrict the number of residential dwellings that can be constructed, they also control how that development must take place. These requirements set forth detailed provisions with respect to subsurface disposal systems, minimum road frontage and setbacks, as well as building heights and dimensions. Moreover, if the development would have an "undue adverse impact on existing uses, scenic character, or natural and historic resources in the area, LURC may impose additional or more protective standards with respect to clearing, frontage, and setback requirements . . . " LURC Regs. Chapter 10.17.B.1(g)(6).

T&AS-80 Cont'd

As the above demonstrates, the applicable regulatory requirements absolutely prohibit the type of development you suggest may occur. Even if it wanted to, the only way GNP could exceed the 2-lot/5-year limitation would be to petition LURC to rezone the lands as a development district, thereby permitting the creation of a subdivision. By statute, land cannot be rezoned unless there is substantial evidence, among other things, that

a. The change would be consistent with . . . the Comprehensive Land Use Plan; and the purpose, intent and provisions . . . [of the LURC law]; and

b. The change . . . will satisfy a demonstrated need in the community or area and will have no undue adverse impact on existing uses or resources . . . "

12 M.R.S.A. § 685-A(6).

You reference the fact that LURC approved 17 of 23 rezoning petitions between 1985 and 1992 to support the claim that LURC regulations and existing zoning patterns provide very little long-term protection for the duration of the project license. As

Charles J. Gadzik testified, the screening process that LURC staff pursues has prevented many rezoning requests from getting to a decision before the Commission. See FERC Transcript, Gadzik Testimony at p. 64. Without reviewing the merits of each of these rezoning petitions, it is impossible to know whether they somehow resulted in the degradation of the resource or that somehow the area was left "unprotected."

If LURC were to rezone the land in the P-GP subdistrict to a development district, the regulatory standards that would have to be met for approval of a subdivision to allow more than the two lots are extensive and fully protective of environmental values. LURC's regulations provide that the following standards "shall be considered in evaluating whether subdivisions . . . proposed on land adjacent to lakes":

> The proposal will not adversely affect natural and cultural resource values identified as significant or outstanding:
>
> The proposal will not, alone or in conjunction with other development, have an undue adverse impact on water quality:
>
> The proposal will not have an undue adverse impact on traditional uses;
>
> The proposal will not substantially alter the diversity of lake-related uses afforded within the region in which the activity is proposed;
>
> Adequate provision has been made to maintain the natural character and shoreland;
>
> The proposal is consistent with the management intent of the effected classification.

LURC Regs., Section 10.13-B.2.

In any event, determining the maximum number of lots which could be created is only half the equation. You candidly admit that the estimates you use "are based on current LURC regulations and do not account for development limitations such as steep slopes, poor soils, woodlands, or access." (DEIS pg. 4-57). These limitations would reduce the potential number of camps. But even more important than the number of camps that could be constructed, are the standards which must be met under today's standards to secure building permits.[1] It is difficult to argue that, if permit standards are met, that the resources would not be adequately protected. Consequently, the issue must be LURC's

E-295 T&AS-80 Cont'd

[1]/ See LURC's land use standards for construction within 250 feet of a water body for both P-GP and P-AL zones.

T&AS-80 Cont'd

capacity and willingness to administer and enforce its regulations. Again, we are talking about a state agency with a complete enforcement staff, with legal support provided by the Maine Attorney General's office. This is not some local zoning board operating on a shoestring budget.

You also state that future increased development could adversely affect project aesthetics and the wilderness recreational experience. (DEIS pg. 5-58). We question whether Ripogenus or North Twin even provides a wilderness experience. Certainly, North Twin does not. From the most remote portion of the North Twin impoundment, a radio tower on Black Cat Mountain (which is on the south shore of Millinocket Lake near Spencer Cove on Ambajesus Lake) is visible as well as the vapor column from the Millinocket Mill, and occasionally from the East Millinocket mill. Such views are not consistent with a wilderness experience.

T&AS-81

In terms of aesthetics, it is a subjective judgment that a person paddling on the impoundment is offended or his experiences impacted by cottages on the shore, especially cottages built in accordance with LURC's regulations. LURC requires that buildings be painted a neutral color; colors which clash with the natural setting are prohibited. These tests have been developed under LURC's mandate to ensure, as a criterion for approval of any permit, that "adequate provision has been made to "fit the proposal harmoniously into the existing natural environment in order to ensure that there will be no undue adverse affect on . . . scenic character . . . " LURC Regs., Section 10.13-B.1.C.

4.9.1.2 Timber Harvesting Practices

You have misconstrued LURC's regulations on timber harvesting, especially section 10.17.A.5.J (which makes clear that the prior paragraphs in that Chapter are minimum requirements) and that the timber harvesting operations must be conducted in order to reasonably avoid sedimentation of surface waters. Once again, section 3.4.1 of the DEIS, which deals with a broad range of likely causes of pollution, does not mention timber harvesting activities and does note that water quality is much improved. In addition the record in these proceedings contains little, if any, evidence that timber harvesting activities are adversely impacting water quality at this time. One can certainly see that LURC's regulations and GNP's practices over the past 20 years are responsible for the present water quality in the watershed.

T&AS-82

You state that vegetative buffers range from 50 to 100 feet. However, the P-GP subdistrict and all other LURC shoreland protection subdistricts are 250 feet from the high water mark (LURC Regs. Chapter 10.16.b.2). Timber harvesting is regulated within that 250-foot strip; Section 10.17.A.5.b.3 provides that

T&AS-81 Opinion noted.

T&AS-82 Opinion noted. See revised sections 3.11.1.1 and 4.9.

only 40% of the volume of larger trees can be removed in any ten year period. Therefore, one can argue that the vegetative buffer is actually 250 feet since removal of 40% by volume obviously leaves 60%; those remaining trees will be a vegetative buffer. In addition, from a timber harvesting perspective, it does not seem likely that a landowner would remove 40% in year 1 and 40% of the remainder in year 11, and so on. One would expect the harvesting cycle would be greater than 10 years.

You state that timber harvesting practices can degrade water quality by altering temperature, lowering DO concentrations, and increasing concentrations of nitrates and suspended sediments. We certainly do not quarrel with that observation. However, it is important to note that LURC's timber harvesting regulations were specifically designed to prevent these very problems in the 250-foot buffer from the normal high water line of the impoundments. In a word, the primary focus of LURC's shoreland protection measures is "water" and its quality.

Finally, the first paragraph on page 4-49 of the DEIS needs to be corrected. Pursuant to LURC's regulations (Section 10.17.A.5.B), no clearcutting is allowed in the first 50 feet and a well-distributed stand of trees must be retained "so as to maintain the aesthetic and recreational value and water quality of the area and to reasonably avoid sedimentation of surface waters." In the next 200 feet, or the remainder of the P-GP subdistrict, harvesting activities may not create single openings greater than 14,000 square feet or approximately 120 feet by 120 feet; in such areas, single canopy openings of over 10,000 square feet shall be no closer than 100 feet apart. In the entire 250 foot section, only 40% of the trees by volume can be removed in any 10-year period. Timber harvesting operations, beyond the P-GP area and in the P-GP zone, have occurred continuously around the impoundments and throughout the West Branch watershed with no adverse water quality impacts evident in the record of this proceeding.

T&AS-82 Cont'd

The record in this proceeding is devoid of any significant adverse impact on water quality or aesthetics from timber harvesting. Indeed, the record is the best evidence that current LURC rules regulating timber harvesting have protected water quality throughout the West Branch watershed. There is no factual basis to conclude that expansion of project boundaries is necessary to protect water quality or aesthetics from timber harvesting. LURC is a land use agency with almost twenty-five years experience in these matters. Defer to the judgement of the State of Maine on this issue.

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4.9.1.3 Expansion of Project Boundaries

You suggest in this section that you are concerned about "potential shoreline development and timber harvesting practices." It is imperative to note, however, that current development and timber harvesting practices are not causing any significant water quality or aesthetic problems. Potential impacts from timber harvesting activities are more than adequately addressed by LURC's regulations. (See comments under Section 4.9.1.2 above). The present quality of the impoundment water is the best indicator of that fact.

Potential development concerns should be allayed by consideration of the three likely development options. The first scenario is the continuation of present landowner policies, that is, no new leases. Obviously, the development threat posed by this scenario is nil.

The second development scenario is gradual development under the 2-lot/5-year approach. Recall, under this scenario, each landowner can create only two new leases or two buildings in any five-year period in that landowner's contiguous ownership. Moreover, any development that does occur must be done in strict conformance with LURC's development standards. The development threat posed by this scenario is also very small.

T&AS-83

The third potential development scenario is the potential that landowners will apply to secure a zone change and intensify the developments. Zone changes, as noted above, can only be approved if (1) the change would be consistent with (a) the Comprehensive Land Use Plan, and (b) the purpose, intent and provisions of the LURC law, and (2) the change will satisfy (a) demonstrated need in the community or area and (b) will have no undue adverse impact on existing uses or resources. 12 M.R.S.A. § 685-A(6).

The reference to LURC's Comprehensive Plan brings into play the goals and policies of the Commission concerning development, including policies to:

Discourage growth which results in scattered and sprawling development patterns.

Require that provision be made for fitting development harmoniously into the existing natural environment.

Encourage orderly growth within and proximate to existing, compatible developed areas, particularly near towns and communities.

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T&AS-83 The staff revised its land use assessment and recommendations in the FEIS (see section 4.9). We considered comments received during the DEIS comment period, GNP's proposed conservation easements for the Ripogenus Project area, updated land valuation information, and further assessment of LURC land use regulations. The staff's recommendations (see section 5.3.4) provide measures to protect shoreland resources within the project areas while considering existing land use regulatory controls.

Within the Ripogenus Project area, the recommended alternative proposes two options: (1) the adoption of the proposed 250-foot conservation easements for GNP owned land as defined by the MOU; or (2) a 200-foot boundary expansion on GNP-owned lands (see section 4.9.1). The proposed 250-foot easements would lie outside the project boundary and would remain under LURC land use regulatory control. For the Penobscot Mills Project, the recommended alternative proposes expanding project boundaries to generally extend 200 feet from the high water mark of the impoundments within the project area, only on land currently owned by GNP.

Within the proposed boundary expansion areas, existing structures would be grandfathered and GNP would have the authority to review and approve proposed actions as established by the Commission under the Standard Land Use Article or SMP. See Section 4.9 and 5.3.4 for further discussion regarding proposed protection zones for the Ripogenus and Penobscot Mills Project areas.

Permit subdivision developments only in areas zoned for development.

Limit residential densities on the basis of soil suitability and other site limitations.

Prevent the degradation of natural and cultural values resulting from cumulative impacts of incremental development.

Require the use of buffers, building setbacks, and landscaping to minimize the impact of land use activities upon one another and to maintain the scenic quality of shorelines and roadways.

Regulate the disposal of sewage, solid waste, manure, and septic sludge and prohibit their disposal in flood prone areas, on unsuitable soils, or in other inappropriate areas.

In addition, LURC's Regulations at Chapter 10.08, state that when lakes are involved, the review standards listed at Section 10.13-B.2 shall also be considered. That section protects natural and cultural resource values, water quality, traditional uses, natural character, and lake management goals, and requires consideration of all relevant information, including the Maine Wildlands Lake Assessment findings.

T&AS-83 Cont'd

We believe the present water quality in the impoundments and the present aesthetic benefits seen from the impoundments are a result of LURC's rules and wise landowner management of their property. You should reconsider expansion of project boundaries because you have misinterpreted LURC's rules and their ability to protect these resources in the future. You also have not considered the impacts on affected lease holders, private landowners and the State of Maine.

The record in this proceeding does not justify expansion of project boundaries and issues concerning future water quality and aesthetics are best left to the people of the State of Maine who have amply demonstrated not only their concern about these resources, but their ability to protect them through appropriate regulatory agencies such as LURC.

In addition, expansion of project boundaries raises a number of issues that were not addressed in the draft EIS such as:

(1) How are existing cottages and leases affected?

(2) How are property owners other than the Applicant affected?

(3) How is the Applicant affected?

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

I. Existing Cottages and Leases

On page 4-57 you stated that there are 430 dwelling units on Penobscot Mills and 70 dwelling units on Ripogenus. On page 3-47 you state GNP has granted 60 leases on Ripogenus and on page 3-48 you state GNP has granted 823 leases on Penobscot Mills.

Cottage owners have made significant investments in their property; the vast majority were built before creation of the Land Use Regulation Commission. Changes in their property are, however, subject to LURC's rules.

A number of questions were raised at the public hearing concerning the effect of expansion of project boundaries on these cottages and leases such as:

1. Will leaseholders who have not built on their lot be allowed to build in the future in accordance with LURC's rules? You note GNP has issued 883 leases, but you document only 500 dwelling units on those leases. We assume other landowners on Ripogenus have also issued leases but buildings have not been erected on all of them;

2. Will leaseholders be able to have permanent or temporary docks in the future if they presently do not have one?

3. Will cottage owners be able to maintain existing building and docks within the proposed setback zone?

4. Will cottage owners be able to replace buildings in the future that are destroyed or expand existing buildings?

5. Will cottage owners be able to build new buildings within the setback zone in the future?

6. Will cottage owners be allowed to remove any vegetation within the proposed vegetation buffer?

7. If changes in existing cottage are allowed or new buildings are allowed, how do affected individuals get permission from you?

8. Will any restrictions be placed on GNP's ability to sell existing leased lots to the leaseholder?

9. How will existing leases be affected if the lease is not renewed for any reason?

T&AS-83 Cont'd

E-300

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COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

The high level of concern from GNP leaseholders was apparent at the public hearing. Answers to these questions as part of your explanation of any "grandfather" concept omitted from the draft EIS is necessary to alleviate public concerns.

II. Affected Landowners on Ripogenus.

Some 82.5 miles of shoreline on the Ripogenus impoundment is not owned by the Applicant. More than 55 miles of frontage are owned by private landowners; the rest is owned by the State of Maine.

T&AS-83 Cont'd

As noted at the public hearing, we do not believe it is appropriate to require private landowners who happen to own land on the impoundment to sacrifice their property to protect such a subjective resource as aesthetics. The present aesthetics exist in large part because of the wise stewardship of the private landowners. It is a poor reward for good land management to deprive these people of their property. Nothing in the record suggests that these landowners have adversely affected water quality or aesthetics or that their use of their property will do so in the future.

Expansion of project boundaries on land not owned by the Applicant is in poor taste, is not mandated by the facts and may well be untenable legally. We suggest that you delete the requirement.

E-301

III. The State of Maine.

T&AS-84

The State of Maine owns Gero Island at the north end of Chesuncook along with several miles of shorefront. Maine holds its land for its people and can be trusted to manage its property appropriately without guidelines from you. We suggest you delete any requirement of expansion of project boundaries on land owned by the State of Maine.

IV. Future Development Impacts.

We believe development on the impoundments in accordance with LURC's rules is compatible with the environment or it would not be approved.

T&AS-85

We view some degree of development in the future on the impoundments in accordance with LURC's rules as an important potential source of diversification for the local economy. Not only will some limited development generate construction dollars, but it also will increase at least seasonal visitors to the area. As the paper industry employment has contracted, it is increasingly important to explore and develop all alternatives. It is not fair for you to preclude this option for the affected landowners and local population since you have not considered the

RESPONSES TO THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN

T&AS-84 As noted earlier, staff revised recommendations for conservation easements and project boundary expansion (see section 4.9). The staff never intended to require the State of Maine to relinquish any land holdings for the project boundary expansion recommendations put forth in the DEIS.

T&AS-85 Opinion noted.

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

T&AS-85 Cont'd

economic impacts on them from the perspective of lost future opportunity.

4.9.1.4 Cumulative Impacts

T&AS-86

For the reasons developed more fully in Section 4.9.1.1 hereof, we take issue with the conclusion that potential development "would contribute to the loss of wilderness character in the Upper Penobscot drainage and could degrade water quality because of inadequate buffers."

4.9.2 Alternative 1

4.9.2.1 Shoreline Development

T&AS-87

The imposition of a 250-foot vegetative buffer to protect against degradation of project waters does not seem to fit within the permissible bases for requiring an expansion of project boundaries.

4.9.2.2 Timber Harvesting Practices

T&AS-88

We would simply reiterate that there is absolutely no evidence that anything in addition to LURC's existing regulations is needed to protect water quality, especially since the present buffer is already 250 feet.

4.9.2.3 Expansion of Project Boundaries

T&AS-89

We question whether your eminent domain authority, as set forth in Section 21 of the Federal Power Act (16 U.S.C. § 814) is available in connection with the aesthetic considerations raised in the DEIS. Your regulations provide that:

> [t]he [project] boundary must be located no more than 200 feet (horizontal measurement) from the exterior margin of the reservoir, defined by the normal maximum surface elevation, except where deviations may be necessary in describing the boundary according to the above methods, or where additional lands are necessary for project purposes, such as public recreation, shoreline control, or protection of environmental resources.

18 C.F.R. § 4.51 (h)(2)(B)(emphasis supplied). This provision is by no means a model of clarity, but seems to limit the purposes for which project boundaries can be expanded beyond 200 feet from the exterior margin of the impoundment. It does not, however, detail the bases for requiring an expansion of project boundaries up to the 200-foot mark.

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T&AS-86 Opinion noted.

T&AS-87 Opinion noted.

T&AS-88 See response T&AS-82.

T&AS-89 The staff revised its land use assessment and recommendations in the FEIS (see section 4.9). We considered comments received during the DEIS comment period, GNP's proposed conservation easements for the Ripogenus Project area, updated land valuation information, and further assessment of LURC land use regulations. The staff's recommendations (see section 5.3.4) provide measures to protect shoreland resources within the project areas while considering existing land use regulatory controls.

FERC's authority to require the expansion of project boundaries up to the 200-foot mark may be extracted from two other regulatory provisions. First, you are authorized to require GNP to include in its relicensing application an analysis of costs and constraints in developing a protective zone around the impoundments to ensure public access and to protect aesthetic values. 18 C.F.R. § 4.51(f)(6)(iv).

The regulations also provide that an applicant will assume the

> . . . responsibility to acquire in fee and include within the project boundary enough land to assure optimum development of the recreational resources afforded by the project. To the extent consistent with the other objectives of the license, such lands to be acquired in fee for recreational purposes shall include the lands adjacent to the exterior margin of any project reservoir plus all other project lands specified in any approved recreational use plan for the project.

18 C.F.R. § 2.7(a)(emphasis supplied).

T&AS-89 Cont'd

E-303

Boiled down, beyond performing an analysis of the costs to secure a buffer to protect aesthetic values, these provisions, would seem to limit the purposes for which a project expansion could be required up to the 200-foot mark to protection of recreational resources of the impoundment.

You have concluded that the proposed project boundaries are inadequate and recommend:

> creating a 200-foot building setback with a 100-foot vegetative buffer around the Ripogenus impoundment and GNP-owned property along Penobscot Mills Project impoundments would preserve existing aesthetic values and protect the project areas against potential future degradation of impoundment water quality. The building setbacks and vegetative buffers also would protect against habitat modifications that could adversely affect bald eagles, terrestrial wildlife, and vegetation in valuable habitat around the impoundments.

DEIS, pg. 5-16 (emphasis supplied).

Of your stated purposes for requiring the 200-foot expansion of project boundaries, only preserving aesthetic values is arguably consistent with the regulations, but only to the extent that FERC wants Great Northern to study costs to acquire buffer areas. If you actually want FERC to properly exercise its authority under its own rules, its eminent domain authority would

be limited to requiring fee acquisition for recreation which, as quoted above, is not included in your motivating purposes for land acquisition. Water quality and habitat protection may serve as legitimate bases for extending the project boundaries beyond the 200-foot mark; however, that particular proposal has been appropriately rejected by you as providing only marginal additional benefits.

The existence of limitations on the eminent domain right is established by case law that deals principally with recreational or flooding needs of a project. See, Louisiana through the Sabine River Authority v. Kindsey, 524 F.2d 1934 (5th Cir. 1975) and Chapman v. Public Utility District No. 1, 367 F.2d 163 (9th Cir. 1966).

Before forcing use of condemnation proceedings in this case, you should recognize that this is not the ordinary "run of the mill" eminent domain case. The limits of your eminent domain authority in this particular case must be reviewed at three separate levels, each posing their own unique issues. First, whether you can compel GNP to impose the aforementioned buffer zones and building setbacks on land that it owns. Second, whether you can compel existing private landowners to sell their land solely for aesthetic purposes. Third, and perhaps most difficult, whether you can require that the State of Maine give up that land that it owns and manages.

T&AS-89 Cont'd

As noted above, you cannot seriously ask FERC to exercise its eminent domain authority to address purely aesthetic concerns. Such exercise is completely outside of its statutory and regulatory reach. Moreover, it is clear that LURC's existing rules already protect the aesthetic values sought to be protected by you. The Federal Power Commission, in Appalachian Power Company, Project No. 2317, Opinion No. 698, June 14, 1974, held:

> if adequate zoning laws are enacted by the Counties - - and, we would add, if such zoning laws are adequately enforced - - they should be permitted to substitute for Appalachian's acquisition, in fee or as scenic easements, of both the 200-foot [buffer] strip [].

In the same case, FPC also noted that

> [if] adequate shoreline control beyond the three foot vertical line can be achieved through local zoning, such arrangements should be considered by the Commission as an acceptable alternative to additional costly fee acquisition or scenic easements.

E-304

In this case, we are fortunate in many respects. First, existing zoning laws sufficiently stringent to address even the most outrageous concerns regarding aesthetics (as well as, water quality) are already in place. Second, those zoning laws are administered by LURC, a fully-staffed, well-administered, state agency. Third, LURC has an impressive track record for enforcing its rules and regulations. The situation present in this case appears to be exactly the situation the FPC was describing in ruling on the Appalachian Power Company matter; this is not the Alabama Power case.

With respect to LURC, and the commitment the State of Maine has towards resource protection, Steve Adams, Director of Policy Coordination for the Maine State Planning Office, testifying on behalf of the Governor King Administration at the January 25, 1995 public hearing stated that:

> [the] draft environmental impact statement includes much useful information. However, the analysis and recommendations are colored by the archaic and increasingly discredited notion that somehow Washington-based bureaucrats are better able to manage Maine's resources than are the people of Maine. We believe that you have underestimated Maine's capacity and commitment to preserving this State's natural resources. Maine is very proud of it track record in developing creative and effective measures that balance the competing needs of landowners, recreational users and the imperative to protect our natural environment. Through a combination of regulation, public ownership and cooperation, Maine has earned a national reputation as a leader in resource protection.

Adams Testimony at Pg. 23.

Your notion that you should (or even can) compel private landowners to sell their respective property interests to GNP to preserve aesthetic values is even more ludicrous. The cost of acquiring those rights is grossly disproportionate to any benefit accruing (over and above those already existing by virtue of LURC's regulations).

Let us also consider the legal impediments to such a "taking." While property can, in some instances, be taken for "public purposes," it is debatable whether the purpose you articulated to justify the expansion of project boundaries is, in fact, a "public purpose." It is a very narrow class of "backcountry canoeists" on multiday trips who would perceive an injury to aesthetic values, to the extent such injury were even allowed by LURC's regulations.

E-305 T&AS-89 Cont'd

The cost of taking the property by eminent domain, assuming it is even possible under the law, would be staggering. (See these comments Section 4.9.3.3). Given the testimony at the January 25, 1995 public hearing in Millinocket, it is abundantly clear that there are very few individuals prepared to sell their land to GNP.

A number of landowners and their representatives that would be impacted by your decision to require the taking of private property testified at the public hearing on January 25, 1995. For example, Larry Philbrick, Vice President, Prentiss & Carlisle Management Company, Inc. (which manages the timberland interests of private clients who would probably be most impacted by a decision to require acquisition of boundary lands), testified as follows:

> Our clients in this area consist of three large timberland owning families who collectively own 274,853 feet - - that's 52 miles - - of shore frontage in this project area. At a depth of 200 feet, this amounts to 1,262 acres of land within this area.
>
> Our clients have owned this property for a long period of time. The shortest length of family ownership is 50 years and one family has owed here for 110 years, now in the sixth generation of family ownership and they have a strong sense of stewardship.
>
> . . .
>
> These owners have not abused this land over the years. In fact, the aesthetics and water quality of this property are judged high today because of our clients' care and management of these resources. Our clients have no interest in selling the fee or conservation easements on this property.

Philbrick Testimony, FERC Transcript at pg. 72.

T&AS-69
Cont'd

These landowners ought not be penalized for their stewardship of the resource by being forced to sell their lands to GNP. Rather, their history and commitment should be recognized and encouraged.

The third tier of the analysis is whether it is appropriate to take the public lands owned and managed by the State of Maine for the benefit of the public. Again, Steve Adams spoke eloquently on this point at the January 25, 1995 public hearing. Mr. Adams testified:

> [the King Administration] take[s] exception to the recommendation that would require the licensee to purchase

or otherwise take property in the project area to implement protection measures. The State of Maine owns Gero Island and shoreland in the vicinity of Chesuncook Village which is managed by the Bureau of Public Lands. This property is managed consistent with an approved management plan. The Bureau's policy is to issue no new residential or commercial leases on these lands. Moreover, timber harvesting on this property is subject to the Bureau's integrated resource policy developed with public participation and subjected to interdisciplinary review.

The State of Maine has no intention of selling its property or its property rights within the project area. We will strenuously oppose any effort to take it by eminent domain and resent being placed in a position of potential conflict with the corporate citizen with whom we have enjoyed fruitful cooperation in the preservation of natural resources.

T&AS-89 Cont'd

Instead, as noted above, we believe that the State's effective and balanced land use protection measures should be recognized and deferred to by you.

In closing, I submit that the State of Maine has been a very effective steward of its natural resources. Your staff apparently agrees, finding on page 5-24 [of the DEIS] 'the State's land use and forestry practices regulations adequately protect the natural resources of this area.' Likewise, the land and public ownership is afforded quality resource management. This result is because the people of this State take very seriously their stewardship responsibilities.

E-307

Adams Testimony, FERC Transcript at pgs. 23-24.

Based on the above discussion, and consistent with your earlier rulings, please consider that FERC may not have the authority to require the imposition of a 200-foot buffer around impoundment waters to preserve aesthetic values. That being the case, please also consider whether FERC should exercise that authority to compel private landowners, much less the State of Maine, to sell their lands. In our view, FERC should not.

4.9.2.4 Cumulative Impacts

While we agree in the abstract that the conservation easement could provide some additional marginal benefits through additional regulation of development and timber harvesting, the cost of obtaining those marginal benefits far outweighs the speculative benefit accrued. As discussed above, LURC should and does regulate development and timber harvesting in a manner fully protective of aesthetics and water quality.

T&AS-90

T&AS-90 Opinion noted.

4.9.3 Alternative 2

4.9.3.1 Shoreline Development

Please see the discussion under Sections 4.9.1.1. and 4.9.2.3.

Notwithstanding the legal implications of imposing building setbacks discussed in Section 4.9.2.1 above, we would note that such setbacks also raise a number of interesting issues with respect to existing camps and leases. For example:

1. Will leaseholders who have not built on their lot be allowed to build in the future in accordance with LURC's rules? You note GNP has issued 883 leases, but you document only 500 dwelling units on those leases. We assume other landowners on Ripogenus have also issued leases but buildings have not been erected on all of them;

2. Will leaseholders be able to have permanent or temporary docks in the future if they presently do not have one?

T&AS-91

3. Will cottage owners be able to maintain existing building and docks within the proposed setback zone?

4. Will cottage owners be able to replace buildings in the future that are destroyed or expand existing buildings?

5. Will cottage owners be able to build new buildings within the setback zone in the future?

6. Will cottage owners be allowed to remove any vegetation within the proposed vegetation buffer?

7. If changes in existing cottage are allowed or new buildings are allowed, how do affected individuals get permission from you?

8. Will any restrictions be placed on GNP's ability to sell existing leased lots to the leaseholder?

9. How will existing leases be affected if the lease is not renewed for any reason?

You state that, for the Penobscot Mills Project, GNP would have the option of developing a Shoreline Management Plan (SMP) providing the means to establish different building setback and lease granting requirements. You also state that the SMP should include, but not be limited to, provisions to "plan timber harvesting activities within and adjacent to the protection zones

T&AS-91 See response T&AS-83.

to follow guidelines established by LURC for timber harvesting and requiring permits from LURC before timber harvesting." We question whether requiring a permit for timber harvesting would solve any perceived pollution problems from timber harvesting.

T&AS-91 Cont'd

You also state that the SMP should contain provisions for "maintain[ing] project transmission line rights-of-way in a manner that minimizes adverse aesthetic effects caused by clearing vegetation." We question whether the transmission line is even visible from any of the project impoundments. Only a very short section of the transmission line is even visible from Millinocket Lake and Ambajejus Lake.

4.9.3.2 Timber Harvesting Practices

T&AS-92

See discussion under Section 4.9.2.2 above.

4.9.3.3 Expansion of Project Boundaries

Please see discussion under Section 4.9.2.3.

As a preliminary matter, GNP owns 82 miles of the 162.5 shoreline miles (or 50%) of the Ripogenus shoreline, and 82% of the North Twin Impoundment shoreline, 40% of the shoreline on Dolby and other lower impoundments, or 72% of the shoreline on the entire Penobscot Mills project.

You have grossly underestimated the cost of securing the proposed conservation easement over the property. Based upon an independent appraiser's review of the proposed conservation easement on the 82.5 miles of Ripogenus Project shoreline which Great Northern does not own, we believe that the actual cost of project expansion will vary from a low of $30.00 per waterfront foot to a high of $100 per waterfront foot. That report of Lowell T. Sherwood, ASA, is attached as Exhibit A. These figures do not include attorneys' fees, appraisal and expert witness fees, and severance damages as a result of condemnation proceedings to assert your eminent domain authority. These additional costs could increase the actual cost of project boundary expansion by a factor of 2 or 3.

T&AS-93

Your approach to estimating the cost of the project expansion is seriously flawed. First, the threshold matter is whether the loss of development rights equates with fee simple interest under the highest and best use of the property. The appraiser concluded that "if the conservation easement includes the development rights and prohibits use of property for private or public development, including seasonal building sites, then the remainder encumbered fee rights have no measurable market value." Exhibit A at pg. 2. As a result, he concluded that "there should be no doubt that the development rights equate to the fee simple interest in terms of market value." Id.

T&AS-92 See response T&AS-82.

T&AS-93 The staff revised potential cost estimates for the shoreline easements upon review of comments received during the DEIS comment period and updated land valuation information. The staff determined the potential cost, based on waterfront footage for the easements proposed in Alternative 1, approximately $24.6 million, would be greater than previously determined in the DEIS. Our evaluation of benefits suggests that the additional protection of the 500-foot expansion does not merit the much higher cost of that alternative as compared to the recommended alternative ($24.6 million versus no direct costs). See section 4.9 for further discussion.

Second, your use of the $/acre unit comparison is inappropriate. A unit of comparison such as $/acre is a way of comparing data in the appropriate language of the marketplace. There is no doubt that 82.5 miles of lake frontage to a depth of 200 feet is not an acreage purchase, but rather a waterfront purchase. Buyer and seller will not speak in terms of 1,624 acres but of 82.5 miles of water frontage. The appropriate unit of comparison, therefore, should be $/waterfront foot, not $/acre. In United States of America v. 1,499 Acres of Land, et al., the Department of Interior, in pursuing a 250-foot strip around Crawford Pond for the Appalachian Trail, attempted to use $/acre in establishing "just compensation" in an eminent domain taking of 18,660 feet of lake frontage to a depth of 200 feet. The Court held, however, that "in placing a value on parcels involving shore frontage, the market focuses primarily on the amount of water frontage, rather than the total acreage." Court's decision attached as part of Exhibit A at page 10. The Court went on to determine a land value based on $/waterfront foot.

T&AS-93 Cont'd

Third, your estimated cost assumes an artificial market of willing sellers, always at market value, and ignores the reality of severance damages, unwilling sellers, and the costs and risks associated with eminent domain. Market value assumes a willing seller, a component missing in this equation. An estimated "cost" of acquiring conservation easement derived from a single open-market sale ("Rangely Lake shoreline") between two willing parties assumes an artificial marketplace comprised of individuals lined up to convey their interests because it is the right thing to do.

No economically feasible amount of money will acquire 82.5 miles of waterfront from a multitude of owners and lessees without the benefit of eminent domain authority. Without question, there will be landowners who will be unwilling to sell at any price, and litigation will be necessary. With litigation comes legal fees, the risk of an unfavorable jury's opinion of "just compensation" and the potential for severance damages.

While our appraiser did not appraise the subject property, he did personally view the Chesuncook, Caribou, and Ripogenus shorelines on several occasions and made the following observations regarding the estimated acquisition cost of $4.59/wff:

1. The "comparable land values" used in the DEIS to estimate the potential cost of acquiring conservation easements over the subject property was probably the sale of a fee interest from Oxford Paper Company to Rangeley Lakes Heritage Trust on December 29, 1993. This property was not located along the Rangely Lake shoreline but rather along the shore of Cupsuptic Lake

and Mooselookmeguntic Lake in Adamstown Township. This sale, at $1,193,000, involved 16,480' of lake frontage at a price of $72.39/wwf.

Shortly after, a conservation easement including development rights was conveyed to the United States of America for $843,000 or $51.15/wff.

The sale was not to the Maine Forestry Legacy Program and the property was not on Rangely Lake. However, regardless of the errors and omissions in the DEIS reference, this is a sale of the fee simple interest at $72.39/wff and a conservation easement of $51.15/wff.

T&AS-93 Cont'd

2. From a list of sales of large tracts of lakefront acreage, the two most comparable parcels sold for $26.14/wff and $30.51/wff. The $26.14/wff involved an unwilling seller and required condemnation.

3. The 3/06/90 Fact Sheet published by LURC outlines the "Land Use Plan and Rule Amendments Regarding the Development and Conservation of Lakes in Maine's Unorganized Areas." In that Fact Sheet, relying heavily on the Maine Bureau of Taxation, LURC estimates the current market value of Class 1, 2, 3 and 6 shorelands. "As to Shoreland, the Bureau develops estimates of front foot value for each lake based on recent sales on that lake or sale on comparable lakes." This includes Chesuncook Lake @ $100/wff, Brandy Pond @ $75/wff, and Caribou Lake @ $100/wff.

The second paragraph of Section 4.9.3.3 of the DEIS states that your regulations require the applicant to provide access to recreational resources and protect aesthetic resources within the project boundaries. Certainly, the building setback and vegetative buffer do nothing to provide access to recreational resources; however, no one has said that access is not sufficient. Once again, you have the authority to protect aesthetic and recreational resources, but we question whether there is a factual basis in this particular case in light of actual LURC regulations and actual conditions on the impoundments.

T&AS-94

Once again, there is no problem with water quality and it is not clear how the enhanced conservation measures, by repeating existing LURC setbacks, would enhance the present water quality. There is no problem with the present levels of recreation and it is not clear how the proposed conservation easement would either maintain the present levels or expand them and, if so, what impact will expanded recreation have on those resources. The present level of development does not seem to have adversely impacted either water quality or recreation. It seems

T&AS-94 Opinion noted.

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

T&AS-94 Cont'd

inappropriate for you to speculate that any future development within 200 feet of the shoreline will always have adverse impacts on water quality and recreation.

4.9.3.4 Cumulative Impacts

T&AS-95

Please see discussion under Section 4.9.2.4. The expanded project boundaries may have cumulative benefits, however, those additional benefits are marginal at best and do not outweigh the cost of obtaining the additional incremental benefits.

4.10 Aesthetic Resources

4.10.1 Applicant's Proposal

4.10.1.1 Water Level Fluctuations

T&AS-96

You state that "exposed rocky shorelines . . . can detract from overall visual experience, particularly when associated with recreational use of the area." This observation seems to be highly subjective in that it does not seem to have affected recreation to any measurable degree. Given your proposal for a 200 foot buffer area around Ripogenus Project impoundments based on aesthetic impacts, it is curious that you find a minimal negative effect on visual elements due to the Ripogenus drawdown, but are concerned with the aesthetic impact of timber harvesting and/or future development.

4.10.1.2 Development Along Shorelines

In the first paragraph, we would note that the vegetative buffer is actually 250 feet and the building setback 100 feet or more.

T&AS-97

Your projections in the third paragraph are grossly out of line with what LURC would likely approve. There is simply no basis for the argument that temporary boat docks are a problem, especially along the Ripogenus impoundments. Moreover; LURC does not routinely approve the construction of permanent boat docks.

Given LURC's regulations, your conclusions in the fourth paragraph are plain wrong, especially when new development in accordance with existing regulations is compared to existing pre-LURC development. Indeed, your conclusion supports our claim that additional restrictions on North Twin are not necessary.

4.10.1.3 Influence on Forestry Practices

T&AS-98

The vegetative buffer under LURC's rules is actually 250 feet.

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T&AS-95 Opinion noted.

T&AS-96 Opinion noted.

T&AS-97 The staff revised its land use assessment and recommendations in the FEIS (see section 4.9).

T&AS-98 No response required.

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T&AS-99

4.10.2.2 Development Along Shorelines

The impact of gradual development over a number of years has not been, but should be, considered.

4.10.3 Alternative 2

T&AS-100

LURC has an actual 250 foot vegetative buffer. When you observe "restrict excessive shoreline development", please note: first, development on the Ripogenus Impoundment is not excessive. In fact, virtually all of Chesuncook Lake is zoned P-AL (Protection-Accessible Lake), which only allows one camp for every mile of shore frontage. That is not excessive. Second, banning all development is an odd way to restrict excessive development.

4.10.3.2 Development Along Shorelines

T&AS-101

We question whether, if all that is to be gained is a "minor" visual benefit, why is it necessary to radically expand project boundaries?

4.10.3.3 Influence of Forestry Practices

T&AS-102

No mention is made of the P-GP zone which is by far the greater in terms of land coverage, as compared to P-SL and MUN-SL.

4.11.3 - Cultural Resources- Alternative 2

T&AS-103

On pages 4-6 and 4-7, you document that impoundment levels, flow levels, and environmental resources are all at risk, to varying degrees during dry and worst case years because of Back Channel flows of 165 cfs. In addition, we have detailed environmental impacts, which you have failed to discuss, in our comments under Sections 4.2.3 and 4.4.3. In this section, you have omitted any discussion of impacts on cultural resources from these events.

T&AS-104

With respect to the Penobscot Indian Nation ("PIN"), reduced impoundment levels and reduced or eliminated flows will have obvious adverse impacts on fishery resources throughout the West Branch and the main stem of the Penobscot. Also, loss of dilution flows could have direct impacts on PIN islands and reservation lands in the main stem of the Penobscot. These impacts should be noted and discussed.

T&AS-105

With respect to the local population, the significant loss of power production and the significant cost of project costs for this Alternative 2 (see our discussion of Sections 2.4, 4.9, 4.10 and 4.12 for details) will greatly weaken the Applicant's competitive position over the new license terms and directly

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T&AS-99 The staff considered the effects, gradual or otherwise, of potential long term development in our land use assessment and recommendations (see section 4.9).

T&AS-100 The recommendations in the FEIS would not ban development. Development could occur behind the proposed conservation easement or project boundary expansion areas and along other portions of the shoreline areas (see sections 4.9 and 4.12).

T&AS-101 See revised section 4.10.

T&AS-102 See revised section 4.10.

T&AS-103 As stated in the FEIS, the effects of this alternative would be the same as those of the Applicant's proposal (see section 4.11).

T&AS-104 The staff reviewed available information regarding the Penobscot Indian Nation's claims to lands and resources within the West Branch region. The Commission concurs with the Maine State Department of the General Attorney findings that the Penobscot Indian Nation retains no ownership or title to lands within the branches of the Penobscot River (see section 4.11.1.2). The staff finds that consideration of the Penobscot Indian Nation's traditional practices within the project area are outside the scope of Section 106. The staff does not recommend the Penobscot Indian Nation be included as a concurring party to the Programmatic Agreement associated with the Ripogenus and Penobscot Mills projects. The staff acknowledges, however, the interest of Penobscot Indian Nation in the management of historic properties potentially eligible for listing in the National Register of Historic Places within the project areas. Accordingly, the staff recommends the Penobscot Indian Nation be consulted during the development of the revised Cultural Resource Management Plans for the Penobscot Mills and Ripogenus Projects.

T&AS-105 Opinion noted.

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

result in significant additional job losses in the mills and throughout the region. Each of these impacts will adversely affect local cultural resources such as the population base, employment levels, increased social services costs, reduced local tax payments and will also lead to increased crime and domestic violence. These cultural impacts must be discussed in order for you to assess the impact of this alternative on the Applicant's "workers, and the related community" as required by Title 16 U.S.C. Section 808.a.2.D.

T&AS-105 Cont'd

Area residents view access to and enjoyment of recreational benefits such as fishing to be part of their culture. Adverse impacts of this alternative on fishery resources also need to be discussed since recreational use of the impoundments and river by the area population is heavy.

Expansion of project boundaries will adversely impact the culture of the local population by artificially limiting the number of cottages on the impoundments. This impact should be noted.

4.11.4 - Cultural Resources - No-Action Alternative

Your discussion fails to note that this alternative will avoid the project costs and energy losses detailed in section 2.4 of these comments. Those costs are significant and will adversely affect the Applicant's competitive position, thereby adversely affecting all cultural resources in this area as the local economy weakens and can no longer support the current population.

T&AS-106

This benefit of the no-action alternative on local cultural resources must be discussed in order to quantify losses to local cultural resources from the other proposals. Even the voluntary environmental enhancements of the Applicant's proposals will have an adverse cultural impact from effects on the local economy and that impact needs to be identified and justified.

4.12 - Socioeconomic Resources

You are required by Title 16, Section 808.a.2.D to consider the impact on the Applicant's workers and the related community. The section reads, in part, as follows:

T&AS-107

> "In the case of an applicant using power for the applicant's own industrial facility related operations, the effect on the operation and efficiency of such facility or related operations, its workers, and the related community." (emphasis added)

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T&AS-106 Opinion noted.

T&AS-107 The FEIS presents the total state-wide declines in employment and wages that would be produced by a plant shut-down. Using the correct regional multiplier of 1.61 indicates that closing down the coater would decrease regional employment by a total of approximately 383 jobs. As noted above, the staff's finding is that neither the preferred Alternative Two (both versions), nor the Applicant's Proposal, would result in a plant shut-down.

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

Your socioeconomic discussion is woefully inadequate in documenting the dependence of the local economy on the direct and indirect purchases of Great Northern and the lack of viable alternatives due to the geographic isolation of the area.

T&AS-107 Cont'd

You have also omitted any discussion of the socioeconomic impacts on the surrounding area, northern Maine economy and State wide economy.

These omissions are a disservice to the thousands of Maine residents who depend for their livelihood on the Applicant's economic contributions. In addition, you have failed to document the losses which will be suffered by Maine people if the Applicant cannot successfully compete over the new license terms. Thousands expect you to reaffirm that commitment of resources to their economy.

4.12.1.1 - Socioeconomic Resources - Applicant's proposal - Employment and Fiscal Impact

Your discussion should note the Applicant's need for low cost power to compete and that its proposal will best maintain or enhance the existing economy of the local region as well as the thousands dependent on the Applicant's purchases of goods and services.

The geographic isolation of the area and lack of economic alternatives needs to be discussed as well as recent loss of population and economic impacts from the Applicant's downsizing in response to competitive pressures. T&AS-108

Recent history well demonstrates area dependence on the Applicant and the economic and population losses which have occurred. See also Testimony of David Cole, Vice President of Eastern Maine Development Corporation, attached hereto as Exhibit D. This discussion needs to be included in order to fully assess the impact on the alternatives.

You should also note that the beneficial economic impacts from increased whitewater boating and recreational fishing are minor as compared to the potential negative economic impacts on the Applicant.

4.12.2.1 - Socioeconomic Resources - Employment and Fiscal Impact - Alternative 1

Flows of 350 cfs down the Back Channel would reduce power generation at the Millinocket station by 20,800 MWH as you state on page 2-34 in section 2.4.2.4. The Applicant would need to replace that power at a cost of $83.22 / mwh x 20,800 mwh = $1,730,976 per year. The Applicant has stated that this cost, alone, will lead to the loss of its coated paper operation, 238 T&AS-109

RESPONSES TO THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN

T&AS-108 We agree that GNP will continue to need low-cost hydroelectric power to remain competitive. The recent downsizing was due primarily to declines in demand for GNP's output from the two mills, significant world-wide over-capacity, and strong price competition. The staff agrees that GNP is a major component of the regional economy. The preferred Alternative Two would not adversely affect the mills' competitiveness.

T&AS-109 See response T&AS-2. We agree that Alternative One could require the coated paper operation to shut down, and could result in a decline in direct employment. The precise magnitude of this direct decline is difficult to determine. It is not necessarily true that an increase in power costs would produce a dollar-for-dollar decline in wages, and ultimately in employment. The extent of any reduction in employment would depend on the percent increase in the total cost of production that occurs as a result of an increase in power, and on the percent of total production costs that go to labor. The multiplier of 3.2539 cannot be used to estimate the total decline in regional employment, the appropriate multiplier is 1.61.

related mill jobs and lower purchases throughout Maine's economy.

Our review of the total cost of this alterative reveals an annual range from a low of $5,334,871 to a high of $8,545,940.

The Applicant's mills have not made a profit in a number of years and the paper industry appears to be in the most severe recession in its history; this recession has resulted in numerous mill and machine closing throughout North America. The Applicant must become a low cost producer if it is to survive.

This alternative imposes substantial additional annual costs that will either result in job layoffs or less funds available for necessary modernization.

We estimate each mill job costs the Applicant $50,000 per year for wages and benefits. This alternative will cost from $5,334,871 / $50,000 = 107 jobs to $8,545,940 / $50,000 = 171 jobs even if the Applicant is not forced to shut down its coated paper operation.

Using the revised Maine Department of Labor multiplier effect (see Exhibit C), the losses will range from 107 x 3.2539 = 348 area jobs to 171 x 3.2539 = 556 area jobs.

T&AS-109 Cont'd

Given the annual costs in addition to water down the Back Channel, the conclusion is inescapable that the local population will bear the full brunt of all changes by the Applicant to absorb such substantial increases in its operating costs.

In addition, even if the Applicant did not offset its increased operating costs by reducing employment, $5.3 million to $8.5 million per year would not be available to pay wages and wage increases, pay municipal taxes, purchase goods and services or modernize the facilities.

Workers in the mills have made major monetary concessions to the Applicant in light of increasing competitive pressures in the marketplace which have resulted in widespread layoffs and machine shutdowns locally and machine shutdowns and plant closing elsewhere. Arbitrarily mandating increased costs from $5.3 million to $8.5 million per year will reduce the ability of mill workers to regain past concessions to the Applicant or gain wage increases to improve their standard of living. This impact must be noted in your discussion and decision making process as part of evaluating the impact of this alternative on the workers and related community. 16 U.S.C. Section 808.a.2.D.

Many of the Applicant's suppliers of goods and services (including many of the more than 200 members of ASSSET) have also made substantial economic concessions due to the same competitive pressures. Arbitrarily mandating increased costs from $5.3

million to $8.5 million per year will divert substantial resources away from the businesses that work with the Applicant and who are part of the affected community impacted by this alternative.

Increased costs of the magnitude imposed by this alternative could result in a radically smaller company or perhaps lead to a shutdown of the Applicant's mills.

T&AS-109 Cont'd

In addition, simulations show that the average dry year (84SAI350), the dry year (85SAI350) and the typical year (MN3AI350) result in numerous weeks passing the minimum flow at North Twin and seriously deplete Ripogenus storage. It is inevitable that average power production will be reduced under these circumstances, forcing the Applicant to replace the lost power at $83.22/mwh thereby increasing its costs, and during extreme periods (such as March during the typical year), power production may be curtailed altogether. These events may lead to mill shutdowns throwing most, if not all, mill workers out of work.

It is hard for us to believe that any rational person could advocate this alternative in light of these repercussions.

Your analysis of the 500-foot conservation easement is unrealistic. Conservation easements will preclude all future development and deprive the local economy of an important possibility for diversifying its economy.

We totally disagree with your statement that "lot values would adjust to the revised setbacks." A piece of property 500 feet back from the water is not shorefront property and no one would pay as much for such a lot as for shorefront property. Truly, one would have to "take a taxicab" to get to the shore from a cottage set that far back from the shore.

The economic impact of the 500-foot expansion of project boundaries needs to be discussed, not only from the Applicant's perspective of out-of-pocket costs and lost development opportunity on its own property, but also from the perspective of

T&AS-110

(a) existing landowners who will be forced to sell their property, (b) existing leaseholders affected by expansion, and (c) the public who will be precluded from building on presently undeveloped areas in accordance with LURC's rules.

The economic impact of expansion of project boundaries on the Applicant under this alternative has been discussed in these comments at Sections 2.4, 4.9 and 4.10. Our discussion established a range of value to acquire the remaining non-Applicant lands around Ripogenus in fee or by conservation easement from $13,068,000 to $43,560,000. It seems obvious that acquisition of a 500 foot strip will cost the Applicant more than

T&AS-110 The staff revised its land use assessment and recommendations in the FEIS (see section 4.9). Under the revised recommendations, GNP would have to acquire conservation easements on non-GNP owned land only under Alternative 1. The staff revised potential cost estimates for the shoreline easements upon review of comments received during the DEIS comment period and updated land valuation information. The staff estimated that the potential cost of approximately $24.6 million, based on waterfront footage for the easements proposed in Alternative 1, would be greater than previously determined in the DEIS. Under the recommended alternative (Alternative 2) the proposed conservation easements and project boundary expansion would only be on GNP owned lands. Our evaluation of benefits suggests that the additional protection of the 500-foot expansion does not merit the much higher cost of that alternative as compared to the recommended alternative ($24.6 million versus no direct costs). See section 4.9 for further discussion.

acquisition of a 200 foot strip. The difference in cost to acquire a fee interest will not vary appreciably from the cost to acquire a conservation easement because the easement will prohibit all practical use of the strip other than limited timber harvesting in a portion. Your analysis of the cost of acquisition is erroneous and needs to be revised. The impact of this cost on the Applicant, its workers and the related community needs to be discussed.

As noted earlier, the impact on those landowners forced to sell their property should be discussed. At the very least, that impact should be discussed from the perspective of lost opportunity in the future.

T&AS-110 Cont'd

In addition, the economic cost of any impacts on existing leases must be evaluated and discussed. If existing leaseholders can no longer build if they have not yet done so, the impact on that individual should be evaluated. If expansion or repair of existing cottages will be limited, the economic impact needs to be discussed. If limitations on removing vegetation will be imposed, the impact on value needs to be evaluated as compared to cottages on other lakes without such restrictions.

Also, the impact on the local economy of no future development on the impoundments needs to be evaluated and the economic cost of the foregone opportunities quantified. The impact on the public of limiting the availability of cottages on the impoundments should also be discussed.

You note on page 4-5 that this alternative will result in reduced impoundment levels and flows during dry or worst case years which will adversely impact recreation and fisheries. In your discussion of section 4.12.1.1 on page 4-71 you note the dollar value of whitewater boating and fishing to the local economy. However, in this section you have omitted the impact on those economic activities of adverse environmental impacts from Alternative 1. In order to fully evaluate this alternative, you need to quantify those impacts and show the economic impact of whitewater boating and fishing from reduced flows and reduced impoundment levels.

T&AS-111

4.12.2.2 - Effect On GNP Operations

Your discussion concerning the impact on Great Northern of lost generation needs to be revised. Your discussion is not consistent with section 2.4.2.2 or Table 2-7. See our comments at section 2.4.2.2. The annual cost of alternative 1 to Great Northern in terms of lost power alone is $3,830,283.00. We believe that this impact would not only jeopardize the coated operation in the Applicant's Millinocket mill but could jeopardize the viability of the entire operation.

T&AS-112

T&AS-111 Comment noted. See response T&AS-56.

T&AS-112 See response T&AS-25, T&AS-26, T&AS-27, and T&AS-110.

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We totally disagree with your estimate of the cost of acquiring easements for the Ripogenus and Penobscot Mill projects at approximately $9.5 million. As detailed in these comments at section 4.9, we estimate a range of value from approximately $13 million to approximately $43 million for this cost. That cost also does not include the lost opportunity cost on the Applicant's own property which would be restricted from further use.

T&AS-112 Cont'd

You have also omitted any discussion of the impact of these costs on Great Northern's ability to buy goods and services, compete economically, maintain competitive wage rates, or modernize its operations.

4.12.2.3 - Cumulative Impacts

T&AS-113

You have omitted the lost opportunity cost to the region of precluding any development on the impoundments over the new license terms. This lost opportunity to diversify the local economy is a significant negative impact of Alternative 1.

4.12.3.1 - Alternative 2 - Employment and Fiscal Impact

Your discussion needs to be revised in light of project costs and energy losses for this alternative as discussed under Sections 2.4.1.2, 2.4.1.3, 2.4.2.5 and 2.4.2.6 of these comments.

This alternative will impose increased annual operating costs on the Applicant ranging from $3,441,532 to $7,476,479. Costs of this magnitude are difficult to distinguish from those imposed by Alternative 1.

T&AS-114

The costs imposed by this alternative greatly exceed those of 165 cfs down the Back Channel which, costs 9,900 mwh x $83.22 / mwh = $823,878.00 per year.

Given the highly competitive nature of Applicant's business, increased costs can only be dealt with by reducing expenses elsewhere. Therefore, this alternative will cost between $3,441,532 / $50,000 = 69 jobs and $7,476,479 / $50,000 = 150 jobs with 165 cfs down the Back Channel and ($3,441,532 - $823,878 = $2,617,654 / $50,000=) 52 jobs to ($7,476,479 - $823,878 = $6,652,601 / $50,000=) 133 jobs without Back Channel flows.

Using the revised multiplier from the Me. Dept. of Labor (see Exhibit C), these 52 jobs translate to a loss of a total of 52 jobs x 3.2539 = 169 area jobs; if 133 mill jobs are lost, a total of 433 area jobs are lost.

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T&AS-113 Opinion noted.

T&AS-114 The Commission has changed its approach to economic analysis to better reflect the changing conditions in the electric power market brought about by deregulation. We have adopted a current cost approach under which a project's cost of producing power and the value of its output (i.e., the cost of acquiring a project's output from the least-cost alternative) are based on current market costs and prices. We identified the most feasible least-cost source of alternative power for GNP; it was found to be firm purchases from Bangor Hydro Electric (BHE).

The staff assumes that there will be no inflation and escalation of capital costs fuel prices, operating and maintenance costs, and power prices over the 30 year analysis period. Current year capital costs are amortized over the 30 year financing period at the cost of capital appropriate for the applicant. No future inflation or escalation is assumed beyond the license issuance date, and no long-term levelized values for energy and capacity are used (i.e., their use implicitly incorporates assumptions about long-term inflation and escalation rates into an analysis). The staff's position is that our revised approach to economic analysis explicitly includes the appropriate economic factors, and accurately reflects the current conditions in the electric power industry. All the economic analyses in Sections 2.4 and 5.1 of the EIS have been redone using our revised methodology. The staff's position is that our revised economic methodology is consistent with the FPA.

See also responses T&AS-2, T&AS-43, and T&AS-107.

T&AS-114 Cont'd

The brunt of increased costs will be borne by the local and regional economy and even if layoffs should not occur, the funds diverted to the costs of this alterative will not be available to maintain wage rates, increase wage rates, purchase goods and services, pay taxes, or modernize operations.

Workers in the mills have made major monetary concessions to the Applicant in light of increasing competitive pressures in the marketplace which have resulted in widespread layoffs and machine shutdowns locally and machine shutdowns and plant closing elsewhere. Arbitrarily mandating increased costs from $3.4 million to $7.5 million per year which reduce the ability of mill workers to regain past concessions to the Applicant or gain wage increases to improve their standard of living. This impact must be noted in your discussion and decision making process as part of evaluating the impact of this alternative on the workers and related community. 16 U.S.C. Section 808.a.2.D.

Many of the Applicant's suppliers of goods and services (including many of the more than 200 members of ASSSET) have also made substantial economic concessions due to the same competitive pressures. Arbitrarily mandating increased costs from $3.4 million to $7.5 million per year will divert substantial resources away from the business community which works with the Applicant and who are part of the affected community impacted by this alternative.

In light of these repercussions, it is difficult to view this alternative as reasonable.

4.12.3.2 - Effect on GMP Operations

T&AS-115

The economic impact of 200 foot expansion of project boundaries needs to be discussed, not only from the Applicant's perspective of out of pocket costs and lost development opportunity on its own property, but also from the perspective of (a) existing landowners who will be forced to sell their property, (b) existing leaseholders affected by expansion, and (c) the public who will be precluded from otherwise building on presently undeveloped areas in accordance with LURC's rules.

The economic impact of expansion of project boundaries on the Applicant under this alternative has been discussed in these comments at Sections 2.4, 4.9 (see especially Section 4.9.3.3), and 4.10. Our discussion established a range of value to acquire the remaining non-Applicant lands around Ripogenus in fee or by conservation easement from $13,068,000 to $43,560,000. The difference in cost to acquire a fee interest will not vary appreciably from the cost to acquire a conservation easement because the easement will prohibit all practical use of the strip other than limited timber harvesting in a portion. Your analysis

T&AS-115 See response T&AS-110.

of the cost of acquisition is erroneous and needs to be revised. We believe that $22,000,000 is a reasonable estimate of the cost to the Applicant of a voluntary acquisition of the fee or conservation easements required by this alternative. However, because the State and private landowners are not willing sellers, condemnation costs (including severance damages) will push fee or easement costs for the 82.5 miles of Ripogenus Project shorelands higher than this figure. The impact of this cost on the Applicant, its workers and the related community needs to be discussed.

As noted earlier, the impact on those landowners forced to sell their property should be discussed, at least from the perspective of lost opportunity in the future and, for the State of Maine, loss of its sovereign right of self-determination over use of its property.

In addition, the economic cost of any impacts on existing leases must be evaluated and discussed. If existing leaseholders can no longer build if they have not yet done so, the impact on those individuals should be evaluated. If expansion or repair of existing cottages will be limited, the economic impact needs to be discussed. If limitations on removing vegetation will be imposed, the impact on value needs to be evaluated as compared to cottages on other lakes without such restrictions.

T&AS-115 Cont'd

Also, the impact on the local economy of no future development on the impoundments needs to be evaluated and the economic cost of the foregone opportunities quantified. The impact on the public of limiting the availability of cottages on the impoundments should also be discussed.

As noted in these comments, we estimate that this alternative imposes annual costs on the Applicant ranging from a low of $3,441,532 per year to as much as $7,476,479 per year.

You should discuss the impact of costs of these magnitudes on the ability of the Applicant to compete, maintain employment, purchase goods and services, pay taxes, pay increased costs and modernize its facilities.

As compared to your original annual cost estimates of $213,000 (Table 2-5) plus $1,136 million or $1.679 million (Table 2-7), the revised cost of this alternative are substantial and prohibitive in terms of impacts on the Applicant.

4.12.3.3 - Cumulative Impacts

Increased costs ranging from $3,441,532 to $7,476,479 per year for this alternative will have devastating cumulative impacts which you have not discussed. Such impacts include further job losses ranging from 52 to 150 mill jobs (and 169 to

T&AS-116

T&AS-116 This alternative is not being recommended. The staff's finding is that its percent increase power cost, and its percent decline in power production, may be at the threshold where the competitiveness of the two mills would be adversely affected. If this occurs, there would be additional regional declines in employment and wages. The employment decline should be calculated using the multiplier of 1.61.

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T&AS-116 Cont'd

488 area jobs, using the revised MDOL multiplier) further population losses, further area economic losses and further regional impacts. All of these impacts should be discussed.

In addition, expansion of project boundaries will restrict future possibilities to diversify the local economy.

4.12.4 - No Action Alternative

The socioeconomic benefits of this alternative are apparent by noting the annual expenses imposed by the Applicant's proposal and the alternatives.

T&AS-117

The Applicant's proposal incurs increased costs of $1,618,629 per year (see 2.4.2.3 and 2.4.2.6 of these comments). Increased costs of this magnitude will adversely affect the Applicant's ability to compete and will adversely affect the local economy.

Alternative 1 imposes costs over the no action alternative ranging from a low of $5,334,871 to a high of $8,545,540 per year.

Alternative 2 imposes costs over the no action alternative ranging from a low of $3,441,532 to a high of $7,476,479.

4.15 - Relationship Between Short Term Uses and Long Term Productivity

T&AS-118

You state that "The recommended alternative is designed to provide significant long-term enhancement of biological and recreational resources of the system, while meeting energy and economic needs of GNP and the local population."

In light of the costs of the recommended alternative ($3,441,532 to $6,652,601 per year), we recommend that you revise the recommended alternative by deleting the conservation easement and wetland enhancements beyond the Applicant's Proposal.

5.3 Environmental Comparison of Alternatives

T&AS-119

Table 5-2 summarizes the effects or costs of each alternative for each resource. Our comments on sections 2.4, 4.9, 4.10, 4.11 and 4.12 detail the costs and effects of the alternatives from our perspective.

With respect to levelized annual net costs listed in Table 5-2, we note:

(a) the cost of the Applicant's proposal is $1,618,629 per year (See comments at 2.4.2.3);

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T&AS-117 No response required.

T&AS-118 Opinion noted.

T&AS-119 See responses T&AS-25, T&AS-27, and T&AS-28. The staff's economic analysis has been revised so that the annual net benefits are present in current 1996 dollars. Levelized power values were not used in the revised analysis. Table 2-8 presents the revised annual net benefits. Table 5-2 presents only the direct net economic benefits at the two projects based on changes in the value of the power they produce, and their cost of producing power.

(b) the cost of Alternative 1 ranges from a low of $5,334,871 to a high of $8,545,940 per year (See comments at 2.4.1.2, 2.4.2.4 and 2.4.2.6); and
(c) the cost of Alternative 2 with leakage flows in the Back Channel ranges from a low of $3,441,532 to a high of $6,652,601 per year (See comments 2.4.1.3, 2.4.2.5 and 2.4.2.6).

Levelized annual net costs for each proposal need to be revised.

With respect to streamflows, our comments at 4.2 and 4.4 detail the circumstances under which flows equal to the Applicant's proposed flows cannot be maintained and state water quality certificates will be violated for 350 cfs and 165 cfs down the Back Channel. Appropriate changes to note these impacts should be made in Table 5-2.

T&AS-119 Cont'd

With respect to fisheries, our comments at 4.2 and 4.4 detail adverse fisheries impacts from 350 cfs and 165 cfs down the Back Channel. Appropriate changes to note these impacts should be made in Table 5-2.

With respect to socioeconomics, our comments at 2.4, 4.9, 4.10, 4.11 and 4.12 establish that the costs of expansion of project boundaries are substantial and range from $3,441,532 to $6,652,601 per year (jeopardizing at least 238 mill jobs and well more than 1,200 jobs total, including multiplier), as well as additional impacts on affected landowners forced to sell their property and foregone opportunity benefits for the entire area. These impacts should be noted in Table 5-2.

Table 5-2 should be revised to include all of the foregoing impacts.

5.3.1 Streamflow

As detailed in our comments on Sections 4.2 and 4.4, we question your conclusion that water is available for substantial Back Channel flows because of the state water quality violations and adverse fisheries impacts which occur under almost all simulations of 350 cfs or 165 cfs down the Back Channel.

Flows of 350 cfs.

T&AS-120

With respect to flows of 350 cfs, the average year (82SAI350) simulation shows dewatering of lake trout eggs in North Twin which violates the state water quality certificate. The average dry year (84SAI350) shows extensive dewatering of salmon eggs below McKay and dewatering of lake trout eggs, with each of these simulations violating the applicable state water quality certificate and insufficient storage available to further

T&AS-120 We have already responded to these comments in responses T&AS-46 and T&AS-49. We have clarified the language in section 5.3.1 with respect to water availability.

supplement flows. The dry year (85SAI350) shows flows below McKay which not only dewater salmon eggs, but severely restrict habitat for all species during March (violating the state water quality certificate), lake trout eggs are dewatered (violating the state water quality certificate), and the Back Channel will be dewatered in March. In addition, storage is insufficient to augment flows.

The wet year (76RAI350) shows dewatered salmon and lake trout eggs violating both state water quality certificates. The typical year (MN3AI350) shows 400 cfs flows below McKay during March dewatering all salmon eggs, jeopardizing all species by severely restricting habitat and grossly violating the state water quality certificate, with insufficient storage to supplement flows, lake trout eggs are dewatered (violating the state water quality certificate), flows from North Twin fall to 1,300 cfs during March (dewatering the Back Channel and violating the state law requirement to pass 2,000 cfs at Millinocket).

In light of these impacts, we ask that you reconsider whether sufficient water is available for 350 cfs flows down the Back Channel and, at a minimum, list the adverse environmental impacts and state water quality violations which will repeatedly occur over the new license terms for this alternative.

T&AS-120 Cont'd

Flows of 165 cfs.

With respect to flows of 165 cfs, the average year (82SAI165) simulation shows dewatering of salmon eggs and dewatering of lake trout eggs, which violates the applicable state water quality certificates. The average dry year (84SAI165) shows dewatering salmon eggs, dewatering of togue eggs, violations of each state water quality certificate, and insufficient storage for supplementing flows. The dry year (85SAI165) shows dewatering of salmon eggs, dewatering of togue eggs, violations of both state water quality certificates and, since minimum flows pass at North Twin 71% of the time, insufficient storage to supplement flows. The wet year (76RAI165) shows dewatering of salmon eggs and dewatering of lake trout eggs, violating both state water quality certificates. The typical year (MN3AI165) shows flows below McKay as low as 400 cfs during March, grossly violating the state water quality certificate, dewatering virtually all salmon eggs, reducing habitat for all life stages of salmon and all other fishery resources (to such an extent that elimination of species will occur), lake trout eggs will be dewatered violating the state water quality certificate and, since minimum flows pass at North Twin 83% of the time, it is likely that the Back Channel will be dewatered and insufficient water will be available to pass 2,000 cfs at Millinocket. Storage is insufficient to supplement the flows.

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T&AS-120 Cont'd

In light of these impacts, we ask that you reconsider whether sufficient water is available for 165 cfs flows down the Back Channel and, at a minimum, list the adverse environmental impacts and state water quality violations which will repeatedly occur over the new license terms for this alternative.

5.3.2 Fisheries Enhancement

T&AS-121

We generally agree with your discussion but ask that you add the adverse impacts on fisheries below McKay station which will result from substantial flows in the Back Channel and reconsider the impact on lake trout since we believe the data shows the impact will be greater than that included in your discussion. You also have not noted that dewatering of the Back Channel would eliminate whatever marginal salmon fishery might be established in the Back Channel. You have also failed to note that the primary food source for the salmon stock below McKay station is smelt drift from Ripogenus; even though substantial flows down the Back Channel would create habitat for salmon, nothing in the record indicates that smelt drift would accompany those flows. In the absence of smelt drift, sufficient food would not be available to support several hundred adult salmon in the Back Channel.

5.3.3 Wetlands

There is a clear inconsistency between the language of section 4.5.4 and the first sentence of section 5.3.3. When the no action alternative is referenced under section 4.5.4, you properly observe that the no action alternative would have no adverse effects on wetlands. How then, under section 5.3.3, do you determine that fluctuating water levels under the no action alternative would continue to adversely affect dispersed areas of wetlands along the shorelines of project impoundments that experience significant water level fluctuations? Again, under your Relicensing Regulations, adverse impact must be determined by reference to a baseline. The proper baseline is current project operations, not pre-project historic conditions.

T&AS-122

When compared to the proper baseline of current project conditions, the Applicant's mitigation proposal to provide 45 acres of wetlands enhancement is perfectly adequate.

We also note that, in several locations of the DEIS, the acreage impacts to wetlands is variously estimated at 250 acres, 280 acres, and 300 acres. It would appear that, under your analysis, there is a floating target for wetlands mitigation.

We agree that given that the potential adverse impacts of higher flows to the beaver population which creates wetlands in the Back Channel, no greater flows in the Back Channel are justified from the perspective of avoiding wetlands impacts or

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T&AS-121 We have already responded to these comments in responses T&AS-53 through T&AS-56.

T&AS-122 We do not find the inconsistency to which ASSSET refers. Current operations at the projects negatively affect approximately 250 acres of shoreline wetlands. Under the no action alterative, no additional wetlands would be affected. Any inconsistencies contained in the DEIS concerning the quantity of affected wetlands have been corrected in the FEIS. Your other comments are noted.

enhancing wetlands

Further, given the costs and scientific uncertainty of successful creation of wetlands, we believe that you should be more careful and consistent in addressing adverse impacts to the resource under FERC's relicensing regulations, which clearly require that current conditions be used as the baseline for assessing whether proposed operations will have any greater impact. Under the proper analytical framework, it is doubtful that greater flows in Millinocket Stream and the Upper Gorge would provide anything more than dubious wetland habitat and cannot be justified. We concur that some wetlands mitigation may be appropriate, but more in line with what the Applicant has agreed to under the water quality certificates as outlined in the summary of findings.

T&AS-122 Cont'd

5.3.4 Land Use

We strongly disagree with your conclusions in this section.

The record in this proceeding demonstrates no adverse impacts to water quality or aesthetics from current operation. LURC rules are more than sufficient to protect water quality and aesthetics over the term of new licenses.

Of equal importance is the right of the people of the State of Maine to determine the appropriate standards for water quality and aesthetics. You should defer to Maine's right to make this judgement, as well as its judgement as expressed by LURC rules and regulations.

We expect that you will delete the requirement for expansion of project boundaries as factually unjustified on this record, an unwarranted intrusion on the right of Maine to govern water quality and aesthetics, and a drastic response to a problem that does not exist at this time and could either be dealt with when a problem develops or could be dealt with through less intrusive means.

T&AS-123

Your estimate of the cost of project boundary expansion is woefully inadequate. The cost of expansion ($13,068,000 to $43,560,000) coupled with the impact on existing leaseholders, private landowners on Ripogenus, who would lose their lands and the State of Maine, which would lose its land, are sufficient independent reasons to delete the requirement for expansion of project boundaries.

The impoundments are not part of the wilderness. The impoundments are in the heart of GNP's working forest. You do a disservice to the people of Maine by trying to justify expansion of project boundaries as a means to preserve the wilderness character of the area for a very few tourists who come for a few

T&AS-123 Comment noted. The staff revised its land use assessment and recommendations in the FEIS (see section 4.9). We considered comments received during the DEIS comment period, GNP's proposed conservation easements for the Ripogenus Project area, updated land valuation information, and further assessment of LURC land use regulations. The staff's recommendations (see section 5.3.4) provide measures to protect shoreland resources within the project areas while considering existing land use regulatory controls.

T&AS-123 Cont'd

weeks during a few summers out of their lives. The costs of expansion of project boundaries will be borne by the Applicant, local residents, and area businesses forever.

5.3.5 Economics and Socioeconomic Effects

Table 5-3 summarizes levelized annual net costs for the proposal. The table is not consistent with your discussion in other sections of the draft and needs to be revised.

With respect to the Applicant's proposal in Table 5-3, we note the following:

(a) Stable flows below McKay. On page 2-31, you state stable flows cost 3,300 mwh a year or 3,300 mwh x $83.22/mwh = $274,626, rather than $181,269 listed in Table 5-3;
(b) Upper Gorge. On page 2-31 you state Upper Gorge flows cost 2,200 mwh a year or 2,200 mwh x $83.22/mwh = $183,084, rather than $120,846 listed in Table 5-3;
(c) Stable North Twin. On page 2-31 you state managing North Twin elevations will cost 5,500 mwh x $83.22/mwh = $457,710, rather than $280,143 listed in Table 5-3;
(d) Millinocket Stream. On page 2-31 you state Millinocket Stream flows cost 350 mwh x $83.22/mwh = $29,127, rather than $19,226 listed in Table 5-3;
(e) Hydro efficiency losses. On page 2-31 you state hydro efficiency losses cost 4,100 mwh x $83.22 = $341,202, rather than $225,213 listed in Table 5-3;
(f) Steam losses. On page 2-31 you state steam efficiency losses cost 4,000 mwh x $83.22 = $332,880, rather than $219,720 listed $219,720.

E-327

T&AS-124

Therefore, losses for the Applicant's proposal total:

(a)	McKay Flows	$ 274,626
(b)	Upper Gorge Flows	$ 183,084
(c)	Holbrook	$ 1,929
(d)	North Twin	$ 457,710
(e)	Wetlands - North Twin	$ 4,476
(f)	Millinocket Stream	$ 29,127
(g)	Hydro losses	$ 341,202
(g)	Steam losses	$ 332,880
		$1,625,034

The total losses based upon your figures on page 2-31 are over 50% higher than those listed on Table 5-3. We ask that you revise Table 5-3 to reflect the correct totals.

With respect to Alternative 1, and based on the figures you list on page 2-34 and our comments on Section 2.4.1.2 through 2.4.2.6 and 4.9, 4.10 and 4.12, the losses should be:

T&AS-124

The revised annual net benefits are presented in Tables 2-8 and Table 5-2 of the FEIS. The annual losses in power that would occur under each alternative are presented in 2-4, and the annual costs of purchasing replacement power are presented in Table 2-5. The staff used a value of $73.92/MWh as the cost of purchasing replacement power from the least-cost alternative. As a result, our estimates of the increases in GNP's power costs are slightly lower than those you calculated.

		low	high
(a)	McKay and Upper Gorge 10,855 mwh x $83.22	$ 903,353	$ 903,353
(b)	Holbrook	$ 1,929	$ 1,929
(c)	Wetlands Enhancements	$ 119,098	$ 119,098
(d)	Conservation Easement	$1,367,580	$4,578,650
(e)	North Twin	$ 457,710	$ 457,710
(f)	Millinocket Stream 771 x $83.22	$ 64,163	$ 64,163
(g)	Back Channel 20,800 x $83.22	$1,730,976	$1,730,976
(h)	Hydro losses	$ 341,202	$ 341,202
(i)	Steam losses	$ 332,880	$ 332,880
Totals:		$5,318,891	$8,529,961

Table 5-3 should be revised to reflect the correct totals for this alternative.

With respect to Alternative 2, Final Recommendation (leakage in Back Channel), and based on your figures on page 2-34 and our comments on Sections 2.4.1.2 through 2.4.2.6 and 4.9, 4.10 and 4.12, the losses should be:

T&AS-124 Cont'd

E-328

		low	high
(a)	McKay and Upper Gorge 9,287 mwh x $83.22/mwh	$ 772,864	$ 772,864
(b)	Wetlands	$ 65,094	$ 65,094
(c)	Holbrook	$ 1,929	$ 1,929
(d)	Conservation Easement	$1,367,580	$4,578,650
(e)	North Twin	$ 457,710	$ 457,710
(f)	Millinocket Stream 388 mwh x $83.22	$ 32,289	$ 32,289
(g)	Wetlands	$ 4,436	$ 4,436
(h)	Hydro losses	$ 341,202	$ 341,202
(i)	Steam losses	$ 332,880	$ 332,880
TOTALS:		$3,375,984	$5,814,190

Table 5-3 should be revised to reflect the correct totals for this alternative.

The only difference between Alternative 2 without Back Channel flows and with 165 cfs is 9,900 mwh x $83.22 mwh = $823,878, so totals for this alternative would be the same as previously stated plus the Back Channel loss:

		low	high
(a)	McKay and Upper Gorge 9,287 mwh x $83.22/mwh	$ 772,864	$ 772,864
(b)	Wetlands	$ 65,094	$ 65,094
(c)	Holbrook	$ 1,929	$ 1,929
(d)	Conservation Easement	$1,367,580	$4,578,650
(e)	North Twin	$ 457,710	$ 457,710
(f)	Millinocket Stream 388 mwh x $83.22	$ 32,289	$ 32,289
(g)	Wetlands	$ 4,436	$ 4,436
(h)	Hydro losses	$ 341,202	$ 341,202
(i)	Steam losses	$ 332,880	$ 332,880
(j)	Back Channel	$ 823,878	$ 823,878
TOTALS:		$4,199,862	$6,638,068

T&AS-124 Cont'd

Table 5-3 should be revised to reflect the correct totals for this alternative.

Since your entire discussion is based upon the totals found in Table 5-3, the discussion needs to be redone to reflect correct costs for each proposal.

We agree with your reasoning but note that the actual cost to the Applicant and the local and regional economies are far greater than stated in the draft and result in the inescapable conclusion that the final recommendation must be revised by deleting the conservation easement and wetlands enhancement beyond the Applicant's Proposal. It is not needed in light of LURC rules and regulations and the cost is prohibitive.

Finally, we note that the predicted area job loss for Alternative 1 should be revised to reflect the revised MDOL multiplier of 3.2539, rather than 1.61. See Exhibit C to these comments.

5.4 Summary of Findings and Recommendations

With respect to your "reasons" listed on pages 5-16 and 5-17:

(a) With the exception of your observation that some enhancement of flows in Millinocket Stream beyond those proposed by Great Northern should be required, we agree with Reason #1;

T&AS-125

(b) Reason #2, you should add that significant Back Channel flows would result in state water quality certificate violations, adversely impact salmon and lake trout, and threaten 2,000 cfs flows at Millinocket as well as downstream dilution flows (because of insufficient availability of water to sustain such flows);

T&AS-125 Where appropriate, we have revised our reasons for recommending Alternative 2 and the economics on the projects based on comments from various parties on the DEIS and our revised economic analysis procedure.

(c) We agree with Reason #3;
(d) We agree with Reason #4;
(e) We disagree that wetlands mitigation (Reason #5) is necessary. See our comments under Sections 4.5 and 5.3.4;
(f) We disagree that expansion of project boundaries (Reason #6) is necessary or justified given past landowner practice, LURC rules, and cost. See our comments at Sections 2.4, 4.9, 4.10, 4.11, 4.12, 5.3.4 and 5.3.5;
(g) We agree with Reason #7;
(h) We disagree with your conclusions (Reason #8) concerning Alternative 2. Wetland mitigation is not required and expansion of project boundaries is not necessary or cost effective. The difference in cost between Alternative 1 and your recommendation is negligible.
(i) We disagree that the difference in cost (Reason #9) between Alternative 2 and Alternative 1 is significant; the cost of either is far higher than $9.5 million.

T&AS-125 Cont'd

For the reasons stated in these comments concerning Section 2.4, Table 2-5, Table 2-7, Sections 4.9, 4.10, 4.12, 5.3.4, 5.3.5, Table 5-2 and Table 5-3, the figures listed in Table 5-5 are incorrect.

In our comments concerning Sections 2.4.1.2 and 2.4.1.3, we calculated a range for annualized project costs for your recommendation (Alternative 2, leakage in Back Channel) from $1,504,587 to $4,715,656 or from $2.43 (mils/kwh) to $7.60 (mils/kwh). Energy losses for this Alternative are discussed at Section 2.4.2.5 and are:

23,275 mwh x $.08322/kwh x 1,000 kwh = $1,936,955

or ($1,936,955/620,400 mwh) x 1,000 mwh/kwh = $3.12 mils/kwh.

Therefore, the total annualized cost of the alternative ranges from $3,441,542 to $6,652,611 or $5.55 mils/kwh to $10.72 mils/kwh.

5.5.1 Water Quality Certificate Conditions

T&AS-126

As suggested in Section 2.3, the objectives of the state water quality certificates for both the Ripogenus and Penobscot Mills projects include (1) providing flows below McKay Station which support the West Branch fishery; and (2) maintenance of a North Twin drawdown to benefit lake trout spawning. Given these objectives and the fact that the state water quality certificates represent a minimum baseline, which cannot be reduced (provided the baseline conditions relate to water quality), we fail to see how either Alternative 1 or Alternative 2 (to the extent it requires 165 cfs of flow) can be considered reasonable alternatives. Both Alternative 1 and Alternative 2 (to the extent it suggests a flow in the Back Channel of 165 cfs) would

T&AS-126 We disagree that WQC conditions would necessarily have to be violated to provide flows to the Back Channel. See Appendix D.

T&AS-126 Cont'd

violate the baseline objectives of the state water quality certifications as recited in section 5.5.1 and Tables 5-6 through and including 5-8 at pp. 5-18 through 5-20 of the DEIS.

5.6 Section 10(J) Recommendations

We agree with your positions on Interior's 10(J) recommendations 1, 2, 3, and 6. We specifically note that, in your statement of its position on recommendation number 6 of Interior's 10(J) recommendations, watershed protection is a matter best addressed on a comprehensive basis by state agencies under the statutory provisions cited by you at pp. 5-23 and 5-26 of the DEIS.

T&AS-127

CONCLUSION

We commend you for a thorough effort and generally careful analysis of a significant range of complex economic and environmental issues. Moreover, we are impressed that FERC will now look to complete the Environmental Impact Analysis promptly so that licenses can issue by early summer 1995.

However, there are several issues where we believe your analysis needs to be corrected by either minor adjustments or wholesale change, including the following:

1. Streamflows. Your analysis of the Applicant's data concerning availability of water for Back Channel flows is inaccurate and flawed. The Applicant's data shows sufficient water is not available to sustain flows of either 350 cfs or 165 cfs, without violating water quality certifications issued by the Maine Land Use Regulation Commission and the Maine Department of Environmental Protection. These State certifications are your legally binding, baseline constraints on the Applicant's operation of the project (as you properly notes at Section 5.5.1).

T&AS-128

Notably, fisheries resources would also be jeopardized by such flows. Accordingly, while we agree with your conclusion that flows of either 165 cfs or 350 cfs should not be required, we assert that such a conclusion results not only from economic, but also from environmental requirements. We believe that your over-reliance on "average year" model simulations is misplaced and leads you to incorrect conclusions as to the availability of water for any significant Back Channel flows.

E-331

T&AS-127 Section 5.6 of the EIS has been revised subsequent to revised 10(j) recommendations from Interior following the DEIS and further discussions with Interior on those recommendations.

T&AS-128 We disagree. See responses T&AS-46 through T&AS-49.

COMMENTS FROM THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN DEIS

You have correctly concluded that higher streamflows are in many cases not warranted, given the far greater fisheries habitat and recreational opportunities present in other sections of the river system. For the reasons detailed in these comments, we recommend that you adopt the following streamflows:

T&AS-128 Cont'd

a. in Millinocket Stream, a minimum flow of 60 cfs between May 1 and October 15, and 20 cfs during the rest of the year;

b. in the Back Channel, leakage and spillage flows;

c. in the Upper Gorge, only leakage from fall through spring; otherwise, the same as those outlined under the LURC water quality certificate (as outlined in the DEIS); and

d. at all other locations, the same as those under the Applicant's Proposal.

2. Fisheries. Your discussion of impacts on fisheries omits significant environmental impacts to fisheries by limiting the discussion to "average" years. The data demonstrates that you should (1) reconsider its conclusion that sufficient water is available for substantial Back Channel flows; and (2) discuss the fisheries impacts on West Branch salmon stocks below McKay Station and on establishment of a self-sustaining togue population. Your conclusion that flow enhancements would cause only minor changes in impoundment drawdowns may be accurate in average years, but it is certainly not accurate for drawdowns in worst case years.

T&AS-129

3. Wetlands. In its Relicensing Regulations, FERC states its policy that "evaluation and consideration of the appropriateness of requiring enhancement measures is done in the context of today's environment and in relation to today's needs and problems, not in the context of the world as it existed 50 years ago." Similarly, in discussing water flows in the Back Channel, you specifically acknowledges that existing conditions provide the baseline for its environmental analysis. See section 4.3.1.3.

T&AS-130

However, in analyzing wetlands impacts, you go against FERC's stated policy and its analysis of other environmental issues and look to rectify "continuing adverse impacts." The language and analysis in the DEIS presupposes that present project operations are

RESPONSES TO THE TOWN OF MILLINOCKET AND ASSSET ON UPPER PENOBSCOT RIVER BASIN

T&AS-129 We disagree. See response T&AS-56.

T&AS-130 Current operations at the projects negatively affect approximately 250 acres of shoreline wetlands. This analysis is based on existing conditions. We see no conflict in our policy with regard to this criterion.

T&AS-130 Cont'd

resulting in water level fluctuations that are now causing adverse impacts to wetlands, which would require mitigation even under the "no action" alternative.

You should reexamine your analysis of wetlands impacts and substantially reduce the mitigation required of the Applicant.

4. Expansion of Project Boundaries. You should carefully reevaluate the wisdom, need and cost of expanding the project boundaries. Before you conclude that aesthetic impacts alone justify such radical surgery, we ask that you consider the following:

a. **Deference to LURC.** Consistent with well established principles of federalism, you should give strong consideration and, as appropriate, defer to the State's regulation of lands in the unorganized territories, including those around the Ripogenus impoundment. Before imposing this federal mandate to expand project boundaries, you should first consult with the state agencies who currently administer the state's land management and water quality protection programs and reevaluate the need for further federal protection.

E-333 T&AS-131

b. **Land stewardship; unwilling sellers.** The private and public landowners on Ripogenus impoundment are good stewards, have fought hard in getting and/or defending private and public landowner rights, and will not willingly give up those rights. There is a strong tradition of resource stewardship practice by the public and private landowners on the Ripogenus impoundment. As stated in the testimony of Larry Philbrick, the private landowner tradition on the Ripogenus impoundment spans five generations. State stewardship of lands in the area is also notable and includes Baxter State Park and, more specifically, Gero Island in the middle of Chesuncook Lake.

As Steve Adams (State Planning Office), Senator Leo Keiffer (Maine Senate Majority Leader), and Representative Richard Gould (Co-chair of the Maine Legislature's Natural Resources Committee) stated at the public hearing on January 25, 1995, the State is not interested in parting with public lands. Mr. Philbrick, on behalf of the many private landowners on Ripogenus impoundment, similarly observed that the private

TS&A-131 See responses T&AS-11 through T&AS-16.

T&AS-131

landowners on Ripogenus impoundment would not be willing sellers. Condemnation of such lands will therefore be required to implement an expansion of project boundaries on non-Applicant lands.

c. **Undetermined socioeconomic impacts.** You have yet to assess the broad, and as yet undetermined, socioeconomic impacts of this measure (expanding project boundaries) on the majority of people who currently own or occupy land on the project impoundments and who would be negatively impacted by the proposed mandated land conservation requirements.

d. **Direct economic impacts/Great Northern's acquisition cost.** The economic impact of the land acquisition mandate on Great Northern has been severely undervalued. In the DEIS, you estimates that the cost of acquisition alone is $2 million, using a "price per acre" value of a "comparable sale." The $2 million cost estimate which you assigns to the proposed land conservation proposal equates to $4.59 per waterfront foot of land to be acquired. As U.S. District Court Judge Hornby stated in a recent federal court decision here in Maine, the proper valuation basis for waterfront land is price per waterfront foot, not price per acre. See Exhibit A.

T&AS-131
Cont'd

As set forth in the consulting report of Lowell T. Sherwood, A.S.A. (Certified General Appraiser - ME #9), a copy of which is attached as Exhibit A to these comments, you derives that cost estimate from a voluntary "Rangely Lake" acquisition by the Rangely Lakes Heritage Trust. Indeed, this acquisition (which actually occurred on Mooselookmeguntic and Cupsuptic Lakes) assumes a price per waterfront foot of $51.00 for a conservation easement and $71.00 for fee title. Combining severance damages and other likely costs as part of an eminent domain process (because neither the State of Maine nor the larger landowners on the Ripogenus impoundment will voluntarily sell), the likely cost falls within a range between $13,068,000 and $43,560,000. This cost is far in excess of $9.5 million, which the DEIS found unacceptable.

E-334

T&AS-131

e. **Economic Impact/Great Northern's Mandatory Conservation of Its Own Lands.** The economic impact of mandatory conservation on Great Northern is also far more significant than you suggest, in the DEIS. Indeed, the DEIS does not discuss the "lost opportunity" cost to Great Northern of subjecting its own land on Ripogenus impoundment to a conservation easement. As noted in the consulting report of Lowell T. Sherwood, that lost opportunity cost likely equates to the cost of having to acquire fee title or a conservation easement on lands it does not own. Whereas Great Northern would have to acquire 82.5 miles of shorefront from other landowners, it would also have to give up development rights on its 82 miles of shore frontage.

f. **Speculative Positive Impacts.** As stated in our comments as to recreational issues, the extreme minority of the boating population on the impoundments engage in back country canoeing, which the environmental intervenors in part assert as the basis for the mandatory land conservation.

T&AS-131 Cont'd

We ask you to consider that the need, if any, does not (1) warrant an intrusion into the Maine Land Use Regulation Commission's traditional jurisdiction for regulating such shorelands, (2) warrant disrupting the longstanding private and state landowner tradition in the stewardship and ownership of such lands on Ripogenus impoundment, (3) justify the significant socioeconomic impacts (which you did not evaluate) that imposition of such a mandate would cause, and (4) justify the very substantial direct economic costs (which you substantially undervalued) that Great Northern would have to incur in order to acquire lands it does not own and to conserve its own lands.

5. Broader Consideration to Socioeconomic Impacts in the Final EIS. You have appropriately considered in the DEIS a range of socioeconomic impacts, particularly to those of the three towns in the immediate Katahdin region. Between 1980 and 1992, the population of the three area towns dropped by 7.5%, as compared to a statewide increase of 9.5% in the same period, representing a gap of 17.4%. The Great Northern mills have seen 53% work force reduction in the last decade (between 1985 and 1994), resulting in the loss of 1,977 well paid jobs. See Exhibit C to these comments. Great Northern is currently pursuing further cost reductions. Federal and state agencies have had to

respond to the new economic challenges facing the Katahdin region by investing several million dollars to stabilize that region's economy.

However, beyond the impacts to the Katahdin region, we recommend that you give careful consideration to the socioeconomic impacts of these projects throughout central and northern Maine, and the State of Maine generally.

As your DEIS notes, the pulp and paper industry is an extremely competitive and energy intensive industry. Great Northern's presence in certain markets and its competitive position in general depends upon the availability of a reliable source of inexpensive electric power. Great Northern mills are a critical component of the Maine forest products economy. Statewide, paper accounts for 35% of the State's manufactured product and, with lumber and wood products, accounts for almost half of the State's manufactured product.

T&AS-131 Cont'd

Accordingly, we urge you to maintain your position as to streamflows except where your recommendations depart from those listed above; as to the areas of departure, we ask you to reconsider your position and adopt all streamflows as recommended above.

For the reasons stated in these comments, we finally note that the proposed operations, in accord with Great Northern's Water Use Plan, will guarantee very substantial natural resource and societal benefits, including:

1. a world class landlocked salmon fishery;

2. whitewater rafting on the West Branch, some of the best technical rafting on the East Coast;

3. significant flood control;

4. a guaranteed flow of 2,000 cfs at Millinocket to provide instream river flows for wastewater treatment facilities up and down the Penobscot River; and

5. direct and indirect economic benefits (including highly paid jobs, production of high quality paper, purchase of forest products and other goods, both direct and indirect, in the Maine economy, and significant tax revenues to the Katahdin area towns).

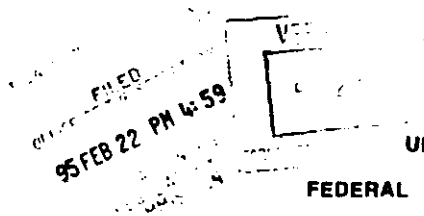
T&AS-131

Again, we congratulate you on the fine work that you have done thus far in the Environmental Impact Statement. We urge you to consider the comments set forth above and promptly complete the Environmental Impact Analysis. We wish you well as you complete this analysis, and urge FERC to promptly issue new licenses.

T&AS-131 Cont'd

The future of this region turns on the opportunity and ability of Bowater to modernize these mills so that they can compete in today's global forest products industry.

COMMENTS FROM TROUT UNLIMITED ON UPPER PENOBSCOT RIVER BASIN DEIS



UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Great Northern Paper Co., et al.)
Penobscot Mills and Ripogenus) Project Nos. 2458 and 2572

COMMENTS OF TROUT UNLIMITED
REGARDING FERC/DEIS-0075

Pursuant to Federal Energy Regulatory Commission ("FERC" or "Commission") notices dated December 9, 1994 and February 2, 1995 in the above-referenced proceedings, Trout Unlimited ("TU") hereby files its comments concerning FERC's Draft Environmental Impact Statement ("DEIS") No. 75.

E-339

General Comments

TU-1 DEIS No. 75 fails to give equal consideration to mitigation and restoration of fish and fish habitat or to alternatives other than that proposed by Great Northern Paper Co. ("GNP"). The DEIS does not even mention, let alone respond to, scientifically-based studies regarding fishery and recreational resources submitted by TU in these proceedings.[1] The DEIS fails to provide a sufficient record upon which the Commission can reach a reasonable decision regarding the best adaptation of these projects to a comprehensive plan for the West Branch. Additional review and analysis of alternatives and additional information regarding instream flows should be included in a final EIS.

TU-2 The DEIS continues to propagate erroneous interpretations of the terms "no action" alternative and "baseline." "No action" properly means no issuance of a new license and, now that the Commission has determined in RM93-23 that it has

[1] *See e.g.*, "Evaluation of Instream Flow Needs for Fisheries and Recreational Resources in the lower West Branch of the Penobscot River," submitted with TU's comments of May 24, 1993

RESPONSES TO TROUT UNLIMITED ON UPPER PENOBSCOT RIVER BASIN DEIS

TU-1 Staff gave equal consideration to fish and wildlife resources in the DEIS by analyzing a range of alternatives from no-action (relicensing the projects as they currently exist) to Alternative 1 (the Conservation-Intervenor oriented alternative, providing many additional environmental enhancements beyond those proposed by GNP). We cited TU's letter to which the Vadas study was attached; our discussion of it was included only in Appendix D. We did not consider the Vadas study and TU's recommendations which are based on it, as reasonable alternatives to be evaluated for the following reasons: 1) the study does not take into account the state's recommendations, as codified in the 401 WQC, and would render the other goals of the state agencies and the Water Use Plan unobtainable; 2) the study does not take into account the economic penalty to GNP; 3) the study does not take into account loss of flood control benefits under the flow regime suggested by the study.

TU-2 FERC has not changed its definition of baseline and no-action. Baseline conditions continue to be existing conditions, not pre-project conditions. No-action refers to continued project operation under the existing license.

TU-2 Cont

the authority not to issue a new license, the Commission should correct this mistake. "Baseline" properly means pre-project, unregulated, natural riverine conditions. The failure of the Commission to consider basinwide impacts, decommissioning, and full restoration alternatives necessarily skews its analysis of all other alternatives.

TU-3

As to proposed "buffer zones," while TU agrees that activities on adjacent lands can adversely affect riverine conditions, TU is not willing to "trade" land use restrictions for biologically-sound flows, as is clearly the intent of the DEIS. FERC has a duty to balance energy and non-energy uses of *rivers*. The achievement and benefit of land use restriction, above and beyond current LURC set-back requirements, *in this case* is not certain, while the need for flows other than those recommended in the DEIS is clearly defined and documented. There is little benefit to land use restrictions if they merely provide access to or visual enhancement of uplands adjacent to a dewatered riverbed or lake bottom.

Specific Comments

TU-4

On page i, it is noted that, "This DEIS [was] prepared by Commission Staff in connection with *an application* filed by GNP for FERC Projects Nos. 2572 and 2458 ..." (emphasis added). *This is incorrect.* GNP filed two, separate license applications. This issue goes to balancing and determining appropriate environmental protection, mitigation, and enhancements within each license.[2] In this case, while GNP is offering some enhancements at Ripogenus, there is very little consideration of environmental concerns at Penobscot Mills. The failure to provide reasonable mitigation at Penobscot Mills will have a

[2]FPA, 16 USC §803(a).

TU-3 Opinion noted. FERC staff did not recommend land use restrictions in exchange for flow restrictions. These decisions were made independently but within the context of FERC's balancing requirements.

TU-4 We have corrected the EIS to indicate that it covers 2 applications from GNP. Your other comments are noted.

COMMENTS FROM TROUT UNLIMITED ON UPPER PENOBSCOT RIVER BASIN DEIS

deleterious effect on the West Branch as a whole.

- On page ii, it is noted that, pursuant to the FPA, hydropower projects that are licensed by FERC must "be best adapted to a comprehensive plan for improving or developing a waterway ..." for purposes of commerce, power, "adequate protection, mitigation, and enhancement of fish and wildlife," and other beneficial uses (including irrigation, flood control, water supply, recreation and other 4(e) purposes). In its unopposed motions to intervene in opposition to licensing, dated August 22, 1993, and again in its comments of May 24, 1993, TU requested that the Commission prepare an Environmental Impact Statement for the entire West Branch of the Penobscot River to assess the basin-wide impacts of operations at this project and related projects. GNP's upriver storage projects regulate flows throughout the West Branch.[3] The Commission must include in its assessment *at least* GNP's upriver storage projects in order to comply with the FPA's directive regarding "a single comprehensive plan,"[4] to be able to determine the cumulative impacts of hydropower generation on brook trout and landlocked Atlantic salmon, and to have a sufficient record upon which a reasonable decision can be based regarding appropriate protection, restoration, and enhancement of fish and fish habitat. At Section 4.1, the Scoping Document stated that the "river reach to be considered for cumulative impact evaluation includes the entire West Branch of the Penobscot River;" the DEIS fails to meet this goal.

TU-5

- On page xiii, it is stated that "[s]everal intervenors seek *enhancements* beyond

TU-6

[3] *E.g.*, GNP Storage Project No. 2634, which includes several dams and an impoundment, and a number of other unlicensed storage projects owned and operated by GNP

[4] Section 10(a).

RESPONSES TO TROUT UNLIMITED ON UPPER PENOBSCOT RIVER BASIN DEIS

TU-5 The upper storage projects are included in GNP's water use model and the alternatives evaluated with that model, including additional model runs requested of GNP by FERC staff. These projects are not up for relicensing now but these projects are included in the water use model as a combined input. This input was kept constant in developing the water use plan although the model could be used to vary the input. We saw no need to do this however, since no one has suggested alternative management schemes for the upstream projects that would provide additional downstream benefits. In addition, GNP has agreed to inclusion of a reopener to allow modification of the water use plan, should analysis of the upper projects during relicensing result in unanticipated findings that desired changes could be made. We will recommend that the orders for both the Ripogenus and Penobscot Mills Projects include an article containing a reopener clause for consideration of the upper storage projects.

TU-6 Comment noted. FERC considers baseline to be existing conditions; hence environmental benefits provided beyond existing conditions are considered enhancements and not mitigation.

TU-6 Cont

those proposed by GNP to improve existing fisheries, recreational opportunities and other environmental conditions." (emphasis added). *This is incorrect.* TU is seeking *mitigation and restoration* of fisheries and fish habitat in Penobscot Mills' "Back Channel" and Millinocket Stream and throughout the West Branch.

TU-7

- Currently, federal and state agencies are actively involved in Atlantic salmon restoration efforts for the Lower Penobscot. In addition, the U.S. Fish and Wildlife Service ("USFWS") is contemplating a petition to have Atlantic salmon listed as an endangered species. The final EIS should allow for future restoration efforts and examine current agency efforts in light of the potential need to expand available habitat to approximate the historic range of Penobscot River salmon.

TU-8

- The DEIS focuses on the needs of species for which the Maine Department of Inland Fisheries and Wildlife ("MDIFW") is managing the West Branch to the detriment of other species. The DEIS fails to balance the needs of successful, non-native species (*e.g.*, landlocked salmon) with the needs of declining native species (*e.g.*, brook trout). All of the Instream Flow Incremental Methodology studies ("IFIM") that are referred to in the DEIS (*e.g.*, Millinocket Stream and the Back Channel) refer to flow needs of landlocked salmon, not brook trout. By contrast, TU's instream flow analysis, submitted with its recommended terms and conditions, comprehensively analyzed habitat needs of native and non-native beneficial species.[5] The final EIS should address the need for biodiversity, protection and restoration of native species, and the benefits of restoring natural conditions to a river basin.

[5] See Vadas study, as referenced above.

TU-7 Comments noted. These are not reasonably foreseeable actions that could be considered in this EIS. We note, however, that Interior has reserved the right to prescribe fishways under section 18 of the FPA and this reservation will be included in the orders for the projects.

TU-8 State and federal resource agencies had the opportunity during initial stage consultation to recommend species to be considered. The state and Interior chose not to consider brook trout in the Back Channel. Restoration of native species was not a goal of the state so the FEIS does not consider it.

COMMENTS FROM TROUT UNLIMITED ON UPPER PENOBSCOT RIVER BASIN DEIS

Ripogenus -- Impoundment, Upper Gorge, and below McKay Station:

TU-9

- As pointed out above, the DEIS fails to consider the impacts of hydropower operations on native species such as brook trout. Drawdowns of the Ripogenus impoundment should be limited in order to foster the restoration of: (1) brook trout in the impoundment; (2) associated wetland regions; and, (3) general biodiversity throughout the project area.[6]

TU-10

- Given the position of USFWS and the Penobscot Indian Nation ("PIN") regarding flows in the "Upper Gorge" of the Ripogenus Project, *i.e.*, that they will forego recommendations to provide higher-than proposed flows in exchange for other mitigation associated with Holbrook Channel, TU will also support the arrangement between MDIFW and GNP with regard to flows in this reach. (see page 4-15).

TU-11

- The DEIS fails to mention the above-cited study regarding instream flow needs for fish and recreation.[7] As TU has asserted a number of times in this proceeding, without additional instream flow and habitat studies below McKay Station, the Commission does not have sufficient information upon which to base a decision that allows for flow levels other than those recommended by USFWS. Without the information provided by an IFIM and a HEP study, FERC must defer to USFWS recommendations in the interests of fish and fish habitat. Either GNP must conduct these studies below McKay Station or FERC must provide minimum flows as recommended by USFWS and supported by the data collected by GNP, *i.e.*, 1,422 cfs from October 15 to June 7 and 711 cfs at all other times or inflow, whichever is less. As pointed out in earlier TU comments,

[6] *See* Vadas study, as referenced above.
[7] *See* Vadas study, as referenced above.

RESPONSES TO TROUT UNLIMITED ON UPPER PENOBSCOT RIVER BASIN DEIS

TU-9 As we stated in Appendix D of the DEIS, limiting drawdowns of Ripogenus is not a reasonable alternative, for at least 2 reasons: 1) downstream flow needs could not be met; and 2) some flood control benefits would be lost, depending on how much of a limit was imposed.

TU-10 No response required.

TU-11 See TU-1 above. In addition, approximately the minimum flows recommended by FWS will be provided, except during unplanned outages when 400 cfs would be provided for no more than 3 days. At other times, the minimum would be 1422 or 1000 cfs or inflow, at times when FWS recommends 1422 or 711 cfs or inflow. We discuss flows below McKay Station more fully in section 4.2.

COMMENTS FROM TROUT UNLIMITED ON UPPER PENOBSCOT RIVER BASIN DEIS

TU-11 Cont

because GNP studied only the needs of one species (landlocked salmon) and one form of recreation (whitewater boating), its calculations for summer flows are too high and for spring flows are too low. Flow criteria could be corrected by including the needs of trout, wetlands, recreational fishing, other types of boating, and general biodiversity.

TU-12

- The DEIS fails to provide for safe ramping rates below McKay Station. GNP has failed to conduct ramping studies. TU has requested a number of times in these proceedings that GNP conduct ramping studies and that safe ramping rates be required. *Safety of anglers and other river users should be a major concern of the Commission in determining project operations.*

Penobscot Mills -- Millinocket Stream and Back Channel:

TU-13

- The DEIS frequently repeats that there are few/no fish in these areas, that small populations do not warrant expensive measures, and that there is no recreational or navigational demand for such fisheries. This is patently absurd. These conditions exist because GNP has destroyed the fisheries within the Penobscot Mills project area through substantial manipulations of flow for the purpose of hydropower generation. To now say that GNP has been so successful in wreaking havoc in the project area that FERC will not consider mitigation or restoration ignores the Commission's mandate that relicensing examine preproject conditions.

TU-14

- As noted, Maine waived jurisdiction for the Penobscot Mills' Back Channel in its 401 certification and there are questions as to the effect of such a waiver.[8]

[8] DEIS at page 4-13.

RESPONSES TO TROUT UNLIMITED ON UPPER PENOBSCOT RIVER BASIN DEIS

TU-12 We do not believe that ramping rates below McKay Station are necessary. GNP has instituted a public warning system consisting of posted notices and a siren that is sounded prior to the release of flows from Ripogenus dam. During the whitewater boating season, a recreation attendant registers and controls access through the McKay Station gate and warns anglers of impending releases.

TU-13 The DEIS stated that there would be few fish produced in these areas even with additional flows, relative to the costs due to lost power and within the context of fisheries within the region. FERC is not mandated to examine preproject conditions but does consider enhancements of existing resources within the context of balancing power and non-power uses of the project area.

TU-14 The legal status of the Back Channel relative to Maine's 401 WQC will be addressed in the order for the project.

COMMENTS FROM TROUT UNLIMITED ON UPPER PENOBSCOT RIVER BASIN DEIS

TU-14 Cont

Since the issuance of its certification for Penobscot Mills. Maine's Department of Environmental Protection has found that neither the Back Channel nor Millinocket Stream meet state water quality standards.[9] FERC must report current water quality conditions and, since the state waived jurisdiction over the Back Channel and finds that current flows in Millinocket Stream are inadequate, in compliance with *Jefferson County v. Washington*,[10] should require hydropower operations that provide flows which attain state water quality standards.

TU-15

- The DEIS also claims that there is "no apparent demand for navigation in" the Back Channel.[11] This ignores PIN comments, as supported by TU, USFWS, and other recreational and environmental groups. The DEIS should reevaluate flows needed for navigation in the Back Channel.

TU-16

- In its assessment of regional recreation, the DEIS purports that one of the reasons that it does not recommend flows other than those proposed by the applicant is that there is no recreational demand for fishing in Millinocket Stream or the Back Channel.[12] First, this is incorrect. Both TU and PIN have expressed the need for additional, safe fishing areas. Second, this is not logical. Fishermen do not show up at a dried out reach, waders and rod in hand, demanding that fish and water be provided; fishermen go where there are

[9] 1994 Statewide Water Quality Assessment.

[10] U.S. Supreme Court Case No. 92-1911, decision issued May 31, 1994. In other DEIS's, *e.g.*, the DEIS for the Lower Penobscot River, FERC has "deleted" some conditions of state water quality certificates as being "unlawful" in that they are "beyond the scope intended by *Jefferson Co.*" As a corollary, in the case at hand, FERC is responsible for setting minimum flows that will ensure that state water quality standards are attained where state water quality certifications have failed to do so. The intent of *Jefferson Co.* is that states may be *more* stringent than a national standard in implementing state standards and anti-degradation policies, but not less so. Syllabus at p.17.

[11] DEIS at page 4-13.

[12] *See e.g.* page xvii.

RESPONSES TO TROUT UNLIMITED ON UPPER PENOBSCOT RIVER BASIN DEIS

TU-15 The Back Channel would only provide an approximately 4.5-mile-long boating trip in a less aesthetically pleasing setting than along the West Branch. We state in Section 4.8.1.1 that significant opportunities exist within the project area to meet recreational boating demand, and that the significant flows that would be required to enable recreational boating activities would jeopardize other environmental enhancements.

TU-16 We conclude that high-quality recreational fishing waters are abundant in the project region. We also conclude that increasing flows in Millinocket Stream and Back Channel would not result in any significant benefits to recreational fishery resources. Therefore, we do not support the provision of increased flows in these areas.

COMMENTS FROM TROUT UNLIMITED ON UPPER PENOBSCOT RIVER BASIN DEIS

fish and where they have access to safe fishing.

TU-17

- Because MDIFW has reversed its earlier position regarding Millinocket Stream (i.e., that it could be managed for salmon), the DEIS has dismissed the need for adequate flows (see page 5-7). As noted, MDIFW does not manage the stream for brook trout. Brook trout can flourish with lower flows than salmon. The IFIM for Millinocket Stream did not address brook trout needs. Therefore, TU maintains its request for USFWS recommended flow levels in the Stream, *i.e.*, 120 cfs from October 15 to June 7 and 60 cfs at all other times or inflow, whichever is less. FERC has no information in the record upon which it could base a decision to allow flow levels other than those recommended by USFWS.

TU-18

- As stated in earlier comments, landlocked salmon in Millinocket Lake seeking to drop into Millinocket Stream have no reasonable avenue of passage. TU reiterates its request for up- and down-stream fish passage at Millinocket Lake. Such facilities address the DEIS's concerns about limited habitat for adults. Furthermore, neither MDIFW nor USFWS agree with the DEIS's theory that increased flows in the stream and fish passage to and from the lake will lead to competition from downstream warmwater species.[13]

TU-19

- The DEIS fails to require that GNP install downstream passage facilities for trout and salmon at Penobscot Mills' North Twin, Dolby, and East Millinocket Dam. Currently, coldwater fish must pass through turbines at those facilities, where fish mortality is high.

[13] DEIS at page 4-28. Cf. personal communications/telephone conversations with MDIWF and USFWS. MDIFW has not experienced this situation in other circumstances, e.g., Grand Lake.

RESPONSES TO TROUT UNLIMITED ON UPPER PENOBSCOT RIVER BASIN DEIS

TU-17 Based on the IFIM study for Millinocket Stream, which included brook trout, a year-round flow of 60 to 80 cfs would provide optimal habitat for this species. Following a 10(j) meeting with Interior, we recommend a year-round flow of 60 cfs or inflow, whichever is less, for Millinocket Stream.

TU-18 FWS and DIFW did not express disagreement in their respective comment letters on the DEIS. We continue to believe that fish passage at Millinocket Lake Dam is unnecessary to sustain the Millinocket Lake or Stream fish populations and that the absence of fish passage facilities could prevent the undesirable spread of non-indigenous warmwater species into Millinocket Lake from downstream project waters.

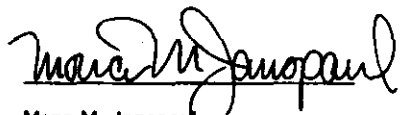
TU-19 The only fish entrainment within project waters for which there is data available, results in what has been termed "smelt drift". This phenomenon appears to be advantageous to piscivorous species for which smelt form a forage base while at the same time, not adversely affecting the smelt populations. Entrainment-related mortality of trout or salmon has not been raised as an issue in this proceeding by FWS or DIFW. We further believe that the life history patterns exhibited by project salmonid populations do not necessitate fish passage facilities at these dams. Therefore, we will not recommend that fish passage facilities be constructed at this time.

TU-20

- The DEIS fails to require that drawdowns of the associated impoundments be limited. Excessive drawdowns have contributed to stress on lake trout, severely limiting populations throughout the Penobscot Mills project, and may be contributing to mercury contamination of fish and wildlife. High levels of mercury have been verified in bald eagles that nest within the Penobscot Mills project boundaries. Since bald eagles feed on fish, it is implicit that the fish within the Penobscot Mills boundaries are also contaminated with mercury.[14] Before a new license is issued for Penobscot Mills, the Commission should explore the relationship between the operation of Penobscot Mills, particularly drawdowns of the impoundments, and mercury levels in resident fish. The Commission should adopt the recommendation of USFWS that Penobscot Mills be operated in a run-of-river mode in order to minimize impoundment fluctuations.

Respectfully submitted,

TROUT UNLIMITED

By 

Mona M. Janopaul
Conservation Counsel
Trout Unlimited
1500 Wilson Blvd., Suite 310
Arlington, VA 22209
(703)522-0200

February 22, 1995

[14] In the water quality certification that it issued for Penobscot Mills, the Maine Department of Environmental Protection required that GNP will conduct studies of mercury contamination in bald eagles, fish, and other wildlife.

TU-20 GNP, the state of Maine (during the 401 WQC proceedings) and FERC staff considered drawdown limits at the major impoundments. As explained above (TU-9), Ripogenus drawdown limits are not reasonable for a number of reasons. North Twin water levels are proposed for management of lake trout and the state's 401 WQC requires such management.

There is no evidence that annual drawdowns are contributing to mercury mobilization within the project area. Nevertheless, the state's 401 WQC contains conditions for both projects for further study of this issue and the orders for these projects will also require these studies or cooperation by GNP in studies conducted by other agencies.

CERTIFICATE OF SERVICE

TU-20 Cont

I hereby certify that I have served on this 22nd day of February, 1995, by first class mail, a copy of the foregoing Petition upon each person designated in the Secretary's service list for this proceeding.

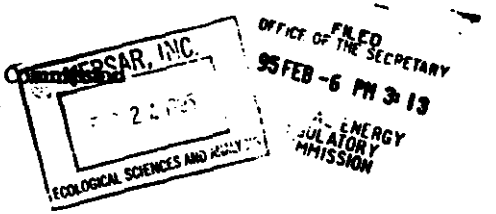
Mona M. Janopaul, Esq.

COMMENTS FROM SUSAN DOLAN ON UPPER PENOBSCOT RIVER BASIN DEIS

Susan Mackin Dolan 139 Bates St. Millinocket, Me 04462

January 31, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 N. Capital Street, N.E.
Washington, D.C. 20426



Dear Ms. Cashell:

It has come to my attention that FERC has proposed new building setback guidelines as part of its environmental impact statements, in connection with the relicensing application submitted by the Great Northern Paper Company, (Ripogenus Hydroelectric Project, Ferc # 2572 – 00 and Penobscot Mills Hydroelectric Project , Ferc # 2458).– 009

1. I have leased land from Great Northern Paper for many years on North Twin Lake and have a small cottage on this land that my family returns to every summer. My parents and four other aunts and uncles also own cottages within two miles of mine, that were all built in accordance with the state of Maine's Land Use Regulatory Commission, LURC, in the 1970's and 1980's. We are concerned that our cottages may be within the proposed 200' setback and would like to know exactly how these new proposed restrictions would impact the existing buildings. As we have many years and a lot of time and money invested in our properties, we would like assurances that they would be protected from any new restrictions. We would also like to know if Great Northern Paper will be allowed to, (if they so decide), sell this land to the current leaseholders under the terms of the new licenses. This seems to be happening in other leased land recreation areas in the state.

2. This area is very special to all of us who live here and we work hard to mantain its unique beauty while enjoying the lakes and forests. One thing that greatly disturbs us when we return every year is the amount of clear cutting the paper company is doing so close to the shores of these lakes. This has a much greater impact on the environment than the few cottages scattered around the area. What restrictions will Ferc be putting on those activities? Your help is answering these questions would be greatly appreciated.

Thank you for your time and consideration.

Sincerely,
Susan Mackin Dolan

RESPONSES TO SUSAN DOLAN ON UPPER PENOBSCOT RIVER BASIN DEIS

1. The staff revised its land use assessment and recommendations in the FEIS (see section 4.9). We considered comments received during the DEIS comment period, GNP's proposed conservation easements for the Ripogenus Project area, updated land valuation information, and further assessment of LURC land use regulations. The staff proposes, for the Ripogenus project area, two options: (1) accepting the conservation easement proposed by GNP and the State of Maine; or (2) a 200-foot boundary expansion on GNP-owned lands. For the Penobscot Mills project area, the staff recommends a 200 foot expansion of the project boundaries on GNP owned lands. The staff recommends that existing structures would be grandfathered under any of the project boundary expansion alternatives. See section 4.9 and 5.3.4 for further discussion regarding proposed protection zones for the Ripogenus and Penobscot Mills Project areas.

2. See sections 3.11.1.1 and 4.9.

COMMENTS FROM JOHN FRACHELLA ON UPPER PENOBSCOT RIVER BASIN DEIS

CITY OF Bangor MAINE
100 TEXAS AVENUE
BANGOR, MAINE 04401
TEL. 207/941-0266
CHILDREN'S DENTAL CLINIC
John C. Frachella, DMD, Director

February 1, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

005

Dear Secretary,

This letter concerns Ripogenus (P-2572) and Penobscot Mills (P-2458) DEIS.

I am Dr. John Frachella, West Branch Regional Representative of the American Whitewater Affiliation (AWA). I am also a non-commercial, recreational boater and a camp owner within the 200 foot setback zone in the Ripogenus impoundment area.

AWA strongly supports the concept of recreational whitewater releases in the Upper Gorge. Alternative 2 calls for two scheduled recreational releases of 1,000 to 2,000 cubic feet per second, restricted to May, to avoid conflicts with fishery goals. However, after the license has been issued, we would like to be able to examine more closely the volume necessary for whitewater recreation in this stretch of the river. Those of us who have paddled this stretch in the past have reason to believe that lower flows may provide suitable runs. Therefore, we would like to design and implement a post-license recreational whitewater study. At this time we want to be reassured that less water per run may translate into more releases. 1.

We are also requesting that evening flows out of McKay Station from May 1 to September 15 be reduced from commercial levels for private use thus preserving the natural river fluctuations found in nature and providing flows more comfortable for less experienced paddlers and for those looking for a diversity of experience. 2.

We support the 200 foot setback buffer but only if the present existing lots on the shore frontage of the impoundments are grandfathered. We support FERC pursuing willing sellers only. We do not support the condemnation of lands through eminent domain. 3.

Sincerely,

John C Frachella DMD

John C. Frachella, DMD

RESPONSES TO JOHN FRACHELLA ON UPPER PENOBSCOT RIVER BASIN DEIS

1. Opinion noted. Staff recommends that GNP consult with whitewater interest groups regarding appropriate flows for the scheduled releases in the West Branch during two weekends in May (see section 4.8.3.1).

2. As stated in section 4.8.1, GNP would provide minimum flows from McKay Station during daytime hours. GNP usually maintains flows at or above 1800 cfs throughout the year, however, evening flows may be reduced or varied. We agree that the reduced or varied evening flows would provide additional opportunities for less experienced paddlers or those desiring a diversified experience.

3. The staff revised its land use assessment and recommendations in the FEIS (see section 4.9). We considered comments received during the DEIS comment period, GNP's proposed conservation easements for the Ripogenus Project area, updated land valuation information, and further assessment of LURC land use regulations. The staff proposes, for the Ripogenus project area, two options: (1) accepting the conservation easement proposed by GNP and the State of Maine; or (2) a 200-foot boundary expansion on GNP-owned lands. For the Penobscot Mills project area, the staff recommends a 200 foot expansion of the project boundaries on GNP owned lands. The staff recommends that existing structures would be grandfathered under any of the project boundary expansion alternatives. See section 4.9 and 5.3.4 for further discussion regarding proposed protection zones for the Ripogenus and Penobscot Mills Project areas.

COMMENTS FROM CHARLES GADZIK ON UPPER PENOBSCOT RIVER BASIN DEIS

TO: Ed Meyer
Federal Energy Regulatory Commission
Office of Hydropower Licensing
825 North Capitol Street, N.E.
Washington, DC 20426

FROM: Charles Gadzik
RR#1, Box 947
Carroll Plantation, Maine 04487

RE: Comments on Draft Environmental Impact Statement, Penobscot River Basin
FERC No. 2527 & No. 2458 – 009
1005

Members and Staff of the Federal Energy Regulatory Commission;

My name is Charles Gadzik, I am a resident of Carroll Plantation (about 40 miles east of Millinocket) Maine. My interest in this relicensing process is as a resident of the region for nearly 20 years, and in my participation in land use issues of northern Maine. During the years of 1988 through early 1994 I served as a member of Maine's Land Use Regulation Commission. For 26 months of my service I was Commission Chairman, as one of my responsibilities, I presided over 401 Water Quality Certification for the Ripogenus Project. I am here tonight representing myself.

1.

In preparation of this hearing tonight, I've tried to recall all the details of LURC's 401 process two years ago. I remember as we began the review we were inundated with intervener applications which resulted in endless briefs on the subjects of mercury, access, wetlands, flows recreation and fisheries

As our review progressed, the question I asked myself as a veteran regulator was - Where are the substantive concerns? As each issued was raised for both relevance and then substance, the frequent conclusion for myself and colleagues was that there was no real conflict with public needs. Over time the picture emerged of a project that, due to its management for base load power, was being managed very closely to ideal for the principal public concerns of fisheries and water-use recreation. The truth, of course, is that both

E-351

RESPONSES TO CHARLES GADZIK ON UPPER PENOBSCOT RIVER BASIN DEIS

1. No response required.

COMMENTS FROM CHARLES GADZIK ON UPPER PENOBSCOT RIVER BASIN DEIS

1. Cont

the world class land-locked salmon fishery and the white water rafting use exist because of the dams and how they are managed (*There was the potential for fine tuning the optimization of all uses, and under FERC's guidance and GNP's discussion with interest groups these tunings are part of a new license*). Yet despite this reality, some of the voices we heard were insistent on being sure that a sufficient pound of flesh was extracted from the applicant. These voices moved on to your proceedings with the same demands. It is with this background I ask you to reconsider two provisions in the Alternative 2 of the draft EIS.

2.

I. On page 4-57, section 4.9.1.1, Shoreline development, there is discussion of the rationale for requiring GNP to acquire a shoreland easement on Chesuncook lake. As a veteran of LURC and its process I find this discussion surprising and disappointing. As is discussed on page 3-45, LURC has gone through a very extensive review of the lake resources in northern Maine. Lakes were classified by their resources and zoned in a manner that protected the highest value shoreline from any or excessive development. Much of Chesuncook's GNP frontage has the P-AL zoning which limits structures to one per mile of frontage. With this knowledge, it is very difficult to understand FERC's statement "...they still allow for a potential increase in development of more than 1,000 percent in the Ripogenus Project...". It is inconceivable to me that LURC will permit 700 dwelling units in the Ripogenus Project area. To accept this conclusion two things completely inconsistent with practices of the past 24 years would have to happen; 1) the landowners in the project area would have to seek every possible shorefront lot theoretically possible, and 2) LURC would have to blindly approve a massive rezoning for this shoreline. Neither of these actions are real world possibilities. (*I noticed on page 4-57, that Mr. Sosland has suggested in his letter of September 3, 1993 that LURC is prone to approve the majority of rezoning applications it receives. The valid statistics should include the large number of applications that are pulled when LURC staff advise an applicant it does not have a chance for approval by the Commission.*)

3.

I believe that LURC's 24 year history is strong evidence that extensive development in the Ripogenus Project are is not a real threat. This history is not one of capitulation before landowners wishing to maximize development. I believe the representations of CLF, American Rivers Association, Appalachian Mountain Club, and Maine Audubon, are either out of ignorance or purposeful misrepresentation for ends that are not justified nor appropriate.

RESPONSES TO CHARLES GADZIK ON UPPER PENOBSCOT RIVER BASIN DEIS

2. Comment noted. The staff revised potential build-out estimates (see section 4.9).

3. Opinion noted.

COMMENTS FROM CHARLES GADZIK ON UPPER PENOBSCOT RIVER BASIN DEIS

4. Concerning development in the Penobscot Mills Project area; this area is regarded as already hosting significant development, is adjacent to the community of Millinocket, and in the broad perspective of all the water bodies in the region, a suitable place for some additional development. This is a rational position for land use planning in this region. However, to suggest that the existing 430 units can expand to 5,000 is again totally inconceivable. Nothing in LURC's history or in the history of this region suggest this course is a possible one.

I urge you to allow that land use planning and permitting stay in the capable hands of LURC, an agency with a long track record of success.

II. Page 4-58, 4.9.1.2 Timber harvesting Practices.

5. The impacts of timber harvesting on water quality is an issue important to Maine, and one that has been the attention of much research and technical review. An accurate representation of the current LURC status is that the zone for buffering is 250 feet from the high water mark. It has long been recognized that in order to maintain a fully functioning buffer zone, it must be maintained in a healthy condition. To this end, timber harvesting can fulfill both economic goals of the landowner as well as a healthy vegetative filter strip. The current standards allowing some occasional removal of trees from this zone is fully consistent with water quality objectives. The assertion by CLF, American Rivers Association, Appalachian Mountain Club, and Maine Audubon Society that water quality and wildlife objectives are best accomplished without any timber harvesting is completely inconsistent with the conclusions of many technical forums discussing such issues.

6. Finally, I want to thank FERC for negotiating through many complex issues and recognizing the quality of GNP's application for recertification. I believe there are few examples in this country of such a fine balance between the production of power and the maintaining of many outstanding public values. I hope my views can figure into your deliberations.

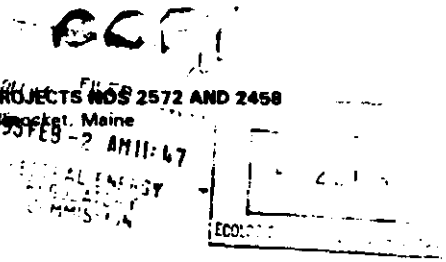
RESPONSES TO CHARLES GADZIK ON UPPER PENOBSCOT RIVER BASIN DEIS

4. See response #2.

5. Opinion noted. See revised sections 3.11.1.1 and 4.9).

6. No response required.

COMMENTS FROM JIM HASKELL ON UPPER PENOBSCOT RIVER BASIN DEIS



PUBLIC HEARING TESTIMONY: EIS FERC PROJECTS NOS 2572 AND 2458
January 25, 1995 Stearns High School Millinocket, Maine

My name is Jim Haskell.

Although I am the Town Planner, Code Enforcement Officer & Community Development Director of the Town of Millinocket, I am testifying tonight as a private citizen.

I have been involved in Community, Regional, Environmental and Land Development Planning in Maine for more than 26 years.

I hold a Masters Degree in Landscape Architecture from Harvard University. My Maine Professional Registration Number is 27, which I am told accounts for the gray in my beard. I am also a State Certified Code Enforcement Officer, certified in the areas of Zoning, Land Use & Shoreland Zoning. 1.

I did my graduate thesis on Wildland Planning Issues in Maine and was the first Executive Director of the Maine Land Use Regulation Commission (LURC). I helped write the LURC law.

I would like to make the following points:

The First Point: ....I do not envy the job before you.

The Congress gave you no easy task when it required your agency to comply with the National Environmental Policy Act (NEPA) and the Regulations of the Council on Environmental Quality. (CEQ)

The Second Point: ....I realize that you can not possibly satisfy everyone.

The record is clear...in this situation...that the environmental intervenors involved will never be satisfied until all or most of the North Maine Woods are taken from private hands and made into public domain.

In recent years we have been hammered with one confiscatory proposal after another:

- the 10.5 Million acre of North Woods Conservation Area proposed to LURC by the Natural Resources Council of Maine and the Maine Audubon Society.

RESPONSES TO JIM HASKELL ON UPPER PENOBSCOT RIVER BASIN DEIS

1. Opinion noted.

COMMENTS FROM JIM HASKELL ON UPPER PENOBSCOT RIVER BASIN DEIS

PUBLIC HEARING TESTIMONY: EIS FERC PROJECTS NOS 2572 AND 2458.
January 25, 1995 Stearns High School Millinocket, Maine

1. Cont

- the 3.2 Million acre Maine Woods National Park proposed by the Massachusetts based environmental group...Restore.
- the 2.6 Million acre Maine Woods Preserve proposed in the May-June 1994 edition of the National Audubon Society Magazine.
- the 2.8 Million acres of Conservation Priority Areas proposed by the Maine Audubon Society.
- and now the intervenor's "Land for Dams" scam.

The Third Point: ....I realize the political realities of the power environmental groups have over federal agencies, through NEPA.

In spite of the fact that the current intervenors, collectively represent less than 1 percent of America's (94 million) households... They are allowed to push their own self-serving agendas as if they were speaking for the majority of the public.

2.

INTERVENOR MEMBERSHIP	
Conservation Law Foundation Boston, Massachusetts	5,000 members
Appalachian Mountain Club Boston, Massachusetts	65,000 members
American Rivers Washington, DC	15,000 members
American Whitewater Affiliation Phoenicia, NY	(unknown)
Trout Unlimited Arlington, Virginia	75,000 members
Maine Audubon Society Falmouth, Maine	7,000 members

Source: From Public Records and telephone calls to the organization's home offices.

RESPONSES TO JIM HASKELL ON UPPER PENOBSCOT RIVER BASIN DEIS

1. Cont

2. Opinion noted.

COMMENTS FROM JIM HASKELL ON UPPER PENOBSCOT RIVER BASIN DEIS

PUBLIC HEARING TESTIMONY: EIS FERC PROJECTS NOS 2572 AND 2458
January 25, 1995 Stearns High School Millinocket, Maine

2. Cont

You know and I know that these self-appointed, un-elected, Environmental Lawyers and Lobbyists do not represent the public interest and really could care less about the public.

They are simply a well organized elitist minority...Funded by public tax credits...With their own well-documented agendas. (See attachment A and B)

Their selfishness knows no bounds. Consider the testimony of the representative of the American Whitewater Affiliation, in which he clearly asked FERC not to adversely affect his existing camp on the Ripogenus Impoundment, but to apply the proposed restrictions to everyone else.

The Fourth Point:....Regarding the building setbacks and vegetative buffers and forced acquisition of private property being proposed in the draft EIS:

A. It is my opinion that the rationale put forth in the Draft EIS for these proposed drastic actions:

- is not based on, "*accurate scientific analysis*" or "*high quality information*"....As required by NEPA Regulations in 40 CFR 1500.1(b) and CEQ Regulations 40 CFR 1502.24.

3. The US Forest Service's 1990 "Northern Forest Land Study", used as the basis for projected land use development (pages 3-48 & 3-49), is a four State study (ME,NH,VT & NY) of generalized comments regarding the 26 million acre Northern Forest and is without any specificity to the project area. This study is clearly not a sufficient fact basis to support the proposed setbacks, buffers and property rights acquisitions.

The most accurate data in terms of historic and projected rates of development can easily be had from the annual records of the landowners or the Maine State Bureau of Taxation. Both maintain files, dating back beyond 1970 (when LURC was formed) up to this year on the number of leased lots and the number of structures on these lots. A straight line projection of this 20+ year historic data base would result in a more "accurate scientific analysis" and higher "quality information" than the documentation used by FERC staff.

RESPONSES TO JIM HASKELL ON UPPER PENOBSCOT RIVER BASIN DEIS

2. Cont

3. The staff revised its land use assessment and recommendations in the FEIS (see section 4.9). We considered comments received during the DEIS comment period, GNP's proposed conservation easements for the Ripogenus Project area, updated land valuation information, and further assessment of LURC land use regulations. The staff proposes, for the Ripogenus project area, two options: (1) accepting the conservation easement proposed by GNP and the State of Maine; or (2) a 200-foot boundary expansion on GNP-owned lands. For the Penobscot Mills project area, the staff recommends a 200 foot expansion of the project boundaries on GNP owned lands. The staff recommends that existing structures would be grandfathered under any of the project boundary expansion alternatives. See section 4.9 and 5.3.4 for further discussion regarding proposed protection zones for the Ripogenus and Penobscot Mills Project areas.

PUBLIC HEARING TESTIMONY: EIS FERC PROJECTS NOS 2572 AND 2458
January 25, 1995 Stearns High School Millinocket, Maine

3. Cont

In addition, FERC knows that the US Forest Service is clearly not an unbiased player in these matters.

B. It is my opinion that the rationale put forth in the Draft EIS for these proposed drastic actions:

- is inconsistent with "*approved state plans and laws*" and these inconsistencies have not been adequately "*reconciled*" in the Draft EIS...As required by CEQ Regulations in 40 CFR 1506.2(d).

Clearly the minimal environmental problems sought to be mitigated by these measures are adequately controlled by existing State Land Use and Environmental Protection Laws including water quality laws mandated by the Federal Government and administered by the State.

C. In my opinion the proposed building setbacks, vegetative buffers and the forced acquisition of private property constitute the equivalent of an Unfunded Federal Mandate.

Every dollar FERC forces B-GNP to spend to meet frivolous, minimally important, undocumented and unnecessary environmental impacts is a dollar not invested in plant and production capacity and therefore has a significant adverse impact on the economy of the towns of East Millinocket, Millinocket and the Region.

D. In my opinion the proposed building setbacks, vegetative buffers and the forced acquisition of private property is un-warranted in terms of the number of people who would benefit.

My personal experience and knowledge of the gates and road system leads me to believe that less than 1 percent of the 130,000 visitors logged at B-GNP gates ever use the Ripogenus impounded lakes. Most end up recreating between the Big Eddy Bridge and the Abol Bridge or are simply traveling through to destinations outside the project area such as, the Allagash, traveling between Greenville and Millinocket, or to other lakes and ponds elsewhere.

COMMENTS FROM JIM HASKELL ON UPPER PENOBSCOT RIVER BASIN DEIS

PUBLIC HEARING TESTIMONY: EIS FERC PROJECTS NOS 2572 AND 2458
January 25, 1995 Stearns High School Millinocket, Maine

Can you really justify using such extreme measures for the limited and unnecessary benefit of less than 1,000 persons?

3. Cont

Did you poll any of these 1,000 persons....To ask them if they thought such drastic measures were necessary? How many of the intervenors' members are included in this 1,000? Did the intervenors poll their membership?

My family and I go through these B-GNP gates at least once per weekend and sometimes twice, from spring to fall. I do most of my fishing and photography in the watershed above Ripogenus dam. No one from FERC ever asked us, for our opinion.

From what factual basis did FERC and the intervenors come to the conclusion that we needed protection from *ourselves*...And that they know what is best for us.

The Fifth Point:....I strongly believe that you should be rewarding B-GNP for the significant recreation opportunities they provide the general public through their generous *multiple-use management policies*...Instead of punishing *them* on behalf of the intervenors.

These are not urban dams. This is not the Androscoggin or the Kennebec or the Lower Penobscot. These dams are part of an integrated industrial forest product manufacturing system.

4.

The lands in the project area are not "Wilderness" or "Semi-Wilderness", they are managed private fiber producing lands, producing jobs and Local, Regional, State and National wealth.

These private lands are the last of their kind. No where else in the world can you find such a relatively contiguous private timberland holding...of 2.1 million acres...With such an extensive private road system direct from the stump to the mill...With its *own* integrated private hydro-electric system. Not in North or South America. Not in Europe or Africa.

RESPONSES TO JIM HASKELL ON UPPER PENOBSCOT RIVER BASIN DEIS

3. Cont

4. Opinion noted.

COMMENTS FROM JIM HASKELL ON UPPER PENOBSCOT RIVER BASIN DEIS

PUBLIC HEARING TESTIMONY: EIS FERC PROJECTS NOS 2572 AND 2458
January 25, 1995 Stearns High School Millinocket, Maine

4. Cont

They can not be replicated anywhere else in the world, except perhaps in China or Russia fifty years from now. This set of circumstances is rare, unique and exemplary. It deserves to be left alone in private hands, and allowed to continue as a National Historic Area of private capital and job producing property. It is a fast disappearing bit of working (Pre-Information Age) American History.

The Sixth Point:....I really do not believe that you have carefully thought out your proposed regulation of existing and future development and vegetation removal in the proposed extended project area boundary. As a Code Enforcement Officer and as Consultant who spends a lot of time drafting and/or revising Ordinances and Codes, I can assure you that FERC or GNP does not want the job of administering the "grandfathered" uses.

Who is going to be responsible for the administration, inspections, and enforcement required? B-GNP? FERC? LURC? or some new bureaucratic entity?

Can FERC legally (and morally) supersede State of Maine environmental and land use law?

Are you prepared to construct clear language that will give clear answers to the following consumer questions?

5.

- Is my building grandfathered?
- Is my unbuilt upon lot grandfathered?
- Is my commercial use grandfathered?
- Is my illegal building grandfathered?
- Is my illegal use grandfathered?
- If my non-conforming camp/house burns down can I rebuild?
- If my non-conforming camp/house burns down can I rebuild a slightly bigger camp/house?
- If my non-conforming camp/house burns down can I rebuild in a different location?
- If my non-conforming camp/house burns down how long do I have before I have to rebuild?
- If my non-conforming camp/house burns down is my shoreland setback grandfathered?
- Can I convert my existing non-conforming camp to a year-round house?

RESPONSES TO JIM HASKELL ON UPPER PENOBSCOT RIVER BASIN DEIS

5. The staff revised its land use assessment and recommendations in the FEIS (see section 4.9). Within the Ripogenus Project area, the recommended alternative proposes two options: (1) the adoption of the proposed 250-foot conservation easements for GNP owned land as defined by the MOU; or (2) a 200-foot boundary expansion on GNP-owned lands (see section 4.9.1). The proposed 250-foot easements would lie outside the project boundary and would remain under LURC land use regulatory control. For the Penobscot Mills Project, the recommended alternative proposes expanding project boundaries to generally extend 200 feet from the high water mark of the impoundments within the project area, only on land currently owned by GNP.

Within the proposed boundary expansion areas, existing structures would be grandfathered and GNP would have the authority to review and approve proposed actions as established by the Commission under the Standard Land Use Article and/or SMP. See Section 4.9 and 5.3.4 for further discussion regarding proposed protection zones for the Ripogenus and Penobscot Mills Project areas.

COMMENTS FROM JIM HASKELL
ON UPPER PENOBSCOT RIVER BASIN DEIS

PUBLIC HEARING TESTIMONY: EIS FERC PROJECTS NOS 2572 AND 2458
January 25, 1995 Stearns High School Millinocket Maine

5. Cont

- Can I continue to operate my existing home occupation from my non-conforming camp/house?
- Can I start a new home occupation from my non-conforming camp/house?
- Can I build an accessory building/structure on my non-conforming lot?
- How much can I expand the footprint of my non-conforming camp/house?
- How much can I expand the volume of my non-conforming camp/house?
- How much can I remodel/repair my non-conforming camp/house?
- Etc. Etc. Etc. Etc.

Clearly LURC has much more experience with these questions than B-GNP or FERC. Under State Law won't LURC still be involved regardless of what FERC does? Will people have to get more than one permit for everything?

Finally.....I urge you to consider making a finding of no significant impact with regard to shoreland development in light of existing State Laws and Regulations and leave the Project Area boundaries where they are.

6. **Being unnecessarily forced into becoming a tool of the intervening special interests, in their "Land for Dams" scam, is of no gain whatsoever to the credibility or the future of FERC. Clearly FERC should be acting in the best interests of the majority of the households in America and the majority of the households in Maine...And they have not requested that you replace LURC on their behalf.**

If we really must put things back to the way they were in pre-European settlement...As the intervenors advocate....Lets start on Cape Cod or the Potomac River or the Hudson River or Northeast Harbor...Leave us alone to continue to enjoy Maine....The way it is....Or as our State Bureau of Tourism says..."The Way Life Should Be." Let it be the way it was before the intervenors came up with their "Land for Dams" scam.

Jim Haskell

James S. Haskell, Jr.
206 Highland Avenue
Millinocket, Maine 04462

(207) 723-8543

attach: 2

E-360

RESPONSES TO JIM HASKELL
ON UPPER PENOBSCOT RIVER BASIN DEIS

5. Cont

6. Opinion noted.

COMMENTS FROM NANCY JOHNSON
ON UPPER PENOBSCOT RIVER BASIN DEIS

NANCY L. JOHNSON
6TH DISTRICT, CONNECTICUT

COMMITTEE ON WAYS AND MEANS
SUBCOMMITTEES
HEALTH
TRADE
COMMITTEE ON
STANDARDS OF OFFICIAL CONDUCT
CO-CHAIR
EXPORT TASK FORCE

Congress of the United States
House of Representatives
Washington, DC 20515-0706

95 FEB 21 PM 12:08

February 16, 1995

Ms. Becky Schaffer
Federal Energy Regulatory Commission
825 North Capital Street, NE
Room 9200E
Washington, D.C. 20426

Dear Ms. Schaffer:

I am writing on behalf of my constituent, Mrs. Betty Trott-Tessman, who has contacted me regarding her concerns with the Hydro-electric licenses applied for by Great Northern, Inc. located in Millinocket, Main (FERC No. 2572 and FERC No. 2458).

1. Mrs. Trott-Tessman has indicated to me that Great Northern, Inc. owns the land her camp is on. She claims that the Land Use Regulatory Commission (LURC) of Maine has been adequately serving the needs of the community. She feels that the involvement of FERC will cause over-regulation and will impose unrealistic standards for use of summer homes, new construction and general land use. Mrs. Trott-Tessman believes that it would be in the best interests of the town of Millinocket if FERC supervises the Hydroelectric operations and leaves the land and waterway regulation issues to LURC.

I respectfully request your investigation into this matter and that you provide an explanation of the details of your findings to my caseworker, Betty Butler, 480 Myrtle Street, New Britain, Connecticut 06053 or at (203) 223-8412.

Very truly yours,

Nancy L. Johnson
Member of Congress

NLJ/bjb
Enclosure

15-50054

RESPONSES TO NANCY JOHNSON
ON UPPER PENOBSCOT RIVER BASIN DEIS

1. The staff revised its land use assessment and recommendations in the FEIS (see section 4.9). We considered comments received during the DEIS comment period, GNP's proposed conservation easements for the Ripogenus Project area, updated land valuation information, and further assessment of LURC land use regulations. The staff proposes two options for the Ripogenus project area: (1) accepting the conservation easement proposed by GNP and the State of Maine; or (2) a 200-foot boundary expansion on GNP-owned lands. For the Penobscot Mills project area, staff recommends a 200 foot expansion of the project boundaries on GNP owned lands. Staff recommends that existing structures would be grandfathered under any of the project boundary expansion options.

COMMENTS FROM NANCY JOHNSON ON UPPER PENOBSCOT RIVER BASIN DEIS

27 Hutchinson Street
New Britain, Connecticut 06053

January 26th, 1995

Representative Nancy Johnson
U.S. House of Representatives
Washington, D.C. 20510

Dear Representative Johnson:

Enclosed please find a copy of a letter which my sister and I have sent to Lois Cashell, Secretary of the Federal Energy Regulatory Commission regarding the renewal of two Hydro-electric licenses applied for by Great Northern, Inc. located in Millinocket, Maine (FERC No. 2572 and FERC No. 2458).

Whatever actions FERC may take on these applications are ones potentially having very long term effects not only on the town of Millinocket, Maine, which has been economically fragile for many years now, but on my entire present and future family members, most of whom reside legally in Connecticut.

Much of the town of Millinocket is built upon land owned by Great Northern, Inc. It is often leased to individuals such as me to build upon. As a camp owner and summer resident one of my greatest concerns is that FERC, in renewing these afore-mentioned licenses, apparently plans to inflict unrealistic standards upon the use of land surrounding these two projects. In fact, I question FERC's overlap of authority with the Land Use Regulatory Commission (LURC) of the State of Maine.

Having invested more than $40,000. in property improvements to our camp in just the last two years, all of which was done with the prior approval of LURC, I am even more concerned about any transfer of land use regulation to FERC, who failed to mention existing camp owners who fall into my position--land renters, camp owners-- in their Alternative I to FERC Nos. 2472 and 2458. Will FERC allow Great Northern to renew my land lease? If so would I then be subjected to their proposed and unrealistic standards for new construction in the area? Would I even be allowed the use of the camp which I own? If my rented land which is on an island in the middle of a lake does not conform to FERC standards would my camp have to be moved and if so at whose expense?

E-362

1. Cont

RESPONSES TO NANCY JOHNSON ON UPPER PENOBSCOT RIVER BASIN DEIS

The conditions which are proposed by FERC in approving the applications of Great Northern, Inc. are ones which would severely interfere with the autonomy of an entire region which is already, in my opinion, adequately regulated by LURC. Not only do I consider this as extreme interference with a town's autonomy, but complete duplicity of the services already adequately rendered by LURC. Why must we, as taxpayers, pay for land use regulation services twice?

I hope that you will look into this problem for me and if you see fit encourage FERC to approve the applications as proposed by Great Northern, Inc. In other words, let's leave all land and waterway regulation of this area to LURC which is already doing an excellent job free of Federal interference. And, let us leave the actual supervision for the Hydroelectric operations to FERC. Let's pay for the job only once.

1. Cont

Thank you for whatever help you may be able to give my family in investigating this matter which FERC plans to act upon by February 8th, 1995.

Yours truly,

Betty Trott Tessman

Betty Trott Tessman
Legal resident of Connecticut
Camp owner, Town of Millinocket, Maine

ET

Enclosure

E-363

COMMENTS FROM NANCY JOHNSON
ON UPPER PENOBSCOT RIVER BASIN DEIS

RESPONSES TO NANCY JOHNSON
ON UPPER PENOBSCOT RIVER BASIN DEIS

27 Hutchinson Street
New Britain, Connecticut 06053

January 26th, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

Dear Ms. Cashell:

As the owner of a camp on North Twin Lake in Millinocket, Maine I am writing in support of the applications of Great Northern, Inc. for renewal of their thirty year license for the Ripogenus Hydroelectric Project (FERC No. 2572) and the Penobscot Mills Hydroelectric Project (FERC No. 2458).

Our family goes back many generations in the area encompassed by the Penobscot Project. Additionally, we have owned a camp on land leased from Great Northern on North Twin Lake for the last sixty years. During this time we have seen a good situation environmentally decline and then improve greatly after the establishment of Maine's Land Use Regulatory Commission in 1981. There have been far reaching effects from this point forward. Logging practices have been greatly improved, our beautiful lakes are in pristine condition, and most recently we have observed great improvement in the quantity and diversification of fish and water fowl populations. We have never in our lengthy lifetimes seen the area in better condition than it is now. This pleases us greatly.

That this is the case is in no small way due to the fact that LURC - Land Use Regulation Commission - serving approximately two thirds of the state of Maine, has already set and enforced on its own with no Federal suggestion solid environmental standards for the area in which both FERC No. 2572 and FERC No. 2458 fall. These LURC standards are tough, environmentally sound, working well, fair to area residents and visitors alike, and already paid for by the state of Maine and its residents.

If the Draft Environmental Impact Statement were so accurate, and tighter environmental controls needed, why are residents seeing continuous, steady environmental improvement such as that which we outlined? Perhaps the excellent controls already

E-364

1. Cont

in place in the state of Maine are not always in evidence in other areas serviced by FERC. But, for us in Maine your attempt to over regulate leads me to think of this as unneccesary Federal intervention. This seriously interferes with the individual rights of many people and the autonomy of an entire area of already environmentally conscious people.

Once again, we reiterate our total support of the renewal applications of Great Northern, Inc. as submitted and hope you will in wisdom leave matters affecting surrounding property in these areas encompassed by both projects up to the state of Maine and their Land Use Regulatory Commission which appears to already be doing a more than adequate job of regulating their own environment.

1. Cont

Respectfully,

Betty Trott Tessman
27 Hutchinson St.
New Britain, CT 06053

Camp Owner
Millinocket, ME

Sandra Trott Davenport
12 Eton Place
New Britain, CT 06051

Camp Owner
Millinocket, ME

ET

COMMENTS FROM LANCE ROGERS ON UPPER PENOBSCOT RIVER BASIN DEIS

ORIGINAL

Lance D. Rogers
43 JERICHO ROAD NORTH
SHERMAN, CT 06784
PHONE (203) 354-1052

Lois B. Cashell
Federal Energy Regulatory Commission
825 North Capital Street,NE
Washington, DC 20426
Re: Ripogenus Hydroelectric Project (FERC No. 2572)

005

Feb. 6, 1995

Dear Ms. Cashell:

E-366

1. For many generations my family has been involved in the stewardship of Maine land, especially in the Ripogenus area. When I was first introduced to the magnificence of the Maine North Woods, the Chesuncook - Ripogenus area was then being used for log drives, so much a part of Maine's past. Since that time I have introduced to the area two generations of Rogers, with pride and deep appreciation for the woods, the fauna, and the waters. So too do we harbor environmentalist concerns - they flow deep in each family member. I have canoed the West Branch with my sons, then six and seven, reading from Thoreau's journals to them at night; the next year we canoed the Allagash. Since that time my family has renovated an old camp that was abandoned on Ripogenus.

Our love of Maine is deep and broad, my mother and wife being Mainiacs. Loving the tranquillity of slipping in a canoe up on moose wading from the shore, being lulled by the loon, watching the sun rise over Kathadin - these are wondrous experiences afforded by north woods. Surely they merit our protection and respect. But as I have canoed these shores, been encompassed by the beauties of the shoreline I, perhaps, unlike some ardent environmentalists, do not find the presence of man an anathema in nature. Man too in his simple pursuits is very much a part of nature and her rich bounty. The aroma of coffee wafting above a campfire, the sound of children's chatter along the shore skipping rocks - in moderation, with wise regulations, the presence of man is not unpleasant. After a two week canoe trip, slipping by pristine shoreline, soaked by unexpected rain, the smell of a fire; the sound , yes, of even a chain saw of a leasee getting wood, the presence of a camp along the shore, this manifestation to the tired traveler is welcome indeed. From the heart of nature civilization can be a wonder.

Though I endorse protecting the environment from the abuses of development, I feel the FERC proposal to force by eminent domain Great Northern to buy easements on the Ripogenus impoundment area is a travesty, for several reasons:

2. I am a quiet voice, but I have canoed, camped, and lived in this area, and I do not feel that the quality of the natural environment is threatened; but, if an area is deemed necessary for the federal government to take it from private

RESPONSES TO LANCE ROGERS ON UPPER PENOBSCOT RIVER BASIN DEIS

1. Opinion noted.

2. The staff revised its land use assessment and recommendations in the FEIS (see section 4.9). We considered comments received during the DEIS comment period, GNP's proposed conservation easements for the Ripogenus Project area, updated land valuation information, and further assessment of LURC land use regulations. The staff proposes two options for the Ripogenus project area: (1) accepting the conservation easement proposed by GNP and the State of Maine; or (2) a 200-foot boundary expansion on GNP-owned lands. For the Penobscot Mills project area, the staff recommends a 200 foot expansion of the project boundaries on GNP owned lands. The staff recommends that existing structures would be grandfathered.

COMMENTS FROM LANCE ROGERS ON UPPER PENOBSCOT RIVER BASIN DEIS

ownership because of environmental abuse, then the government must prove its case and then under its own auspices legally take over ownership of the land. Surely for such a scenario the cogency of the government claim to the land must be proven. That FERC is forcing Great Northern to obtain fee interests or conservation easements on 2,000 acres of Ripogenus / Chesuncook land is unconscionable. Does it not smack of blackmail, to obtain re licensing the corporation which is very much opposed to the forced acquisition must purchase land from disinclined land owners who have a long record of good stewardship. If this land is threatened to the degree that some environmentalists assert, then a federal agency, perhaps the Dept. of the Interior, should assess the threat to the area and act under federal auspices and congressional authority. To force a company to purchases this land in order to obtain re licensing is irrational and simply wrong. I was under the distinct impression that the 1994 congressional elections suggested a message that federal regulations and authority had over-reaches themselves - that the later 90's were a time for state authority to exercise leadership.

2. Cont

Since 1974 I have had several dealings with the state of Maine's Land Use Regulations Commission. By the state of Maine and her citizens this state commission has been entrusted with the authority of regulating development in the unorganized towns. By the criteria and regulations to which I was asked to comply I have been impressed with their stewardship of the lands with which they have been entrusted. By nature the layman does not enjoy (and sometimes mistrusts) the state authority with which he must work. But always both by phone conversation and personal inspection I found the L.U.R.C. authorities to be responsive and fair. That another agency, a federal agency, would be superimposed over a state agency which is already in place and functioning with prudence and discretion seems arrogant and counter productive. Maine has a tradition of deciding what is best for her citizens, her lands, and her economies. That in 1995 the federal government would supersede the authority of the Maine citizenry seems ludicrous. Maine and her citizens are eminently qualified to govern themselves.

3.

I believe in ecology as stated above, but so too do I recognize that there has to be an equitable balance between the aesthetics of the natural world and man who has an economic presence in that world. That Great Northern/Bowater has been forced to spend $9,000,000 in over eight years to be granted re licensing permission for its hydro electric plant seems a travesty. This senseless expenditure and inordinate time period well represent the pejorative views we all have of Big Government. Surely there have been controversial views, ecological issues, corporate issues, not always easily reconciled. But not $9,000,000 and eight years. The individuals, families, town members of Millinocket and adjacent areas , not to mention two major corporations, Great Northern and now Bowater, working in the State of Maine, have paid a grievous price for Federal regulation.

4.

This prodigal expenditure placed into plant modernization and corporate ecological cognizance surely would have benefited the state of Maine and her

RESPONSES TO LANCE ROGERS ON UPPER PENOBSCOT RIVER BASIN DEIS

3. Opinion noted. See response 2.

4. Opinion noted.

4. Cont

citizenry rather than unreasonable regulations, proposed forced land purchases, and countless legal haggling in the halls of Washington.

Please, consider in your FERC deliberations that the best place for regulation is in the state of Maine which has prudent and proven authorities in place and which has an enlightened citizenry capable of and eager to govern themselves.

Sincerely,

Lance D. Rogers

COMMENTS FROM JAMES W. SEWALL COMPANY
ON UPPER PENOBSCOT RIVER BASIN DEIS

RESPONSES TO JAMES W. SEWALL COMPANY
ON UPPER PENOBSCOT RIVER BASIN DEIS

JAMES W. SEWALL COMPANY
Engineers, Surveyors and Resource Consultants

FILED
OFFICE OF THE SECRETARY
95 FEB -6 PM 2:57
FEDERAL ENERGY
REGULATORY
COMMISSION

January 31, 1995

Ms. Lois Cashell, Secretary
FERC Commission
825 Capitol Street, N.E.
Washington, DC 20426

005 009

RE: Project #2572 (Ripogenus) & #2458 (Penobscot Mills)

Dear Commission Member:

At the recent hearing in Millinocket, I offered testimony which included reference to 24 sales of shorefront property in Maine. Herein I've provided additional information identifying each sale according to the type of sale (fee/easement) as well as certain other brief comments. Differences between fee and easement sales can only be assessed on the basis of the details of each transaction and, as comparables, related to a particular subject property(s); however, it has been my observation that easement transactions usually command a high percentage of full fee value. I hope this elaboration will be helpful to you.

Sincerely,

Robert B. Fiske, L.P.F
Chief Forester/Appraiser

Enclosure

✓

147 Center Street · P.O. Box 433 · Old Town, Maine 04468 USA · 207 / 827-4456 · FAX · 207 / 827-3831

Comment noted.

Code	Date	Location	Comment	Acres	WFF	AC/WFF	Price	$/Acre	$/WFF
1731	1/31/90	Tunk Lake, T10 S D	Fee.	13.2	1,200	0.01	$120,000	$9,091	$100
1861	12/15/89	Flagstaff, Eustis	Fee, below market.	16.0	1,770	0.01	$150,000	$9,375	$85
1870	2/4/89	Lombard Lk, Lakeville	Fee with covenants.	50.0	760	0.07	$44,000	$880	$58
1869	1/27/89	Junior Lk, Lakeville	Fee with covenants.	53.6	80	0.67	$59,900	$1,118	$749
2148	3/14/94	Cupsuptic, Adamstown	Fee, poor wff.	83.0	3,600	0.02	$100,000	$1,205	$28
1983	5/18/93	Mt. Blue Pond, Avon	Fee, no access.	178.0	3,000	0.06	$100,000	$562	$33
1728	4/26/91	Cupsuptic Lk, Rangeley	Fee, generally poor wff.	182.4	3,105	0.06	$280,000	$1,535	$90
1727	4/19/89	Goose Pd, Dedham	Fee with easement.	201.0	4,687	0.04	$500,000	$2,488	$107
1499	7/1/92	Lk. Umbagog, Errol	Fee on 500' strip.	347.0	35,350	0.01	$1,800,000	$5,187	$51
1659	10/13/89	Lk Onawa, Elliotsville	Fee.	511.0	4,100	0.12	$455,000	$890	$111
1500	7/1/92	Spednic/Mud Pd, Forest city	Fee + easement.	523.0	23,800	0.02	$272,000	$520	$11
1660	10/13/89	Lk Onawa, Elliotsville	Fee.	527.0	2,500	0.21	$345,000	$655	$138
1725	10/23/89	Moosehead Lk, Tomhegan	Fee.	528.0	9,000	0.06	$300,000	$568	$33
1653	11/22/91	Fox Pd, T.10S.D.	Fee.	822.0	11,200	0.07	$500,000	$608	$45
1459	12/1/93	Spednic Lk, T11R.3 NBPP	Easement on 250'; below appraisal.	860.0	65,032	0.01	$775,000	$901	$12
1689	12/29/93	Cupsuptic et al, Adamstown	Fee.	1,282.0	16,480	0.08	$1,200,000	$936	$73
1723	7/12/91	Lk. Onawa, Elliotsville	Fee.	1,537.0	9,055	0.17	$500,000	$325	$55
1344	9/3/91	Pierce Pond	Fee with easement. Below market.	1,587.0	42,240	0.04	$365,000	$230	$9
1497	10/1/90	Nahmakanta Lk, T1R11,T2R11	Fee on 250'.	1,820.0	40,900	0.04	$1,376,000	$756	$34
2111	7/26/93	Matawamkeag Lk, T4R3	Fee.	2,253.0	44,453	0.05	$1,026,816	$456	$23
1315	2/19/91	Lombard/Upr Syladobsis Lks, Lakeville	Fee.	3,367.8	24,840	0.14	$926,145	$275	$37
1176	11/16/94	Snake & Carpenter Lks, T7R11	Fee.	7,144.0	61,135	0.12	$2,150,000	$301	$35
1204	8/8/94	Tunk & Spring et als, T.10S.D.	Fee + tax gift.	7,187.0	85,536	0.08	$2,600,000	$362	$30
1721	6/1/93	Moosehead Lk, Tomhegan	Fee.	11,094.0	89,760	0.12	$5,100,000	$460	$57
			Mean All Acres:	1,757.0	24,316.0	0.10	$876,869	$1,653	$83
			Mean 500+ Acres:	2,736.2	35,335	0.09	$1,192,731	$550	$47
			Mean 1000+ Acres:	4,141.3	46,044	0.09	$1,693,773	$456	$39
			Mean 5000+Acres:	8475.0	78,810	0.11	$3,283,333	$374	$41

COMMENTS FROM SPRAGUE ENERGY
ON UPPER PENOBSCOT RIVER BASIN DEIS

RESPONSES TO SPRAGUE ENERGY
ON UPPER PENOBSCOT RIVER BASIN DEIS

SPRAGUE ENERGY
SEARSPORT TERMINAL
PO Box 435 Mack Point Searsport ME 04974
TEL (207) 548-2531 FAX (207) 548-0502

January 25,1995

Good evening! My name is Bruce Probert. I once lived in Millinocket, but now live and work in Searsport, Maine for Sprague Energy. Where I am also chairman of the local planning board.

Speaking on behalf of myself and also Sprague Energy, we continue to urge the Federal Energy Regulatory Commission to restrict the scope of its environmental impact review to the relevant issues which pertain to water flows and the area in immediate proximity to the impoundments and dams. Land conservation is not, in our understanding, a FERC priority nor mandate.

Overall, environmental impact statements should be an aid to assist regulatory agencies to make an informed decision. In some cases, they have been used as a tool against the applicant to impede the the decision making process. In Searsport, we have seen this first hand after more than 15 years of legal maneuvering, court challenges, and one impact statement after another which have stymied the development of Sears Island and the construction of a modern cargoport for the State of Maine.

It appears that FERC has reached an informed decision on thesignificant environmental issues relating to the use of waters. This is a water issue, and not a land issue. We in Maine have the Land Use Regulation Commission to rule on development in the unorganized townships, therefore any development set back should be decided by them not by any federal agency. To establish a development set back regulation for the duration of this license deprives us of one of our cherished freedoms, namely

1. Opinion noted.

SPRAGUE ENERGY
SEARSPORT TERMINAL
P.O. Box 438 Mack's Point Searsport ME 04974
TEL (207) 548-2531 FAX (207) 548-6582

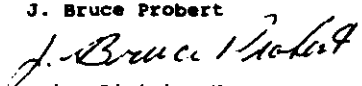
1/25/95

1. Cont

that of " home rule" . We in Maine are most capable of making these decisions for the general good of us all.

Please move forward with the relicensing of Penobscot Mills and the Ripogenus Projects as expeditiously as possible. Thank you. We wish you well as you move forward to a final resolution.

Sincerely,
J. Bruce Probert



Maine Division Manager

1. Cont

COMMENTS FROM STEVE TUCKERMAN ON UPPER PENOBSCOT RIVER BASIN DEIS

Secretary
FERC
825 North Capitol St NE
Washington DC 20426

Re: Ripogenus (P-2572) and Penobscot Mills (P-2458)

Comments are as follows:

1. 1. Whitewater flows in Back Channel (Penobscot Mills) Notify through river phone what the flows are. Clearly mark portage channel around dam. Improve portage trail.

2. 2. Whitewater flows from Ripogenus Gorge (McKay Station down) Allow lower flows evenings (after 5) and Wednesdays. Provide flow information through river phone (toll free) March 1 through December 1. Provide gages at McKay Station, Cribworks, Abol Bridge. Allow same access to private boaters at Mckay as enjoyed by commercial rafters.

Thank you

Steve Tuckerman
208 Broadway
Bangor ME 04401

RESPONSES TO STEVE TUCKERMAN ON UPPER PENOBSCOT RIVER BASIN DEIS

1. Back Channel would only provide an approximately 4.5-mile-long boating trip in a less aesthetically pleasing setting than along the West Branch. We state in Section 4.8.1.1 that significant opportunities exist within the project area to meet recreational boating demand, and that the significant flows that would be required to enable recreational boating activities would jeopardize other environmental enhancements. As part of the settlement agreement with MEPRO, GNP would maintain establish a telephone message system to provide information about flow conditions along the West Branch and scheduled releases from Ripogenus dam. GNP would also notify a designated representative of MEPRO of any unscheduled releases from Ripogenus Dam.

2. See response #1. As stated in section 4.8.1, GNP would provide minimum flows from McKay Station during daytime hours. GNP usually maintains flows at or above 1800 cfs throughout the year, therefore, evening flows may be reduced or varied. The reduced or varied evening flows would provide additional opportunities for less experienced paddlers or those desiring a diversified experience. As part of the settlement agreement with MEPRO, GNP would provide readily visible staff gauges calibrated to river flow levels at McKay Station, the cribworks, and Abol Bridge. We do not recommend gauges below Ripogenus dam or in Back Channel. We believe that the existing parking and boat unloading areas are adequate.

COMMENTS TO CONCERNED CITIZENS CONCERNING LAND USE ON PENOBSCOT/RIPOGENUS MILLS DEIS

Group - A

We received comments from many concerned citizens regarding our recommended land use recommendations in the Ripogenus/Penobscot Mills DEIS. Our response to these comments are provided here and the comments follow.

Comment noted. The staff revised its land use assessment and recommendations in the FEIS (see section 4.9). We considered comments received during the DEIA comment period, GNP's proposed conservation easements for the Ripogenus Project area, updated land valuation information, and further assessment of LURC land use regulations. The staff's recommendations (see section 5.3.4) provide measures to protect shoreland resources within the project areas while considering existing land use regulatory controls.

Within the Ripogenuse Project area, the preferred alternative proposes two options: (1) the adoption of the proposed 250-foot conservation easements for GNP owned land as defined by the MOU; or (2) a 200-foot boundary expansion on GNP-owned lands (see section 4.9.1). The proposed 250-foot easements would lie outside the project boundary and would remain under LURC land use regulatory control. For the Penobscot Mills Project, the preferred alternative proposes expanding project boundaries to generally extend 100 feet from the high water mark of the impoundments within the project area, only on land currently owned by GNP.

Within the proposed boundary expansion areas, existing structures would be grandfathered and GNP would have the authority to review and approve proposed actions as established by the Commission under the Standard Land Use Article. See section 4.9 and 5.3.4 for further discussion regarding proposed protection zones for the Ripogenus and Penobscot Mills Project areas.

Senator I. Joel Abromson
District 27
State House Station 3
Augusta, Maine 04333
(207) 287-1540

THE MAINE SENATE
117th Legislature

25 Fall Lane
Portland, Maine 04103
(207) 773-3990

January 18, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

RE: Ripogenus Hydroelectric Project (FERC #2572) -005
Penobscot Mills Hydroelectric Project (FERC #2458) -009

Gentlemen:

As a Senator in the Maine Legislature, I consider the ability of our State's paper industry to compete and thrive in the global market, of great importance. Accordingly, I have serious concerns regarding the Draft Environmental Impact Statement issued for FERC #2572 and FERC #2458.

It's my understanding that the Draft will increase the applicant's annual cost by about 30 percent. I oppose this increase. Continued operation of the projects as proposed by the applicant will provide much need economic and environmental benefits to Mainers.

Also, I oppose the idea of Great Northern taking over from the State control of regulating shoreline development. Maine's land use agencies have done a good job of preserving and protecting Maine's environment. I believe these agencies are capable of continuing that effort.

Sincerely,

Joel

I. Joel Abromson
State Senator

IJA/skf

Senator John W. Benoit
District 17
State House Station 3
Augusta, Maine 04333

THE MAINE SENATE
117th Legislature

P.O. Box 890
Rangeley, Maine 04970

February 1, 1995

Lois B Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C 20426

FILED
95 FEB -9 AM 10:17
OFFICE OF THE SECRETARY

RE: Ripogenus Hydroelectric Project (FERC No. 2572) - 005
Penobscot Mills Hydroelectric Project (FERC No. 2458) - 008

Gentlemen:

I write at this time to submit written comments concerning the draft Environmental Impact Statement issued for the captioned projects.

As a member of the Maine Legislature, I am concerned about the ability of our paper industry to compete in an increasingly global market and the applicant, Great Northern Paper, is an important part of the paper industry in this State.

In my opinion, continued operation of the projects as proposed by the applicant will provide significant economic and environmental benefits to the people of this state.

I oppose the conditions continued in the Draft which will increase the applicants annual cost by an stimated 30%. I especially oppose the staff proposal that Great Northern take over from the State control of regulating shoreline development. Maine's land use agencies have done a good job of preserving and protecting Maine's environment and are fully capable of continuing that effort. FERC's intrusion into this traditional area of State jurisdiction is unwarranted and unneeded.

Sincerely,

John W. Benoit
Senator, District #17

JWB/law

HOUSE OF REPRESENTATIVES
STATE HOUSE AUGUSTA 04333-0002
287-1400

Gerald N. Bouffard
42 Bushey Circle
Lewiston, Maine 04240

February 1, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

RE: RIPOGENUS HYDROELECTRIC PROJECT (FERC NO. 2572) -005
PENOBSCOT MILLS HYDROELECTRIC PROJECT (FERC NO. 2458) -009

Dear Mr. Cashell and members of FERC:

I am writing to submit written comments concerning the Draft Environmental Impact Statement issued for the captioned projects.

As a member of the 117th Maine Legislature, I am concerned about the ability of our paper industry to compete in an increasingly global market. The applicant, Great Northern Paper, is an important part of the paper industry in this state.

I believe that continued operation of the projects as proposed by the applicant will provide significant economic and environmental benefits to the people of Maine.

I oppose the conditions contained in the Draft Environmental Impact Statement which will increase the applicant's annual cost by an estimated 30 percent. I believe such an icrease will impair Great Northern's ability to modernize its facilities, pay decent wages and compete in today's global markets. I especially oppose the staff proposal that Great Northern Paper take over control of regulating shoreline development from the state. Maine's land use agencies have done a good job of preserving and protecting Maine's environment and are fully capable of continuing that effort. FERC's intrusion into this traditional area of state jurisdiction is unwarranted and unneeded.

I strongly suggest that you do not include conditions for this project that would increase the cost of doing business in the State of Maine.

Sincerely,

Gerald N. Bouffard
State Representative

HOUSE OF REPRESENTATIVES
STATE HOUSE AUGUSTA 04333-0002
287-1400

Richard H. Campbell
Rt. 2, Box 1575
Eastern Avenue
Brewer, Maine 04412
Residence Tel: 207-989-6055
Business Tel: 207-945-3585

COPY

February 1, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street NE
Washington, DC 20426

RE: Ripogenus Hydroelectric Project (FERC No. 2572-005)
Penobscot Mills Hydroelectric Project (FERC No. 2458-009)

Gentlemen:

As a member of the Penobscot County Legislative delegation, I would like to submit written comments concerning the Draft Environmental Impact Statement issued for the captioned projects.

I am concerned about the ability of our paper industry to compete in an increasingly global market and the applicant, Great Northern Paper, is an important part of the paper industry in this State.

I oppose the conditions contained in the Draft which will increase the applicants annual cost by an estimated 30%. I especially oppose the staff proposal that Great Northern take over from the State control of regulating shoreline development. Maine's land use agencies have done a good job of preserving and protecting Maine's environment and are fully capable of continuing that effort. FERC's intrusion into this traditional area of State jurisdiction is unwarranted and unneeded.

Continued operation of the projects as proposed by the applicant will provide significant economic and environmental benefits to the people of this State.

Very truly yours,

Richard H. Campbell
State Representative

District 116 Bradley, part of Brewer, Eddington, Holden and Veazie

Senator David L. Carpenter
District 33
State House Station 3
Augusta, Maine 04333

THE MAINE SENATE
117th Legislature

80 Cottage Street
Sanford, Maine 04073

COPY

January 27, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

RE: Ripogenus Hydroelectric Project (FERC #2572) - 002
Penobscot Mills Hydroelectric Project (FERC #2458) - 009

Gentlemen:

As a Senate Chair of the Maine Legislature's Joint Standing Committee on Utilities and Energy, I consider Maine's paper industry's ability to compete in the global market, of great importance. Therefore, I have serious concerns regarding the Draft Environmental Impact Statement issued for FERC #2572 and FERC #2458.

I oppose the applicant's annual cost increase of approximately 30 percent. Continued operation of the projects as proposed by the applicant will provide economic and environmental benefits to Mainers.

I also disagree with the idea of Great Northern taking over from the State control of regulating shoreline development. Maine's land use agencies have done a good job of preserving and protecting Maine's environment. These agencies are capable of continuing that effort in the future.

Sincerely,

David L. Carpenter
State Senator

DLC/skf

Dean F. Clukey
19 Alfred Street
Houlton, Maine 04730
Tel: 207-532-6363

HOUSE OF REPRESENTATIVES

AUGUSTA 04333-0002
287-1400

January 18, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital St.
Washington, D.C. 20426

RE: Ripogenus Hydroelectric Project (FERC No. 2572) -005
Penobscot Mills Hydroelectric Project (FERC No. 2458) -009

Gentlemen:

I write at this time to submit written comments concerning the Draft Environmental Impact Statement issued for the above captioned projects.

As a member of the Maine Legislature, I am concerned about the ability of our paper industry to compete in an increasingly global market and the applicant, Great Northern Paper, is an important part of the paper industry in this state.

In my opinion, continued operation of the projects as proposed by the applicant will provide significant economic and environmental benefits to the people of this state.

I oppose the conditions contained in the draft which will increase the applicant's annual cost by an estimated 30%. I especially oppose the staff proposal that Great Northern take over from the state, control of regulating shoreline development. Maine's land use agencies have done a good job of preserving and protecting Maine's environment and are fully capable of continuing that effort. FERC's intrusion into this traditional area of state jurisdiction is unwarranted and unneeded.

Sincerely,

Dean F. Clukey

HOUSE OF REPRESENTATIVES

STATE HOUSE AUGUSTA 04333-0002
287-1400

James O. Donnelly
P.O. Box 1883
Presque Isle, Maine 04769

January 25, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

009

Dear Colleagues,

I write to you with regards to the Ripogenus Hydroelectric Project (FERC No. 2572) and the Penobscot Mills Hydroelectric Project (FERC No. 2458). The following are my written comments concerning the Draft Environmental Impact Statement for the aforementioned projects. -DC

It is crucial to the workers of our State that the paper industry is able to compete in the international markets. The applicant, Great Northern Paper, will provide economic and environmental benefits to the people of the State with the approval of these projects.

Bowater's financial commitment to a cleaner environment is proven by the millions of dollars they have committed to a de-inking machine to facilitate recycling of waste paper. Further burdening this environmentally friendly company will be counterproductive to the goal of a cleaner, safer environment with good paying jobs for our people.

It concerns me that conditions in the Draft will increase the applicant's annual costs by 30 percent. Another disturbing element is the proposal that Great Northern would be required to assume control of regulating shoreline development. The land use agencies in Maine have traditionally overseen the preservation and protection of the environment and they are fully capable of continuing to do so. I object to any FERC intrusion into this area of what has always been State jurisdiction.

Sincerely,

James O. Donnelly

James O. Donnelly
State Representative

cc: Great Northern Paper Co.
Herbert E. Clark

District 145 Part of Presque Isle

COPY

Senator Norman K. Ferguson, Jr.
District 24
State House Station 3
Augusta, Maine 04333

THE MAINE SENATE
117th Legislature

Box 36, Howard Pond Road
Hanover, Maine 04237

February 1, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

RE: Ripogenus Hydroelectric Project (FERC #2572) -005
Penobscot Mills Hydroelectric Project (FERC #2458) -009

Gentlemen:

In spite of reports of a "robust" U.S. economy, Maine is still climbing slowly out of the last recession. Our paper industries make up a vital part of our State's economy. Accordingly, I have serious concerns regarding the Draft Environmental Impact Statement issued for FERC #2572 and FERC #2458.

Our State Legislature has taken steps to help our paper industry compete in the world market. The industry's ability to do so is critical. Therefore, I join other members of the Maine Legislature in opposing the applicant's annual cost increase of approximately 30 percent. Continued operation of the projects as proposed by the applicant will provide economic and environmental benefits to Mainers.

Also, I disagree with Great Northern taking over from the State control of regulating shoreline development. Maine's land use agencies have done a good job of preserving and protecting Maine's environment. These agencies are capable of continuing that effort in the future.

Sincerely,

Norman K. Ferguson, Jr.
State Senator

NKF/skf

HOUSE OF REPRESENTATIVES

STATE HOUSE AUGUSTA 04333-0002
287-1400

ep. Charles "Dusty" Fisher
117 Silk Street
Brewer, Maine 04412
Tel: 207-989-4149

January 20, 1995

Lois B. Cashell: Secretary
Federal Energy Regulatory Commission
825 North Capital Street N. E.
Washington, D. C. 20426

Re: Ripogenus Hydro Electric Project (FERC 2572) -005
Penobscot Mills Hydro Electric Project (FERC 2458) -009

Dear Commissioners:

As a member of the Maine Legislature, I am taking the stand that continued operation on these projects will have a positive impact on this region. Maine is still suffering from the most recent economic slowdown. The cornerstone of our economy is the paper industry and that industry has been especially hard hit. At this time, new regulations and greater responsibilities are not what this industry needs.

While campaigning for my office last summer and during the fall, one message came through loud and clear. That being that the regulatory process is killing the state of Maine. Nationally, the same message was sent. It is my hope that you will take the voters sentiments to heart as you consider FERC 2572 and FERC 2458.

With respect,

Charles D. Fisher
State Representative

-005
-009

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

RE: Ripogenus Hydroelectric Project (FERC No. 2572)
Penobscot Mills Hydroelectric Project (FERC No. 2458)

Gentlemen:

I write at this time to submit written comments concerning the Draft Environmental Impact Statement issued for the captioned projects.

As a member of the Maine Legislature, I am concerned about the ability of our paper industry to compete in an increasingly global market and the applicant, Great Northern Paper, is an important part of the paper industry in this State.

In my opinion, continued operation of the projects as proposed by the applicant will provide significant economic and environmental benefits to the people of this State.

I oppose the conditions contained in the Draft which will increase the applicants annual cost by an estimated 30%. I especially oppose the staff proposal that Great Northern take over from the State control of regulating shoreline development. Maine's land use agencies have done a good job of preserving and protecting Maine's environment and are fully capable of continuing that effort. FERC's intrusion into this traditional area of State jurisdiction is unwarranted and unneeded.

Very truly yours,

Albert P. Gamache

V

STATE OF MAINE
HOUSE OF REPRESENTATIVES
AUGUSTA, MAINE 04333-0002

January 20, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital St., N.E.
Washington, D.C. 20426

Re: Great Northern Paper Company
Repogenus Hydroelectric Project (FERC #2572) -005
Penobscot Mills Hydroelectric Project (FERC #2458) -009

Dear Ms. Cashell:

I'm writing you in support of Great Northern Paper Company's activity to relicense its various hydroelectric facilities for its operations in the Millinocket area. In my view as a State of Maine House of Representatives member, their ability to produce power for their operations is critical to Maine and our economy. This project must be approved.

I oppose any conditions contained in your Draft that would increase costs of manufacturing to Great Northern. We must do all we can to reduce costs to insure that this mill and other mills are competitive in the industry elsewhere. I understand that the Draft will increase costs by an estimated 30%. This is contrary to what we in Maine are trying to do for business.

Finally, I wish to voice my concern over your proposal to having a change in control over shoreline development. I believe our agencies here in Maine have done an outstanding job over the years in the unorganized territories and they should be allowed to continue to do so. I do not believe it is in our best interests to have the federal government intrude into this area of state jurisdiction where it is not needed.

Because I cannot attend the public hearing you have scheduled in the near future, I hope my written letter will be included in the record.

Sincerely,

Ernest C. Greenlaw
State Representative

ECG/hjp

DAN A. GWADOSKY
SPEAKER

STATE OF MAINE
HOUSE OF REPRESENTATIVES
SPEAKER'S OFFICE
AUGUSTA, MAINE 04333-0002

February 1, 1995

Lois B. Cashell, Secretary
F.E.R.C.
825 North Capital St., N.E.
Washington, D.C. 20426

Dear Ms. Cashell:

I am writing to raise some concerns which I have pertaining to the Draft Environmental Impact Statement (DEIS) of Great Northern Paper's relicensing request of the Ripogenus Hydroelectric Project (FERC No. 2572) and the Penobscot Mills Hydroelectric Project (FERC No. 2458).

Great Northern Paper (GNP) has been an important part of northern Maine's economy for almost 100 years. In an increasingly more competitive global economy, paper producers are forced to be as cost conscious as possible in order to remain viable. GNP is no exception.

It is my understanding that the DEIS is recommending a 200-foot setback requirement in the federal dam license. This recommendation conflicts with Maine law which requires a setback of at least 75 to 100 feet from rivers, depending on whether the river flows to a great pond. Please consider that these setback requirements were developed with open participation by the people of Maine, reflecting the values and intentions of our citizens.

Another concern which I have relates to the 200-foot extension of the project boundary. This recommendation would, in effect, require GNP to purchase state-owned land around the Ripogenus impoundment. Our state has a great deal of time and money invested in the acquisition of this property. And we would like to protect this land for the use of our citizens.

I am also concerned about the proposed requirement to force private landowners around the impoundment to sell their property to GNP. These landowners have cooperated with state and local efforts to protect the rivers and lakes. They have lived and played by the rules. They should not be punished by being required to forfeit their rights to the land.

In summary, I urge the Commissioners of the FERC not to adopt the 200-foot setback and not to expand the project boundary, thus requiring GNP to purchase state and privately-owned property from people who do not wish to sell it.

Thank you for the opportunity to comment on these recommendations. Please contact me if you have any questions about my comments.

Sincerely,

Dan A. Gwadosky
Speaker of the House

HOUSE OF REPRESENTATIVES

STATE HOUSE AUGUSTA 04333-0002
287-1400

Charles H. Heino
P.O. Box 113
Boothbay, Maine 04537

January 24, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

-005
-009

RE: Ripogenus Hydroelectric Project (FERC No. 2572)
Penobscot Mills Hydroelectric Project (FERC No. 2458)

Gentlemen:

I write at this time to submit written comments concerning the Draft Environmental Impact Statement issued for the captioned projects.

As a member of the Maine Legislature, I am concerned about the ability of our paper industry to compete in an increasingly global market and the applicant, Great Northern Paper, is an important part of the paper industry in this State.

In my opinion, continued operation of the projects as proposed by the applicant will provide significant economic and environmental benefits to the people of this State.

I oppose the conditions contained in the Draft which will increase the applicants annual cost by an estimated 30%. I especially oppose the staff proposal that Great Northern take over from the State control of regulating shoreline development. Maine's land use agencies have done a good job of preserving and protecting Maine's environment and are fully capable of continuing that effort. FERC's intrusion into this traditional area of State jurisdiction is unwarranted and unneeded.

Very Truly Yours,

Charles H. Heino

Charles H. Heino
State Representative

District 58 Boothbay, Boothbay Harbor, Edgecomb, Newcastle and Southport

COPY

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

RE: Ripogenus Hydroelectric Project (FERC No. 2572) -005
Penobscot Mills Hydroelectric Project (FERC No. 2458) -009

Gentlemen:

I write at this time to submit written comments concerning the Draft Environmental Impact Statement issued for the captioned projects.

As a member of the Maine Legislature, I am concerned about the ability of our paper industry to compete in an increasingly global market and the applicant, Great Northern Paper, is an important part of the paper industry in this State.

In my opinion, continued operation of the projects as proposed by the applicant will provide significant economic and environmental benefits to the people of this State.

I oppose the conditions contained in the Draft which will increase the applicants annual cost by an estimated 30%. I especially oppose the staff proposal that Great Northern take over from the State control of regulating shoreline development. Maine's land use agencies have done a good job of preserving and protecting Maine's environment and are fully capable of continuing that effort. FERC's intrusion into this traditional area of State jurisdiction is unwarranted and unneeded.

Very truly yours,

Robert Kram
State Representative
Old Town-Penobscot District

Priscilla Lane
HCR 1159
Enfield, Maine 04433
Tel: 207-732-4783

HOUSE OF REPRESENTATIVES

STATE HOUSE AUGUSTA 04333-0002
287-1400

January 26, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

005

RE: Ripogenus Hydroelectric Project (FERC No. 2572) and Penobscot Mills Hydroelectric Project (FERC No. 2458) — 009

To whom it may concern:

The following are my written comments regarding the Draft Environmental Impact Statement issued for the above projects.

As a Maine Representative, I am aware of the severe recession we've gone through and how it is still effecting this state's economy. Maine's paper industry is a crucial part of our economy and it is critical that it continues to compete worldwide. The applicant, Great Northern Paper, is a major player in Maine's paper industry.

The continued operation of the projects as proposed by the applicant, Great Northern Paper, will provide significant economic and environmental benefits to the people of this State.

I oppose the conditions contained in the Draft which will increase the applicants' annual cost by an estimated 30 percent. I am also concerned about the staff proposal that Great Northern take over from the State control of regulating shoreline development. Maine's land use agencies have traditionally overseen the preservation and protection Maine's environment and are fully capable of continuing that effort. To divide responsibility between the government and private industry would be opposite to what we are currently trying to accomplish. I oppose any FERC intrusion into this traditional area of State jurisdiction

Sincerely,

Priscilla Lane

Priscilla Lane
State Representative

V

District 138 Enfield, Howland and part of Lincoln

E-392

Senator Willis A. Lord
District 34
State House Station 3
Augusta, Maine 04333
(207) 287-1540

THE MAINE SENATE
117th Legislature

P.O. Box 14
North Waterboro, Maine 04061
(207) 247-5331

January 17, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, NE
Washington, DC 20426

005
009

RE: Ripogenus Hydroelectric Project (FERC No. 2572)
Penobscot Mills Hydroelectric Project (FERC No. 2458)

Dear Ms. Cashell:

I write at this time to submit written comments concerning the Draft Environmental Impact Statement issued for the above captioned projects.

As a member of the Maine Legislature, I am concerned about the ability of our paper industry to compete in an increasingly global market and the applicant, Great Northern Paper, is an important part of the paper industry in this State.

In my opinion, continued operation of the projects as proposed by the applicant will provide significant economic and environmental benefits to the people of this state.

I oppose the conditions contained in the Draft which will increase the applicants annual cost by an estimated 30%. I especially oppose the staff proposal that Great Northern take over from the State control of regulating shoreline development. Maine's land use agencies have done a good job of preserving and protecting Maine's environment and are fully capable of continuing that effort. FERC's intrusion into this traditional area of State jurisdiction is unwarrented and unneeded.

Sincerely,

Willis A. Lord

Willis A. Lord
State Senator

WAL/jr

HOUSE OF REPRESENTATIVES

STATE HOUSE AUGUSTA 04333-0002
287-1400

Rodney W. McElroy
Box 550
Unity, Maine 04988

January 26, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

002

RE: Ripogenus Hydroelectric Project (FERC No. 2572) and Penobscot Mills Hydroelectric Project (FERC No. 2458)

009

To whom it may concern:

The following are my written comments regarding the Draft Environmental Impact Statement issued for the above projects.

As a Maine Representative, I am aware of the severe recession we've gone through and how it is still effecting this state's economy. Maine's paper industry is a crucial part of our economy and it is critical that it continues to compete worldwide. The applicant, Great Northern Paper, is a major player in Maine's paper industry.

The continued operation of the projects as proposed by the applicant, Great Northern Paper, will provide significant economic and environmental benefits to the people of this State.

I oppose the conditions contained in the Draft which will increase the applicants' annual cost by an estimated 30 percent. I am also concerned about the staff proposal that Great Northern take over from the State control of regulating shoreline development. Maine's land use agencies have traditionally overseen the preservation and protection Maine's environment and are fully capable of continuing that effort. To divide responsibility between the government and private industry would be opposite to what we are currently trying to accomplish. I oppose any FERC intrusion into this traditional area of State jurisdiction

Sincerely,

Rodney W. McElroy
State Representative

District 110 Burnham, Freedom, Knox, Liberty, Montville, Palermo
Thorndike, Troy and Unity

Senator Judy Paradis
District 1
State House Station 3
Augusta, Maine 04333

THE MAINE SENATE
117th Legislature

40 US Route 1
Frenchville, Maine 04745
Fax (207) 728-6374
Home (207) 728-4854

January 20, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, DC 20426

RE: Ripogenus Hydroelectric Project (FERC No. 2572) -005
Penobscot Mills Hydroelectric Project (FERC No. 2458) -009

Gentlemen:

Please allow me to comment, regarding the Draft Environmental Impact Statement issued for the captioned projects.

As a member of the Maine Senate, I am concerned about the ability of our paper industry to compete in an increasingly global market and the applicant, Great Northern Paper, is an important part of the paper industry in this State.

I oppose the conditions contained in the Draft which will increase the applicants annual cost by an estimated 30%. I especially oppose the staff proposal that Great Northern take over from the State control of regulating shoreline development. Maine's land use agencies have done a good job of preserving and protecting Maine's environment and are fully capable of continuing that effort. FERC's intrusion into this traditional area of State jurisdiction is unwarranted and unneeded.

Sincerely,

Judy

Judy Paradis

JP/cam

✓

HOUSE OF REPRESENTATIVES

STATE HOUSE AUGUSTA 04333-0002
287-1400

Thomas E. Poulin
RR #3, Box 1060
Oakland, Maine 04963
Tel: 207-465-7228

January 30, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

RE: Ripogenus Hydroelectric Project (FERC No. 2572) -005
Penobscot Mills Hydroelectric Project (FERC No. 2458) -009

Dear Mr. Cashell:

As a member of the Maine Legislature, I am concerned about the ability of our paper industry to compete in an increasingly global market and the applicant, Great Northern Paper, is an important part of the paper industry in this State. Please consider this statement as part of the official record.

I oppose the conditions contained in the Draft Environmental Impact Statement which will increase the applicants annual cost by an estimated 30%. I especially oppose the staff proposal that Great Northern take over from the State control of regulating shoreline development. Maine's land use agencies have done a good job of preserving and protecting Maine's environment and are fully capable of continuing that effort. FERC's intrusion into this traditional area of State jurisdiction is unwarranted and unneeded.

The impact statement issued for the captioned projects will provide significant economic and environmental benefits to the people of this State. Continued operation of these two projects as proposed by the applicant is desirable for all concerned.

Sincerely,

Thomas E. Poulin
State Representative

✓ District 103 Oakland and Sidney

Chester A. Rice
P.O. Box 99
Damariscotta, Maine 04543
Tel: 207-563-3661

HOUSE OF REPRESENTATIVES

STATE HOUSE STATION AUGUSTA 04333-0002
287-1400

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

-005
-009

RE: Ripogenus Hydroelectric Project (FERC No. 2572)
Penobscot Mills Hydroelectric Project (FERC No. 2458)

Gentlemen:

I write at this time to submit written comments concerning the Draft Environmental Impact Statement issued for the captioned projects.

As a member of the Maine Legislature, I am concerned about the ability of our paper industry to compete in an increasingly global market and the applicant, Great Northern Paper, is an important part of the paper industry in this State.

In my opinion, continued operation of the projects as proposed by the applicant will provide significant economic and environmental benefits to the people of this State.

I oppose the conditions contained in the Draft which will increase the applicants annual cost by an estimated 30%. I especially oppose the staff proposal that Great Northern take over from the State control of regulating shoreline development. Maine's land use agencies have done a good job of preserving and protecting Maine's environment and are fully capable of continuing that effort. FERC's intrusion into this traditional area of State jurisdiction is unwarranted and unneeded.

Very truly yours,

Chester A. Rice

District 56 Bremen, Bristol, Cushing, Damariscotta, Friendship
and South Bristol and [illegible]

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

005

RE: Ripogenus Hydroelectric Project (FERC No. 2572)
Penobscot Mills Hydroelectric Project (FERC No. 2458) -009

Gentlemen:

I write at this time to submit written comments concerning the Draft Environmental Impact Statement issued for the captioned projects.

As a member of the Maine Legislature, I am concerned about the ability of our paper industry to compete in an increasingly global market and the applicant, Great Northern Paper, is an important part of the paper industry in this State.

In my opinion, continued operation of the projects as proposed by the applicant will provide significant economic and environmental benefits to the people of this State.

I oppose the conditions contained in the Draft which will increase the applicants annual cost by an estimated 30%. I especially oppose the staff proposal that Great Northern take over from the State control of regulating shoreline development. Maine's land use agencies have done a good job of preserving and protecting Maine's environment and are fully capable of continuing that effort. FERC's intrusion into this traditional area of State jurisdiction is unwarranted and unneeded.

Very truly yours,

Rep. Robert Spear

HOUSE OF REPRESENTATIVES

STATE HOUSE AUGUSTA 04333-0002
287-1400

Rep. Richard I. Stone
18 Milton Place
Bangor, Maine 04401
Tel: 207-942-0692

January 25, 1995

Lois B. Cashell
Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

RE: Ripogenus Hydroelectric Project (FERC No. 2572) -002
Penobscot Mills Hydroelectric Project (FERC No. 2458) -009

Gentlemen:

I am submitting written comments concerning the Draft Environmental Impact Statement issued for the captioned projects.

As a Representative in the Maine Legislature, I am concerned about the ability of our paper industry to compete in an increasingly global market. Great Northern Paper is an important part of the paper industry in this State.

The continued operation of the projects as proposed by the applicant will provide significant economic and environmental benefits to the people of this State.

I strongly oppose the conditions contained in the Draft which will increase the applicants annual cost by an estimated 30 percent. The staff proposal that Great Northern take over from the State control of regulating shoreline development is also disturbing to me. Maine's land use agencies have done a good job of preserving and protecting Maine's environment in the past and are fully capable of continuing that effort. FERC's intrusion into this traditional area of State jurisdiction is unwarranted and unneeded.

Sincerely,

Richard I. Stone
State Representative

District 117 B399 of Bangor

STATE OF MAINE
HOUSE OF REPRESENTATIVES
AUGUSTA, MAINE 04333-0002

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

005
009

RE: Ripogenus Hydroelectric Project (FERC No. 2572)
Penobscot Mills Hydroelectric Project (FERC No. 2458)

Gentlemen:

I write at this time to submit written comments concerning the Draft Environmental Impact Statement issued for the captioned projects.

As a member of the Maine Legislature, I am concerned about the ability of our paper industry to compete in an increasingly global market and the applicant, Great Northern Paper, is an important part of the paper industry in this State.

In my opinion, continued operation of the projects as proposed by the applicant will provide significant economic and environmental benefits to the people of this State.

I oppose the conditions contained in the Draft which will increase the applicants annual cost by an estimated 30%. I especially oppose the staff proposal that Great Northern take over from the State control of regulating shoreline development. Maine's land use agencies have done a good job of preserving and protecting Maine's environment and are fully capable of continuing that effort. FERC's intrusion into this traditional area of State jurisdiction is unwarranted and unneeded.

Very truly yours,

Joseph B. Taylor
Representative District 42

VERDI L. TRIPP

27 Ward Road
Topsham, ME 04086 ~ 729-0336

STATE REPRESENTATIVE
District 52 (Topsham)

January 17, 1995

Lois B. Cashell, Secretary
Fedferal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

RE: Ripogenus Hydroelectric Project (FERC No. 2572) -005
Penobscot Mills Hydroelectric Project (FERC No. 2458) -009

Please include the following remarks regarding the above projects into your record.

As a new Maine Legislator, I intend to do all I can to keep the business and industry we have strong, maintain and increase the job force and lobby for projects which will do just these things.

I believe the Draft Environmental Impact Statement on the two above projects will act just the opposite. Maine has a difficult time competing for new business as it is without driving up the costs of existing business (30% in this particular case) through tougher regulations.

The American people have asked for change and believe me that is coming across the board particularly in the area of Federal Regulations. We must begin to give projects like this some latitude to provide a more significant economic and environmental benefit to the people of this state.

I oppose the conditions contained in the Draft which will increase the applicants annual cost by an estimated 30%. I especially oppose the staff proposal that Great Northern take over from the State control of regulating shoreline development. Maine's land use agencies have done a good job of preserving and protecting Maine's environment and are fully capable of continuing that effort. FERC's intrusion into this traditional area of State jurisdiction is unwarranted and unwanted.

Very truly yours,

Verdi L. Tripp

LT:tfm
cc:Rep. Herbert E. Clark, District 140

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

RE: Ripogenus Hydroelectric Project (FERC No. 2572) -002
Penobscot Mills Hydroelectric Project (FERC No. 2458) -009

Gentlemen:

I write at this time to submit written comments concerning the Draft Environmental Impact Statement issued for the captioned projects.

As a member of the Maine Legislature, I am concerned about the ability of our paper industry to compete in an increasingly global market and the applicant, Great Northern Paper, is an important part of the paper industry in this State.

In my opinion, continued operation of the projects as proposed by the applicant will provide significant economic and environmental benefits to the people of this State.

I oppose the conditions contained in the Draft which will increase the applicants annual cost by an estimated 30%. I especially oppose the staff proposal that Great Northern take over from the State control of regulating shoreline development. Maine's land use agencies have done a good job of preserving and protecting Maine's environment and are fully capable of continuing that effort. FERC's intrusion into this traditional area of State jurisdiction is unwarranted and unneeded.

Very truly yours,

Robert L. Tufts
State Representative
District 107
P. O. Box 124
Stockton Springs, Maine 04981

HOUSE OF REPRESENTATIVES

STATE HOUSE AUGUSTA 04333-0002
287-1400

Marc J. Vigue
79 Halifax Street C-21
Winslow, Maine 04901

January 17, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

-005

RE: RIPOGENUS HYDROELECTRIC PROJECT (FERC NO. 2572) -009
PENOBSCOT MILLS HYDROELECTRIC PROJECT (FERC NO. 2458)

Dear Mr. Cashell and members of FERC:

I am writing to submit written comments concerning the Draft Environmental Impact Statement issued for the captioned projects.

As a member of the 117th Maine Legislature, I am concerned about the ability of our paper industry to compete in an increasingly global market. The applicant, Great Northern Paper, is an important part of the paper industry in this state.

I believe that continued operation of the projects as proposed by the applicant will provide significant economic and environmental benefits to the people of Maine.

I oppose the conditions contained in the Draft Environmental Impact Statement which will increase the applicant's annual cost by an estimated 30 percent. I believe such an icrease will impair Great Northern's ability to modernize its facilities, pay decent wages and compete in today's global markets. I especially oppose the staff proposal that Great Northern Paper take over control of regulating shoreline development from the state. Maine's land use agencies have done a good job of preserving and protecting Maine's environment and are fully capable of continuing that effort. FERC's intrusion into this traditional area of state jurisdiction is unwarranted and unneeded.

I strongly suggest that you do not include conditions for this project that would increase the cost of doing business in the State of Maine.

Sincerely,

Marc J. Vigue
State Representative

District 102-400 Winslow

HOUSE OF REPRESENTATIVES

STATE HOUSE AUGUSTA 04333-0002
287-1400

Rep. Julie Winn
RR #4, Box 570
Glenburn, Maine 04401
Tel: 207-884-7836

January 27, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

005

RE: Ripogenus Hydroelectric Project (FERC No. 2572) Penobscot Mills Hydroelectric Project (FERC No. 2458) - 009

Gentlemen:

I write at this time to submit written comments concerning the Draft Environmental Impact Statement issued for the captioned projects.

As a member of the Maine Legislature, I am concerned about the ability of our paper industry to compete in an increasingly global market and the applicant, Great Northern Paper, is an important part of the paper industry in this State.

In my opinion, continued operation of the projects as proposed by the applicant will provide significant economic and environmental benefits to the people of this State.

I oppose the conditions contained in the Draft which will increase the applicants annual cost by an estimated 30%. I especially oppose the staff proposal that Great Northern take over from the State control of regulating shoreline development. Maine's land use agencies have done a good job of preserving and protecting Maine's environment and are fully capable of continuing that effort. FERC's intrusion into this traditional area of State jurisdiction is unwarranted and unneeded.

Very truly yours,

Julie Winn
State Representative

District 122 Glenburn, Kenduskeag, part of Levant
and part Exeter

COMMENTS TO CONCERNED CITIZENS CONCERNING LAND USE ON PENOBSCOT/RIPOGENUS MILLS DEIS

Group - B

We received comments from many concerned citizens regarding our recommended land use recommendations in the Ripogenus/Penobscot Mills DEIS. Our response to these comments are provided here and the comments follow.

Comment noted. The staff's recommendations (see section 5.3.4) provide measures to protect shoreland resources within the project areas while considering existing land use regulatory controls. The staff's final assessment and recommendations consider comments received during the DEIS comment period, GNP's proposed conservation easements for the Ripogenus Project area, updated land valuation information, and further assessment of LURC land use regulations and resource protection measures (see section 4.9).

1/25/95

See. Lois Cashell
F.E.R.C.

P-2572-005 COPY

Dear Ms. Cashell -

Thank you for FERC's Draft E.I.S. on the Ripogenus Project and Penobscot Mills.

This is a wonderful opportunity to protect some of the most wonderful wild lake vistas in the U.S. at almost no cost to taxpayers.

A 200' buffer seems really not much easier to achieve than 500' and 500' feet would do the job right.

Please, please support the first alternative and know that it means so much to those of us who love our wild Maine lakes.

Best to you, Alex Agnew

Alex Agnew
Box 4733 DTS
Portland, ME 04112-4733

cc

✓

January 23, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

005

Re: Draft Environmental Impact Statement -- Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458)

009

Dear Secretary Cashell:

I am submitting these comments on the draft environmental impact statement issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

FERC deserves considerable credit for preparing an environmental impact statement for these projects. Although I have not participated in the formal process of relicensing the dams, I do care deeply about the West Branch watershed and its future. I was unable to travel to Millinocket on January 25, 1995 to comment on the draft at the 7 p.m. evening public hearing and therefore want to make my comments to you in writing.

I strongly support the need to require shoreland protection zones on the lakes, ponds and streams in the Ripogenus and Penobscot Mills project areas. The West Branch is one of the most significant watersheds in the State of Maine and in the Northeast. Protecting its high value lakes, ponds, rivers and streams for aesthetic, ecological and recreational values is critically important. I am pleased that FERC recognizes the need to protect these shorelines. I am equally glad to see that FERC understands that the goal of protecting these resources can only be achieved if easements are obtained on land not owned by Great Northern.

Although I am pleased by FERC's recognition of the need to protect shoreland, I am concerned with several aspects of the approach recommended in Alternative 2 of the draft EIS.

First, I am concerned that buffers of only 200' are not sufficient to achieve the goals of aesthetic, recreational and ecological protection. I believe that the proposed buffer zones should be expanded to a width of 500 feet. A width of 500' is the minimum that has been used on other buffer zones in the

immediate area. A 500' wide buffer should not be much more costly to Bowater/Great Northern than a 200' buffer since the most expensive land is that immediately fronting on water. The land behind the shorefront is much less expensive but of great value ecologically. Buffers included in the hydropower licenses should be consistent with other 500' buffers in the West Branch.

Second, I am concerned that the option to allow Great Northern to install a Shoreland Management Plan at Penobscot Mills with buffers narrower than 200' could be used to defeat the purpose of the buffer zones. I believe that FERC must set minimum guidelines for any management plan, which should mandate a buffer of 500', subject to change only on a very strong demonstration that aesthetic, recreational and ecological resources will be adequately safeguarded.

I urge FERC to adopt the recommended buffer zone proposals as modified above. I believe that FERC should adopt the shoreland protection plan set forth in Alternative 1 -- 500' buffers. Adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in Maine's northern forest region.

Thank you for the opportunity to comment.

Sincerely yours,

Ann Rowak Badham

Ann Badham
R.R. 2 Box 180
Bath, ME. 04530-9808

January 23, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

005

Re: Draft Environmental Impact Statement -- Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458)

004

Dear Secretary Cashell:

I am submitting these comments on the draft environmental impact statement issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

FERC deserves considerable credit for preparing an environmental impact statement for these projects. Although I have not participated in the formal process of relicensing the dams, I do care deeply about the West Branch watershed and its future. I was unable to travel to Millinocket on January 25, 1995 to comment on the draft at the 7 p.m. evening public hearing and therefore want to make my comments to you in writing.

I strongly support the need to require shoreland protection zones on the lakes, ponds and streams in the Ripogenus and Penobscot Mills project areas. The West Branch is one of the most significant watersheds in the State of Maine and in the Northeast. Protecting its high value lakes, ponds, rivers and streams for aesthetic, ecological and recreational values is critically important. I am pleased that FERC recognizes the need to protect these shorelines. I am equally glad to see that FERC understands that the goal of protecting these resources can only be achieved if easements are obtained on land not owned by Great Northern.

Although I am pleased by FERC's recognition of the need to protect shoreland, I am concerned with several aspects of the approach recommended in Alternative 2 of the draft EIS.

First, I am concerned that buffers of only 200' are not sufficient to achieve the goals of aesthetic, recreational and ecological protection. I believe that the proposed buffer zones should be expanded to a width of 500 feet. A width of 500' is the minimum that has been used on other buffer zones in the

immediate area. A 500' wide buffer should not be much more costly to Bowater/Great Northern than a 200' buffer since the most expensive land is that immediately fronting on water. The land behind the shorefront is much less expensive but of great value ecologically. Buffers included in the hydropower licenses should be consistent with other 500' buffers in the West Branch.

Second, I am concerned that the option to allow Great Northern to install a Shoreland Management Plan at Penobscot Mills with buffers narrower than 200' could be used to defeat the purpose of the buffer zones. I believe that FERC must set minimum guidelines for any management plan, which should mandate a buffer of 500', subject to change only on a very strong demonstration that aesthetic, recreational and ecological resources will be adequately safeguarded.

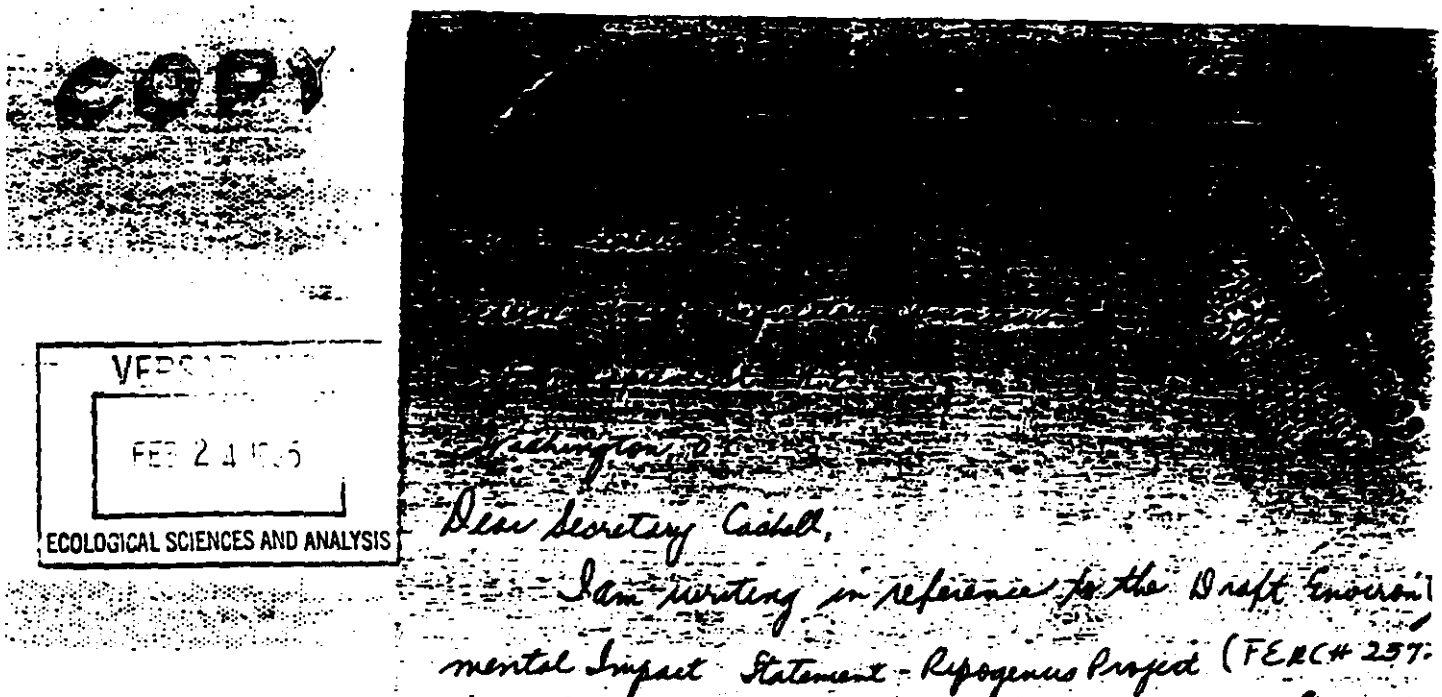
I urge FERC to adopt the recommended buffer zone proposals as modified above. I believe that FERC should adopt the shoreland protection plan set forth in Alternative 1 -- 500' buffers. Adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in Maine's northern forest region.

Thank you for the opportunity to comment.

Sincerely yours,

H. M. Bliss

Bliss



[redacted]ington, D.C.

Dear Secretary Cashell,

I am writing in reference to the Draft Environmental Impact Statement - Ripogenus Project (FERC # 237-) & Penobscot Mills Project (FERC # 2458) — 009

I am sorry that I was not able to attend the hearing on Jan. 25, & am not aware of its outcome.

I am pleased to see FERC's active, positive (I feel) response to this request, and would like to support the buffer zone of 500'. My feeling (although not scientific) is that this is a beautiful and important area & that it needs all the protection it can get. My husband & I have been in the area at various times, & while we live in Vermont, and in a relatively unspoiled area, the northern part calls upon us in a way

[illegible]

[illegible] ment [illegible] improving the Conn River watershed. The parties concerned co-operated, compromised & came up with a workable plan. Bowater & other industries it should look to incidences like this for guidance and enlightenment, and perhaps with your help they will.

Thank you for your time.

Sincerely

Margery S. Blender

Peter J. Beehner
10 Lobster Cove Road
Monhegan Island, ME 04852

January 23, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

Re: Draft Environmental Impact Statement -- Ripogenus project (FERC No. 2572) and Penobscot Mills project (FERC No. 2458)

008 009

Dear Secretary Cashell:

As a citizen of Maine, I am submitting these comments on the draft environmental impact statement issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

FERC deserves considerable credit for preparing an environmental impact statement for these projects. Although I have not participated in the formal process of relicensing the dams, I do care deeply about the West Branch watershed and its future. I was unable to travel to Millinocket on January 25, 1995 to comment on the draft at the 7 p.m. evening public hearing and therefore want to make my comments to you in writing.

I strongly support the need to require shoreland protection zones on the lakes, ponds and streams in the Ripogenus and Penobscot Mills project areas. The West Branch is one of the most significant watersheds in the State of Maine and in the northeast. Protecting its high value lakes, ponds, rivers and streams for aesthetic, ecological and recreational values is critically important. I am pleased that FERC recognizes the need to protect these shorelines. I am equally glad to see that FERC understands that the goal of protecting these resources can only be achieved if easements are obtained on land not owned by Great northern.

Although I am pleased by FERC's recognition of the need to protect shoreland, I am concerned with several aspects of the approach recommended in Alternative 2 of the draft EIS.

First, I am concerned that buffers of only 200' are not sufficient to achieve the goals of aesthetic, recreational and ecological protection. I believe that the proposed buffer zones should be expanded to a width of 500 feet. A width of 500, is the minimum that has been used on other buffer zones in the immediate area. A 500, wide buffer should not be much more costly to Bowater/Great Northern than a 200' buffer since the most expensive land is that immediately fronting on water. The land behind the shorefront is much less expensive

✓

but of great value ecologically. Buffers included in the hydropower licenses should be consistent with other 500' buffers in the West Branch.

Second, I am concerned that the option to allow Great Northern to install a Shoreland Management Plan at Penobscot Mills with buffers narrower than 200' could be used to defeat the purpose of the buffer zones. I believe that FERC must set minimum guidelines for any management plan, which should mandate a buffer of 500', subject to change only on a very strong demonstration that aesthetic, recreational and ecological resources will be adequately safeguarded.

I urge FERC to adopt the recommended buffer zone proposals as modified above. I believe that FERC should adopt the shoreland protection plan set forth in Alternative 1 – 500' buffers. Adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in Maine's northern forest region.

Thank you for the opportunity to comment, especially as the State affected is my state.

Sincerely yours,

Peter J. Boehmer

COPY

January 23, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

005

Re: Draft Environmental Impact Statement -- Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458) - 009

Dear Secretary Cashell:

I am submitting these comments on the draft environmental impact statement issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

FERC deserves considerable credit for preparing an environmental impact statement for these projects. Although I have not participated in the formal process of relicensing the dams, I do care deeply about the West Branch watershed and its future. I was unable to travel to Millinocket on January 25, 1995 to comment on the draft at the 7 p.m. evening public hearing and therefore want to make my comments to you in writing.

I strongly support the need to require shoreland protection zones on the lakes, ponds and streams in the Ripogenus and Penobscot Mills project areas. The West Branch is one of the most significant watersheds in the State of Maine and in the Northeast. Protecting its high value lakes, ponds, rivers and streams for aesthetic, ecological and recreational values is critically important. I am pleased that FERC recognizes the need to protect these shorelines. I am equally glad to see that FERC understands that the goal of protecting these resources can only be achieved if easements are obtained on land not owned by Great Northern.

Although I am pleased by FERC's recognition of the need to protect shoreland, I am concerned with several aspects of the approach recommended in Alternative 2 of the draft EIS.

First, I am concerned that buffers of only 200' are not sufficient to achieve the goals of aesthetic, recreational and ecological protection. I believe that the proposed buffer zones should be expanded to a width of 500 feet. A width of 500' is the minimum that has been used on other buffer zones in the

immediate area. A 500' wide buffer should not be much more costly to Bowater/Great Northern than a 200' buffer since the most expensive land is that immediately fronting on water. The land behind the shorefront is much less expensive but of great value ecologically. Buffers included in the hydropower licenses should be consistent with other 500' buffers in the West Branch.

Second, I am concerned that the option to allow Great Northern to install a Shoreland Management Plan at Penobscot Mills with buffers narrower than 200' could be used to defeat the purpose of the buffer zones. I believe that FERC must set minimum guidelines for any management plan, which should mandate a buffer of 500', subject to change only on a very strong demonstration that aesthetic, recreational and ecological resources will be adequately safeguarded.

I urge FERC to adopt the recommended buffer zone proposals as modified above. I believe that FERC should adopt the shoreland protection plan set forth in Alternative 1 -- 500' buffers. Adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in Maine's northern forest region.

Thank you for the opportunity to comment.

Sincerely yours,

Philip Booth

Box 330

Castine

ME 04421

R.F.D.#3 Box 39 Libby Avenue
Gorham, Maine 04038

February 14, 1995

Lois Cashell
Secretary, Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, D.C. 20426

Dear Secretary Cashell:

005

I am writing in regard to the draft environmental impact statement (DEIS) issued by FERC on the Ripogenus (FERC #2572) and Penobscot Mills (FERC #2458) — 009 Hydroelectric Projects in Maine. I did not attend the January 25, 1995 public hearing in Millinocket, but I would like to express my opinions now. Thank you for hearing my comments and for preparing an environmental impact statement on these projects.

My husband and I have monitored a lake in Maine on which my family owns property for about twenty years. We have tested for several water quality parameters and have worked under the auspices of the Maine D.E.P. We hold a strong belief that the lakes of Maine should be protected as much as possible considering all the pressures from human intrusion so that the best water quality possible will be preserved for as long as possible. It makes good sense to require shoreland protection zones on the lakes, ponds, and streams in the vicinity of The Ripogenus and Penobscot Mills project areas. Considering the fact that the West Branch of the Penobscot is associated with one of the most significant watersheds in Maine, protection of its lakes, ponds, rivers, and streams is crucial.

I appreciate hearing that FERC believes that these shorelines should be protected and also that easements should be installed on all land. Great Northern could procure land which the company does not now own by means of a conservation easement trust. I would like to see the proposed buffer strips increased from 200' to 500'. The cost should not be excessive since it is not shorefront, and the 500' buffer

zone would be the same as those in other areas of the West Branch of the Penobscot as well as in the Allagash.

My belief is that along with the applicant's right to generate power should also come the responsibility to procure shoreland easement with a 500' buffer zone so that the natural beauty will be preserved for future generations. Thank you for your concerned involvement in this process.

Sincerely,

Eileen D. Burnell

Eileen D. Burnell

COPY

January 23, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

002

Re: Draft Environmental Impact Statement -- Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458) — 009

Dear Secretary Cashell:

I am submitting these comments on the draft environmental impact statement issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

FERC deserves considerable credit for preparing an environmental impact statement for these projects. Although I have not participated in the formal process of relicensing the dams, I do care deeply about the West Branch watershed and its future. I was unable to travel to Millinocket on January 25, 1995 to comment on the draft at the 7 p.m. evening public hearing and therefore want to make my comments to you in writing.

I strongly support the need to require shoreland protection zones on the lakes, ponds and streams in the Ripogenus and Penobscot Mills project areas. The West Branch is one of the most significant watersheds in the State of Maine and in the Northeast. Protecting its high value lakes, ponds, rivers and streams for aesthetic, ecological and recreational values is critically important. I am pleased that FERC recognizes the need to protect these shorelines. I am equally glad to see that FERC understands that the goal of protecting these resources can only be achieved if easements are obtained on land not owned by Great Northern.

Although I am pleased by FERC's recognition of the need to protect shoreland, I am concerned with several aspects of the approach recommended in Alternative 2 of the draft EIS.

First, I am concerned that buffers of only 200' are not sufficient to achieve the goals of aesthetic, recreational and ecological protection. I believe that the proposed buffer zones should be expanded to a width of 500 feet. A width of 500' is the minimum that has been used on other buffer zones in the

immediate area. A 500' wide buffer should not be much more costly to Bowater/Great Northern than a 200' buffer since the most expensive land is that immediately fronting on water. The land behind the shorefront is much less expensive but of great value ecologically. Buffers included in the hydropower licenses should be consistent with other 500' buffers in the West Branch.

Second, I am concerned that the option to allow Great Northern to install a Shoreland Management Plan at Penobscot Mills with buffers narrower than 200' could be used to defeat the purpose of the buffer zones. I believe that FERC must set minimum guidelines for any management plan, which should mandate a buffer of 500', subject to change only on a very strong demonstration that aesthetic, recreational and ecological resources will be adequately safeguarded.

I urge FERC to adopt the recommended buffer zone proposals as modified above. I believe that FERC should adopt the shoreland protection plan set forth in Alternative 1 -- 500' buffers. Adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in Maine's northern forest region.

Thank you for the opportunity to comment.

Sincerely yours,

D L Caldwell

HC 80 Box 33

Penobscot, Me.

04476

P.S. Two additional comments

① I have listened to canoeing friends return heartsick from trips on rivers they expected to please, only to find these buffer zones so painfully, visibly close to the water that the character of the area was destroyed.

② Our electric company raised rates partly because its customers weren't using enough electricity. I'm sure Bowater/Great Northern can deal with it if the 500' buffer zone in fact is a hardship for them. It is infinitely more important to protect our environmental integrity than to protect [illegible]

R E S T O R E:

P.O. Box 440, Concord, MA 01742 • 508-287-0320

COPY

FILED
OFFICE OF THE SECRETARY
95 FEB -9 AM 10:00
FEDERAL ENERGY REGULATORY COMMISSION

February 2, 1995

FEB 7 4 1995

ECOLOGICAL SCIENCES AND ANALYSIS

Lois D. Cashell
Secretary
Federal Energy Regulatory Commission
825 North Capital Street, NE
Washington, DC 20426

Re: Draft Environmental Impact Statement—Ripogenus Project (FERC No. 2572) -005
and Penobscot Mills Project (FERC No. 2458) -009

Dear Secretary Cashell:

These comments are submitted by RESTORE: The North Woods on the draft environmental impact statement issued by Federal Energy Regulatory Commission (FERC) on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

We are pleased that FERC has prepared an environmental impact statement (EIS) for these projects. Although we have not participated in the formal process of relicensing the dams, we do care deeply about the West Branch watershed and its future. We were unable to travel to Millinocket on January 25, 1995 to comment on the draft at the 7:00 pm public hearing and therefore want to make our comments to you in writing.

We strongly support the need to require shoreland protection zones on the lakes, ponds, and streams in the Ripogenus and Penobscot Mills project areas. The West Branch is one of the most significant watersheds in the State of Maine and in the Northeast. Protecting its high value lakes, ponds, rivers, and streams for aesthetic, ecological, and recreational values is critically important. We are pleased that FERC recognizes the need to protect these shorelines.

Although we are encouraged by FERC's recognition of the need to protect shoreland, we are concerned with several aspects of the approach recommended in Alternative 2 of the draft EIS.

First, we are concerned that buffers of only 200 feet are not sufficient to achieve the goals of aesthetic, recreational, and ecological protection. We believe that the proposed buffer zones should be expanded to a width of 500 feet. A width of 500 feet is the minimum that has been used on other buffer zones in the immediate area. A 500 foot wide buffer should not be much more costly than a 200 foot buffer; the most expensive land is that immediately fronting on water. The land behind the shorefront is much less

expensive but of great value ecologically. Buffers included in the hydropower licenses should be consistent with other 500 foot buffers in the West Branch.

Presently, the U.S. Fish and Wildlife Service is reviewing a petition to list the North American wood turtle (*Clemmys insculpta*) as a threatened species under the Endangered Species Act. Wood turtles, which should be found throughout Maine, are know to travel up to 600 meters from a water source. A buffer zone of 200 feet or less will not protect the required habitat of this imperiled species.

We are also concerned that the option to allow Great Northern to install a shoreland management plan at Penobscot Mills with buffers narrower than 200 feet could be used to defeat the purpose of the buffer zones. We believe that FERC must set minimum guidelines for any management plan, which should mandate a buffer of 500 feet, subject to change only on a very strong demonstration that aesthetic, recreational, and ecological values will be adequately safeguarded.

We urge FERC to adopt the recommended buffer zone proposals as modified above. We believe that FERC should adopt the shoreland protection plan set for in Alternative 1—500 foot buffers. Adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in the naturally significant Maine woods.

Thank you for the opportunity to comment.

Sincerely,

David N. Carle

David N. Carle
Associate Executive Director

RE Draft Environmental Impact Statement - Ripogenus Project (FERC FILE No. 2572) and Penobscot Mills Project (FERC No. 2458)

OFFICE OF THE SECRETARY
95 FEB 21 PM 3:53
FEDERAL ENERGY REGULATORY COMMISSION

005

H.C.R.32 Box 253
Smallpoint Rd.
Sebasco Estates, Me. 04565

VERSAR, INC.
FEB 28
ECOLOGICAL SCIENCES

009

February 14, 1995

Dear ~~persons~~ Lois Cashell,

Thank you for your wise requirement attached to Bowater's dam relicensing process that Bowater establish a conservation easement along 110 miles of lake and pond shoreline in the West Branch of the Penobscot drainage. I have canoed on Chesuncook Lake and have worked for four years to help plan with responsible stewardship for future resource extraction and conservation and human development in the Northern Forest. I believe your action was both timely and appropriate as the West Branch is an area of statewide significance which is threatened by sale for recreational dwellings.

I hope you will increase the size of the conservation buffer to 500 feet, to maintain a wide, viable wildlife corridor and to prevent erosion caused by logging. 150 acre clearcuts at the edge of a conservation corridor can cause wind destruction of adjacent trees in the lake buffer. Bare soil resulting from clearcuts 300 feet from the lake can channel water during heavy storms into the buffer zone, gouging out ravines and destroying the soil texture and quality within the buffer. Many species of migratory songbirds will not nest in a 200 foot wide forested area, but need 500 contiguous feet of forest to provide the quality of habit they need for reproduction. Many of these songbirds, including several species of warblers and thrushes, eat spruce budworm, and serve to reduce forest damage from this destructive insect.

I hope that you will ensure that current leaseholders on the lakes will have grandfathered leases, that they will have the right to renew. I also hope you will require Great Northern(Bowater) to purchase from willing sellers, lands needed to install the easements.

These conservation easements, if enlarged to 500 feet, will protect water quality, wildlife habitat, recreation and aesthetics, are a mandatory and necessary part of relicensing, returning to the public good stewardship for Bowater's profitable use of public water for hydropower.

Sincerely,

Nancy B. Chandler

Nancy B. Chandler

Colby Environmental Council
Colby College
Waterville, ME 04901

February 15, 1995

Lois Cashell
Secretary, Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

009 005

RE: Draft Environmental Impact Statement — Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458)

Dear Secretary Cashell:

These comments are submitted by the Colby Environmental Council on the draft environmental impact statement (DEIS) issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

FERC deserves considerable credit for preparing an environmental impact statement for these projects. Although we have not participated in the formal process of relicensing the dams, we do care deeply about he West Branch watershed and its future. We were unable to travel to Millinocket on January 25, 1995 to comment on the draft at the 7 PM evening public hearing and therefore want to make our comments to you in writing.

We strongly support the need to require shoreland protection zones on the lakes, ponds, and streams in the Ripogenus and Penobscot Mills project areas. The West Branch is one of the most significant watersheds in the state of Maine and in the Northeast. Protecting its high value lakes, ponds, rivers and streams for aesthetic, ecological, and recreational values is critically important. We are pleased that FERC recognizes the need to protect these shorelines. We are equally glad to see that FERC understands that the goal of protecting these resources can only be achieved on the Ripogenus impoundment if easement are installed on all land, including those not owned by Great Northern. We believe that these lands should be purchased on a willing-seller basis and that Great Northern should be obligated to establish a conservation easement trust fund to purchase presently unavailable lands as they become available.

Although we are pleased by FERC's recognition of the need to protect shoreland, we are concerned with several aspects of the approach recommended in the DEIS.

First, buffers of only 200 feet are not sufficient to achieve the goals of aesthetic, recreational, and ecological protection stated in the DEIS. The proposed buffer zones should be expanded to a width of 500 feet. A 500' wide buffer should not be much more costly than a 200' buffer; the most expensive land is that fronting immediately on the water. The land behind the

shorefront is much less expensive because it is less desirous for development, although it has great value ecologically. Buffers included in the hydropower licenses should be consistent with other 500' buffers in the West Branch of the Penobscot River and the Allagash. Also, we believe that the buffer width should be 500' throughout the Ripogenus and Penobscot Mills Project area.

We also agree with FERC that any existing commercial and private leases as identified in the DEIS should continue to be honored and renewable, subject to LURC zoning regulations.

We urge FERC to adopt the recommended buffer zone proposals and modified above. Adequate shoreland protection zones are a routine and necessary aspect of ownership of a valuable hydropower license. Then need for shoreland protection is particularly keen in the Northern Forest region, as the DEIS acknowledges. The public is entitled to assurances that its use and enjoyment of the natural character of this region, like the applicant's right to generate power, will be secure for the term of this license. Shoreland easements are a critical element of that assurance.

Thank you for the opportunity to comment.

Sincerely,

Joshua B. Morris
Kristin E. Wilson
Jennifer Gennaco
J. Anoynne Rogers
Anna M. O'Connell
Kathleen Thompson
Lauren Vitrano
[illegible]
[illegible]
Anne Robinson

R. & L. Cole
R.R. #1, Box 740
Etna, ME 04434-9742

E-427

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington, D.C. 20426

COPY

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

Re: Draft Environmental Impact Statement
Ripogenus project (FERC # 2572-002
Penobscot Mills project # 2458-009

Dear Secretary Cashell

I would like to comment on the draft EIS issued by FERC on the above projects in Maine.

I was unable to attend the Millinocket public hearing on Jan. 25th So would like to make my comments in writing.

My wife & I are life-long residents of Maine & use the West Branch region extensively for recreational purposes. We are pleased that FERC's

research has shown the need to protect the ecological integrity of this waterbody.

We believe that Alternative 2 is the only option that would insure a bare minimum of protection. Adequate protection of the shoreline should be a basic requirement for Boundary Waters use of the States natural resources.

Thank for your consideration

Sincerely

Richard J Cole

Lois Hale

RR I Box 740

Otis, Me 04434

20 February 1995

Lois Cashell
Secretary, Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

005

RE: Draft Environmental Impact Statement-Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458) 009

Dear Secretary Cashell;

These comments are submitted by myself on the draft environmental impact statement (DEIS) issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

FERC deserves considerable credit for preparing an environmental impact statement for these projects. Although I have not participated in the formal process of relicensing the dams, I do care deeply about the West Branch watershed and its future. I was unable to travel to Millinocket on January 25, 1995 to comment on the draft at the 7 PM public hearing and therefore want to make my comments to you in writing.

I strongly support the need to require shoreland protection zones on the lakes, ponds, and streams in the Ripogenus and Penobscot Mills projects areas. The West Branch is one of the most significant watersheds in the state of Maine and in the Northeast. Protecting its high value lakes, ponds, rivers, and streams for aesthetic, ecological, and recreation values is critically important . I am pleased that FERC recognizes the need to protect these shorelines. I am equally glad to see that FERC understands that the goal of protecting these resources can only

be achieved on the Ripogenus impoundment if easements are installed on all land, including those not owned by Great Northern. I believe that these lands should be purchased on a willing seller basis and that Great Northern should be obligated to establish a conservation easement trust fund to purchase presently unavailable lands as they become available.

Although I am pleased by FERC's recognition of the need to protect shoreline, I am concerned with several aspects of the approach recommended in the DEIS.

First, buffers of only 200 feet are not sufficient to achieve the goals of aesthetic, recreational, and ecological protection stated in the DEIS. The proposed buffer zones should be expanded to a width of 500 feet. A 500 foot wide buffer should not be much more costly that a 200 foot buffer; the most expensive land is that immediately fronting on water. The land behind the shorefront is much less expensive because it is less desirous for development, although it has great value ecologically. Buffers included in the hydropower licenses should be consistent with other 500 foot buffers in the West Branch of the Penobscot River and the Allagash. Also, I believe that the buffer width should be 500 feet throughout the Ripogenus and Penobscot Mills Project area.

I also agree with FERC that any existing commercial and private leases as identified in the DEIS should continue to be honored and renewable, subject to LURC zoning regulations.

I urge FERC to adopt the recommended buffer zone proposals as modified above. Adequate shoreland protection zones are a routine and necessary aspect of ownership of a valuable hydropower license. The need for shoreland protection is particularly keen in the Northern Forest region, as the DEIS

acknowledges. The public is entitled to assurances that its use and enjoyment of the natural character of this region, like applicants right to generate power, will be secure for the term of the license. Shoreland easements are a critical element of the assurance.

Thank you for the opportunity to comment.

Sincerely yours,

Steven Corman
104 Main Street Apt. 2B
Orono, ME 04473

COPY

January 23, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

005

Re: Draft Environmental Impact Statement -- Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458) - 009

Dear Secretary Cashell:

I am submitting these comments on the draft environmental impact statement issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

FERC deserves considerable credit for preparing an environmental impact statement for these projects. Although I have not participated in the formal process of relicensing the dams, I do care deeply about the West Branch watershed and its future. I was unable to travel to Millinocket on January 25, 1995 to comment on the draft at the 7 p.m. evening public hearing and therefore want to make my comments to you in writing.

I strongly support the need to require shoreland protection zones on the lakes, ponds and streams in the Ripogenus and Penobscot Mills project areas. The West Branch is one of the most significant watersheds in the State of Maine and in the Northeast. Protecting its high value lakes, ponds, rivers and streams for aesthetic, ecological and recreational values is critically important. I am pleased that FERC recognizes the need to protect these shorelines. I am equally glad to see that FERC understands that the goal of protecting these resources can only be achieved if easements are obtained on land not owned by Great Northern.

Although I am pleased by FERC's recognition of the need to protect shoreland, I am concerned with several aspects of the approach recommended in Alternative 2 of the draft EIS.

First, I am concerned that buffers of only 200' are not sufficient to achieve the goals of aesthetic, recreational and ecological protection. I believe that the proposed buffer zones should be expanded to a width of 500 feet. A width of 500' is the minimum that has been used on other buffer zones in the

immediate area. A 500' wide buffer should not be much more costly to Bowater/Great Northern than a 200' buffer since the most expensive land is that immediately fronting on water. The land behind the shorefront is much less expensive but of great value ecologically. Buffers included in the hydropower licenses should be consistent with other 500' buffers in the West Branch.

Second, I am concerned that the option to allow Great Northern to install a Shoreland Management Plan at Penobscot Mills with buffers narrower than 200' could be used to defeat the purpose of the buffer zones. I believe that FERC must set minimum guidelines for any management plan, which should mandate a buffer of 500', subject to change only on a very strong demonstration that aesthetic, recreational and ecological resources will be adequately safeguarded.

I urge FERC to adopt the recommended buffer zone proposals as modified above. I believe that FERC should adopt the shoreland protection plan set forth in Alternative 1 -- 500' buffers. Adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in Maine's northern forest region.

Thank you for the opportunity to comment.

Sincerely yours,

Leverett B. Davis

Leverett B. Davis
PO Box 278
Damariscotta, ME 04543

COPY

January 23, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

Re: Draft Environmental Impact Statement -- Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458)

Dear Secretary Cashell:

I am submitting these comments on the draft environmental impact statement issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

FERC deserves considerable credit for preparing an environmental impact statement for these projects. Although I have not participated in the formal process of relicensing the dams, I do care deeply about the West Branch watershed and its future. I was unable to travel to Millinocket on January 25, 1995 to comment on the draft at the 7 p.m. evening public hearing and therefore want to make my comments to you in writing.

I strongly support the need to require shoreland protection zones on the lakes, ponds and streams in the Ripogenus and Penobscot Mills project areas. The West Branch is one of the most significant watersheds in the State of Maine and in the Northeast. Protecting its high value lakes, ponds, rivers and streams for aesthetic, ecological and recreational values is critically important. I am pleased that FERC recognizes the need to protect these shorelines. I am equally glad to see that FERC understands that the goal of protecting these resources can only be achieved if easements are obtained on land not owned by Great Northern.

Although I am pleased by FERC's recognition of the need to protect shoreland, I am concerned with several aspects of the approach recommended in Alternative 2 of the draft EIS.

First, I am concerned that buffers of only 200' are not sufficient to achieve the goals of aesthetic, recreational and ecological protection. I believe that the proposed buffer zones should be expanded to a width of 500 feet. A width of 500' is the minimum that has been used on other buffer zones in the

immediate area. A 500' wide buffer should not be much more costly to Bowater/Great Northern than a 200' buffer since the most expensive land is that immediately fronting on water. The land behind the shorefront is much less expensive but of great value ecologically. Buffers included in the hydropower licenses should be consistant with other 500' buffers in the West Branch.

Second, I am concerned that the option to allow Great Northern to install a Shoreland Management Plan at Penobscot Mills with buffers narrower than 200' could be used to defeat the purpose of the buffer zones. I believe that FERC must set minimum guidelines for any management plan, which should mandate a buffer of 500', subject to change only on a very strong demonstration that aesthetic, recreational and ecological resources will be adequately safeguarded.

I urge FERC to adopt the recommended buffer zone proposals as modified above. I believe that FERC should adopt the shoreland protection plan set forth in Alternative 1 -- 500' buffers. Adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in Maine's northern forest region.

Thank you for the opportunity to comment.

Sincerely yours,

Sharon Drake
Key RV Park - 53rd
Marathon, FL
33050

COPY

RFD #3 Box 227
Auburn, ME 04210

February 10, 1995

FILED
OFFICE OF THE SECRETARY
95 FEB 21 AM 10:40
FEDERAL ENERGY
REGULATORY
COMMISSION

VERSAR, INC.
FEB 2
ECOLOGICAL

005

Lois Cashell
Secretary, Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

RE: Draft Environmental Impact Statement - Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458) 009

Dear Secretary Cashell,

These comments are submitted by [organization/individual] on the draft environmental impact statement (DEIS) issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

FERC deserves considerable credit for preparing an environmental impact statement for these projects. Although we have not participated in the formal process of relicensing the dams, we do care deeply about the West Branch watershed and its future. We were unable to travel to Millinocket on January 25, 1995 to comment on the draft at the 7 PM evening public hearing and therefore want to make our comments to you in writing.

We strongly support the need to require shoreland protection zones on the lakes, ponds and streams in the Ripogenus and Penobscot Mills project ares. The West Branch is one of the most significant watershed in the state of Maine and in the Northeast. Protecting its high value lakes, ponds, rivers, and streams for aesthetic, ecological, and recreation values is critically important. We are pleased that FERC recognizes the need to protect these shorelines. We are equally glad to see that FERC understands that the goal of protecting these resources can only be achieved on the Ripogenus impoundment if easements are installed on all land, including those not owned by Great Northern. I believe that these lands should be purchased on a willing seller basis and that Great Northern should be obligated to establish a conservation easement trust fund to purchase presently unavailable lands as they become available.

Although We are pleased by FERC's recognition of the need to protect shoreland, we are concerned with several aspects of the approach recommended in the DEIS.

First, buffers of only 200' are not sufficient to achieve the goals of aesthetic, recreational, and ecological protection stated in the DEIS. The proposed buffer zones should be expanded to a width of 500' feet. A 500' wide

buffer should not be much more costly than a 200' buffer; the most expensive land is that immediately fronting on water. The land behind the shorefront is much less expensive because it is less desirous for development, although it has great value ecologically. Buffers included in the hydropower licenses should be consistent with other 500' buffers in the West Branch of the Penobscot River and the Allagash. Also, we believe that the buffer width should be 500' throughout the Ripogenus and Penobscot Mills Project area.

We also agree with FERC that any existing commercial and private leases as identified in the DEIS should continue to be honored and renewable, subject to LURC zoning regulations.

We urge FERC to adopt the recommended buffer zone proposals as modified above. Adequate shoreland protections zones are a routine and necessary aspect of ownership of a valuable hydropower license. The need for shoreland protection is particularly keen in the Northern Forest region, as the DEIS acknowledges. The public is entitled to assurances that its use and enjoyment of the natural character of this region, like the applicants right to generate power, will be secure for the term of the license. Shoreland easements are a critical element of that assurance.

Thank you for the opportunity to comment.

Sincerely yours,

R Stephen Crane, Ph.D

COPY

January 23, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

005

Re: Draft Environmental Impact Statement -- Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458)

009

Dear Secretary Cashell:

I am submitting these comments on the draft environmental impact statement issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

FERC deserves considerable credit for preparing an environmental impact statement for these projects. Although I have not participated in the formal process of relicensing the dams, I do care deeply about the West Branch watershed and its future. I was unable to travel to Millinocket on January 25, 1995 to comment on the draft at the 7 p.m. evening public hearing and therefore want to make my comments to you in writing.

I strongly support the need to require shoreland protection zones on the lakes, ponds and streams in the Ripogenus and Penobscot Mills project areas. The West Branch is one of the most significant watersheds in the State of Maine and in the Northeast. Protecting its high value lakes, ponds, rivers and streams for aesthetic, ecological and recreational values is critically important. I am pleased that FERC recognizes the need to protect these shorelines. I am equally glad to see that FERC understands that the goal of protecting these resources can only be achieved if easements are obtained on land not owned by Great Northern.

Although I am pleased by FERC's recognition of the need to protect shoreland, I am concerned with several aspects of the approach recommended in Alternative 2 of the draft EIS.

First, I am concerned that buffers of only 200' are not sufficient to achieve the goals of aesthetic, recreational and ecological protection. I believe that the proposed buffer zones should be expanded to a width of 500 feet. A width of 500' is the minimum that has been used on other buffer zones in the

immediate area. A 500' wide buffer should not be much more costly to Bowater/Great Northern than a 200' buffer since the most expensive land is that immediately fronting on water. The land behind the shorefront is much less expensive but of great value ecologically. Buffers included in the hydropower licenses should be consistant with other 500' buffers in the West Branch.

Second, I am concerned that the option to allow Great Northern to install a Shoreland Management Plan at Penobscot Mills with buffers narrower than 200' could be used to defeat the purpose of the buffer zones. I believe that FERC must set minimum guidelines for any management plan, which should mandate a buffer of 500', subject to change only on a very strong demonstration that aesthetic, recreational and ecological resources will be adequately safeguarded.

I urge FERC to adopt the recommended buffer zone proposals as modified above. I believe that FERC should adopt the shoreland protection plan set forth in Alternative 1 -- 500' buffers. Adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in Maine's northern forest region.

Thank you for the opportunity to comment.

Sincerely yours,

Frances E. Dunn
Box 22
Round Pond, ME. 04564

ROBERT M. EWING
CONSULTANT
retired
94 Neal St.
PORTLAND, MAINE 04102
(207) 774-8009

Lois Cashell, Secretary
F.E.R.C.
825 N. Capitol St. NE
Washington, D.C. 20426

P-2572-002
P-2458-009

Re: Environment Impact Statement - Ripogenus Project and Penobscot Mills Project

Dear Secretary Cashell,

Although I do not know all the conditions and all the problems concerning the projects at Ripogenus and Penobscot Mills, I feel very strongly about the need for shoreline protection and I have confidence in the expertise of the Conservation Law Foundation. My own experience is limited to the problems of shoreline protection in the southern counties of Maine.

I applaud FERC 's attempt to require adequate buffer zones, and I hope that you will withstand any pressure to defeat or reduce the proposed standards.

Sincerely,

Robert M. Ewing

836 Kuwa Road
Brunswick, ME 04011
January 26, 1995

FILED
OFFICE OF THE SECRETARY
95 JAN 31 AM 11:51
FEDERAL ENERGY
REGULATORY
COMMISSION

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, D.C. 20426

Re: Draft Environmental Impact Statement -
Pipogenus Project (FERC No. 2572) and
Penobscot Mills Project (FERC no. 2458) -009

Dear Secretary Cashell,

As a member of AMC, Maine Audubon and Conservation Law Foundation, I am submitting these comments on the draft environmental impact statement relative to the above projects, since I was unable to be present at the January 25 hearing in Millinocket.

My concern is for the shoreland protection zones on lakes, ponds and streams in the above project areas, which are so important to Maine's future because of high aesthetic and recreational value as well as for the enhancement of biodiversity in Maine. I am grateful that FERC has recognized the importance of such protection.

I would urge that FERC require the buffer zones of Alternative (1) so that really adequate and effective protection is maintained for the West Branch. Included should be the requirement that Bowater/GNP obtain easements for all of the 500 foot buffer zones, not solely on land it owns.

For the Penobscot Mills project, if the proposed option of a Shoreland Management Plan prepared by GNP is allowed, FERC needs to insist that minimum standards are maintained including the full 500 feet of buffer zone, subject to modification only under strict requirements for safeguarding recreational, aesthetic and ecological resources.

I have been impressed by the hydro licensing

process as it affected me personally, since our home adjoins the property along the Androscoggin River where the Pejebscot Dam is located. Construction of a fairly elaborate canoe-launching facility below the dam, after extended consultation with local officials and with neighbors, demonstrated FERC's commitment to and concern for recreational values and its flexibility in planning for enhancement.

Thank you for soliciting and considering my comments on the West Branch projects.

Sincerely,

Virginia V. Hammond

F R A N C I S W . H A T C H
BOX 2189, MANCHESTER CENTER, VERMONT 05255

January 30, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

P-2572-005
P-2458-009

Dear Secretary Cashell:

You may wonder why I am writing you, given the address on my letterhead. However, my family has been tied to the town of Castine for generations. I try to spend as much time as I can in the family homestead north of the town on the Penobscot River. Over the years I have become somewhat familiar with the upper reaches of the river.

Unfortunately, I was unable to make the trek to Millinocket last week to comment on the Draft Environmental Impact Statement issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine. Therefore, I am commenting by letter.

Your commission certainly deserves credit for preparing an environmental impact statement on these projects. It is a demanding process and, to its credit, FERC did it.

I strongly support the need to require shoreland protection zones on the lakes, ponds and streams in the Ripogenus and Penobscot Mills project areas. The West Branch is one of the most significant watersheds in the State of Maine and in the Northeast. Protecting its valuable lakes, ponds, rivers and streams for aesthetic, ecological and recreational values is critically important. I am pleased that FERC also recognizes the need to protect the shorelines involved. It is heartening to see that FERC understands that the goal of protecting these resources can only be achieved if easements are obtained on land not owned by Great Northern.

Although I am pleased that FERC recognizes the need for shore protection, I am concerned with several aspects of the approach recommended in Alternative 2 of the draft EIS.

First, it appears to me that buffers of only 200' are not sufficient to achieve the goals of aesthetic, recreational and ecological protection. I believe that the proposed buffer zones should be expanded to a width of 500 feet, a width that is the minimum used for other buffer zones in the immediate area. A 500' wide buffer should not be much more costly to

(802) 362-4020
FAX (802) 362-4215

Bowater/Great Northern than a 200' buffer since the most expensive land is that immediately fronting on water. The land behind the shorefront is much less expensive but of great value ecologically. Buffers included in the hydropower licenses should be consistent with other 500' buffers in the West Branch.

Second, it appears that the option to allow Great Northern to install a Shoreland Management Plan at Penobscot Mills with buffers narrower than 200' could be used to defeat the purpose of the buffer zones. I believe that FERC must set minimum guidelines for any management plan, which should mandate a buffer of 500', reduced only on a very strong demonstration that aesthetic, recreational and ecological resources will be adequately safeguarded.

I urge FERC to adopt the recommended buffer zone proposals as modified above. I believe that FERC should adopt the shoreland protection plan set forth in Alternative 1 -- 500' buffers. Adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in Maine's northern forest region.

Thank you for the opportunity to comment.

Sincerely,

Francis W. Hatch

Francis W. Hatch

FWH/jp

BOOTH HEMINGWAY
94 PEPPERRELL RD.
P.O. BOX 42 MAINE
KITTERY PT. 03905-0042

January 23, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

009 003

Re: Draft Environmental Impact Statement -- Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458)

Dear Secretary Cashell:

I am submitting these comments on the draft environmental impact statement issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

FERC deserves considerable credit for preparing an environmental impact statement for these projects. Although I have not participated in the formal process of relicensing the dams, I do care deeply about the West Branch watershed and its future. I was unable to travel to Millinocket on January 25, 1995 to comment on the draft at the 7 p.m. evening public hearing and therefore want to make my comments to you in writing.

I strongly support the need to require shoreland protection zones on the lakes, ponds and streams in the Ripogenus and Penobscot Mills project areas. The West Branch is one of the most significant watersheds in the State of Maine and in the Northeast. Protecting its high value lakes, ponds, rivers and streams for aesthetic, ecological and recreational values is critically important. I am pleased that FERC recognizes the need to protect these shorelines. I am equally glad to see that FERC understands that the goal of protecting these resources can only be achieved if easements are obtained on land not owned by Great Northern.

Although I am pleased by FERC's recognition of the need to protect shoreland, I am concerned with several aspects of the approach recommended in Alternative 2 of the draft EIS.

First, I am concerned that buffers of only 200' are not sufficient to achieve the goals of aesthetic, recreational and ecological protection. I believe that the proposed buffer zones should be expanded to a width of 500 feet. A width of 500' is the minimum that has been used on other buffer zones in the

immediate area. A 500' wide buffer should not be much more costly to Bowater/Great Northern than a 200' buffer since the most expensive land is that immediately fronting on water. The land behind the shorefront is much less expensive but of great value ecologically. Buffers included in the hydropower licenses should be consistent with other 500' buffers in the West Branch.

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I urge FERC to adopt the recommended buffer zone proposals as modified above. I believe that FERC should adopt the shoreland protection plan set forth in Alternative 1 -- 500' buffers. Adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in Maine's northern forest region.

Thank you for the opportunity to comment.

Sincerely yours,

Booth Hemingway

BOOTH HEMINGWAY
94 PEPPERRELL RD.
P.O. BOX 42 MAINE
KITTERY PT.

Horace A. Hildreth, Jr.
CHAIRMAN

(207) 774-5961
FAX (207) 761-7915

COPY

DIVERSIFIED COMMUNICATIONS
5 MILK STREET, P.O. BOX 7437, PORTLAND, MAINE 04112-7437

VERSAR, INC.

FEB 2 4 1995

January 25, 1995

FEDERAL ENERGY REGULATORY COMMISSION
95 JAN 30 AM 10:36
FILED
OFFICE OF THE SECRETARY

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington DC 20426

005 009

Re: DEIS -- Ripogenus Project and Penobscot Mills Project (FERC #2572, 2458)

Dear Secretary Cashell:

I have not participated in the formal process of relicensing these dams, but I do care deeply about the West Branch watershed and its future. I am unable to travel to Millinocket tonight to comment on the draft at the public hearing and therefore hope I may make my comments in writing.

The West Branch is one of the most significant watersheds in the State of Maine and in the Northeast, and the protection of its shorelines is critically important. I'm glad to see that FERC understands that protecting these resources can only be achieved if easements are obtained on land not owned by Great Northern.

However, I'm concerned with a couple of aspects of the approach recommended in Alternative 2 of the draft EIS.

First, buffers of only 200' are not sufficient to achieve any meaningful goals of aesthetic, recreational and ecological protection. A width of 500' would be much more reasonable for purposes of protection and is the minimum that has been used on other buffer zones in the immediate area. There is not much point in requiring Bowater/Great Northern to protect only the first 200' (the most valuable) if that doesn't do the job, and it wouldn't. Let's face it, as a practical matter in most stretches of shoreline, 200' of "protection" is so transparent aesthetically, or for recreational consideration, and so meaningless biologically that it serves little purpose. If we are going to bother, let's do it right.

Similarly, with respect to the Shoreland Management Plan at Penobscot Mills, FERC should set minimum guidelines for any management plan, and that plan should mandate a buffer of 500', subject to change only on a very strong demonstration that aesthetic, recreational and ecological resources will be adequately safeguarded.

It seems to me that adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in Maine's northern forest region.

Sincerely,

Horace A. Hildreth

HAH:bpl

Howard E. Jones
8 Harden Ave.
Camden, ME 04843

January 23, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

005

Re: Draft Environmental Impact Statement -- Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458) - 004

Dear Secretary Cashell:

I am submitting these comments on the draft environmental impact statement issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

FERC deserves considerable credit for preparing an environmental impact statement for these projects. Although I have not participated in the formal process of relicensing the dams, I do care deeply about the West Branch watershed and its future. I was unable to travel to Millinocket on January 25, 1995 to comment on the draft at the 7 p.m. evening public hearing and therefore want to make my comments to you in writing.

I strongly support the need to require shoreland protection zones on the lakes, ponds and streams in the Ripogenus and Penobscot Mills project areas. The West Branch is one of the most significant watersheds in the State of Maine and in the Northeast. Protecting its high value lakes, ponds, rivers and streams for aesthetic, ecological and recreational values is critically important. I am pleased that FERC recognizes the need to protect these shorelines. I am equally glad to see that FERC understands that the goal of protecting these resources can only be achieved if easements are obtained on land not owned by Great Northern.

Although I am pleased by FERC's recognition of the need to protect shoreland, I am concerned with several aspects of the approach recommended in Alternative 2 of the draft EIS.

First, I am concerned that buffers of only 200' are not sufficient to achieve the goals of aesthetic, recreational and ecological protection. I believe that the proposed buffer zones should be expanded to a width of 500 feet. A width of 500' is the minimum that has been used on other buffer zones in the

immediate area. A 500' wide buffer should not be much more costly to Bowater/Great Northern than a 200' buffer since the most expensive land is that immediately fronting on water. The land behind the shorefront is much less expensive but of great value ecologically. Buffers included in the hydropower licenses should be consistent with other 500' buffers in the West Branch.

Second, I am concerned that the option to allow Great Northern to install a Shoreland Management Plan at Penobscot Mills with buffers narrower than 200' could be used to defeat the purpose of the buffer zones. I believe that FERC must set minimum guidelines for any management plan, which should mandate a buffer of 500', subject to change only on a very strong demonstration that aesthetic, recreational and ecological resources will be adequately safeguarded.

I urge FERC to adopt the recommended buffer zone proposals as modified above. I believe that FERC should adopt the shoreland protection plan set forth in Alternative 1 -- 500' buffers. Adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in Maine's northern forest region.

Thank you for the opportunity to comment.

Sincerely yours,

Howard E. Jones

APPALACHIAN MOUNTAIN CLUB
INTERCHAPTER CANOE COMMITTEE

Julia Khorana, Chair
3 Birch Hill Road
Stow, MA 01775

Norman Refin, Treasurer
1 Anchor Way
Newbury, MA 01931

February 7, 1995

Lois Cashell
Secretary, Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

009 005

Re: Draft Environmental Impact Statement - Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458)

Dear Secretary Cashell,

I am writing on behalf of the Interchapter Canoe Committee of the Appalachian Mountain Club.

I applaud FERC for all their work in preparing an environmental impact statement on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine. I have enjoyed many river trips in the area, and hopefully I will in the future, thus I would like to submit the following comments.

I strongly support the need to require shoreland protection zones on the lakes, ponds and streams in the Ripogenous and Penobscot Mills project areas. The West Branch is one of the most significant watersheds in the state of Maine and in the Northeast. Protecting its high value lakes, ponds, rivers, and streams for aesthetic, ecological, and recreational values is critically important. I am pleased that FERC recognized the need to protect these shorelines. I am equally glad to see that FERC understands that the goal of protecting these resources can only be achieved on the Ripogenus impoundment if easements are installed on all land, including those not owned by Great Northern. I believe that these lands should be purchased on a willing seller basis and Great Northern should establish a conservation easement trust fund to be able to purchase the lands, should they become available.

Although we are pleased by FERC's recognition of the need to protect shoreland, we are concerned with several aspects of the approach recommended in Alternative 2 of the draft EIS.

First, we are concerned that buffers of only 200' are not sufficient to achieve the goals of aesthetic, recreational, and ecological protection. I believe that the proposed buffer zones should be expanded to a width of 500 feet. A width of 500' is the minimum that has been used on other buffer zones in the immediate area. A 500' wide buffer should not be much more costly than a 200' buffer; the most expensive land is that immediately fronting on water. The land behind the shorefront is much less expensive but of great value ecologically. Buffers included in the hydropower licenses should be consistent with other 500' buffers in the West Branch of the Penobscot River and the Allagash.

Second, we are concerned that the option to allow Great Northern to install a Shoreland Managemen Plan at Penobscot Mills with buffers narrower than 200' could be used to defeat the purpose of the buffer zones. I believe that FERC must set minimum guidelines subject to change only on a very

strong demonstration that aesthetic, recreational, and ecological resources will be adequately safeguarded.

We also agree with FERC that any existing commercial and private leases as identified in the EIS should continue to be honored and renewable under the conditions of LURC zoning regulations

I urge FERC to adopt the recommended buffer zone proposals as modified above. I believe that FERC should adopt the shoreland protection plan set for in Alternative 1 - 500' buffers. Adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in Maine's northern forest region.

Thank you for the opportunity to comment.

Sincerely yours,

Julia Khorana

Julia Khorana
Chair, ICC

P-2458-009
2572-005

VERSAR. INC.

28

OFFICE OF THE SECRETARY
95 FEB 23 PM 3:28
FEDERAL ENERGY REGULATORY COMMISSION
FILED

329 Dearborn Hill
West Buxton Me
04093

Dear Secretary Cashell

I am writing about the draft environmental impact statement issued by Ferc for the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

We could not travel to Millinocket on Jan 25 1995 to comment and do want to make comments to you.

The West Branch is a most significant watershed. We must protect the lakes, ponds, rivers and streams! Easements must be installed on all land, including those not owned by Great Northern.

Buffers of 200' are not sufficient to achieve the goals. The buffer strips should be 500' the same as other 500' buffers on the West Branch of the Penobscot and the Allagash.

We agree with FERC that existing leases should continue.

The public is entitled to use and enjoyment of the natural character of this region, in return for the applicants using our water to generate power.

Thank you for the opportunity to comment

Sincerely
Ernest and Cordelia Kenney

ERNEST J. KINNEY
CORALIE G. KINNEY
329 DEARBORN HILL
WEST BUXTON, ME 04093

PORTLAND, ME
PM
15 FEB
1995

USA
29

Lois Cashell
Secretary, Federal Energy Regulatory Commission
825 North Capitol St. NE
Washington DC. 20426

E-455

January 23, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

005

Re: Draft Environmental Impact Statement -- Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458) - 009

Dear Secretary Cashell:

I am submitting these comments on the draft environmental impact statement issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

FERC deserves considerable credit for preparing an environmental impact statement for these projects. Although I have not participated in the formal process of relicensing the dams, I do care deeply about the West Branch watershed and its future. I was unable to travel to Millinocket on January 25, 1995 to comment on the draft at the 7 p.m. evening public hearing and therefore want to make my comments to you in writing.

I strongly support the need to require shoreland protection zones on the lakes, ponds and streams in the Ripogenus and Penobscot Mills project areas. The West Branch is one of the most significant watersheds in the State of Maine and in the Northeast. Protecting its high value lakes, ponds, rivers and streams for aesthetic, ecological and recreational values is critically important. I am pleased that FERC recognizes the need to protect these shorelines. I am equally glad to see that FERC understands that the goal of protecting these resources can only be achieved if easements are obtained on land not owned by Great Northern.

Although I am pleased by FERC's recognition of the need to protect shoreland, I am concerned with several aspects of the approach recommended in Alternative 2 of the draft EIS.

First, I am concerned that buffers of only 200' are not sufficient to achieve the goals of aesthetic, recreational and ecological protection. I believe that the proposed buffer zones should be expanded to a width of 500 feet. A width of 500' is the minimum that has been used on other buffer zones in the

immediate area. A 500' wide buffer should not be much more costly to Bowater/Great Northern than a 200' buffer since the most expensive land is that immediately fronting on water. The land behind the shorefront is much less expensive but of great value ecologically. Buffers included in the hydropower licenses should be consistent with other 500' buffers in the West Branch.

Second, I am concerned that the option to allow Great Northern to install a Shoreland Management Plan at Penobscot Mills with buffers narrower than 200' could be used to defeat the purpose of the buffer zones. I believe that FERC must set minimum guidelines for any management plan, which should mandate a buffer of 500', subject to change only on a very strong demonstration that aesthetic, recreational and ecological resources will be adequately safeguarded.

I urge FERC to adopt the recommended buffer zone proposals as modified above. I believe that FERC should adopt the shoreland protection plan set forth in Alternative 1 -- 500' buffers. Adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in Maine's northern forest region.

Thank you for the opportunity to comment.

Sincerely yours,

Charles E. Kutsch

11 W. Shore Dr.

Freeport ME 04032

February 16, 1995

Lois Cashell
Secretary, Federal Energy Regulatory Commission
825 North Capitol St., NE
Washington, D.C. 20426

Dear Secretary Cashell,

009 005

This letter is in reference to the draft environmental impact statement issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine (FERC No. 2572 and FERC No. 2458). Although I was not able to travel to Millinocket on January 25, 1995 to provide public comment, I am very concerned about this issue and offer my written comments.

The natural resources of Maine are very dear to me and shoreland protection in the Ripogenus and Penobscot Mills project areas is critical. I am very pleased that FERC also recognizes the importance of the areas and the need for protection. My concern is with the buffer areas being proposed. I feel that 500' buffer widths will provide the protection which is necessary rather than the 200' buffer. This would place these buffers on a par with other 500' buffers in the West Branch of the Penobscot River and the Allagash and would not add substantially to the cost of the buffer zones.

I applaud you for the fine work which you have accomplished to date on the draft environmental statement and urge you to adopt the modified buffer width.

Thank you for the opportunity to comment.

Valarie C. Lamont

Valarie C. Lamont
34 Chenery St.
Portland, ME 04101

Mayer

January 23, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

COPY

Re: Draft Environmental Impact Statement -- Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458)

009 005

Dear Secretary Cashell:

I am submitting these comments on the draft environmental impact statement issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

FERC deserves considerable credit for preparing an environmental impact statement for these projects. Although I have not participated in the formal process of relicensing the dams, I do care deeply about the West Branch watershed and its future. I was unable to travel to Millinocket on January 25, 1995 to comment on the draft at the 7 p.m. evening public hearing and therefore want to make my comments to you in writing.

I strongly support the need to require shoreland protection zones on the lakes, ponds and streams in the Ripogenus and Penobscot Mills project areas. The West Branch is one of the most significant watersheds in the State of Maine and in the Northeast. Protecting its high value lakes, ponds, rivers and streams for aesthetic, ecological and recreational values is critically important. I am pleased that FERC recognizes the need to protect these shorelines. I am equally glad to see that FERC understands that the goal of protecting these resources can only be achieved if easements are obtained on land not owned by Great Northern.

Although I am pleased by FERC's recognition of the need to protect shoreland, I am concerned with several aspects of the approach recommended in Alternative 2 of the draft EIS.

First, I am concerned that buffers of only 200' are not sufficient to achieve the goals of aesthetic, recreational and ecological protection. I believe that the proposed buffer zones should be expanded to a width of 500 feet. A width of 500' is the minimum that has been used on other buffer zones in the

immediate area. A 500' wide buffer should not be much more costly to Bowater/Great Northern than a 200' buffer since the most expensive land is that immediately fronting on water. The land behind the shorefront is much less expensive but of great value ecologically. Buffers included in the hydropower licenses should be consistent with other 500' buffers in the West Branch.

Second, I am concerned that the option to allow Great Northern to install a Shoreland Management Plan at Penobscot Mills with buffers narrower than 200' could be used to defeat the purpose of the buffer zones. I believe that FERC must set minimum guidelines for any management plan, which should mandate a buffer of 500', subject to change only on a very strong demonstration that aesthetic, recreational and ecological resources will be adequately safeguarded.

I urge FERC to adopt the recommended buffer zone proposals as modified above. I believe that FERC should adopt the shoreland protection plan set forth in Alternative 1 -- 500' buffers. Adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in Maine's northern forest region.

Thank you for the opportunity to comment.

Sincerely yours,

Lucinda Lang

LUCINDA LANG
P.O. BOX 282
TENANTS HARBOR, ME 04860

January 23, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

005

Re: Draft Environmental Impact Statement -- Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458)- 0094

Dear Secretary Cashell:

I am submitting these comments on the draft environmental impact statement issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

FERC deserves considerable credit for preparing an environmental impact statement for these projects. Although I have not participated in the formal process of relicensing the dams, I do care deeply about the West Branch watershed and its future. I was unable to travel to Millinocket on January 25, 1995 to comment on the draft at the 7 p.m. evening public hearing and therefore want to make my comments to you in writing.

I strongly support the need to require shoreland protection zones on the lakes, ponds and streams in the Ripogenus and Penobscot Mills project areas. The West Branch is one of the most significant watersheds in the State of Maine and in the Northeast. Protecting its high value lakes, ponds, rivers and streams for aesthetic, ecological and recreational values is critically important. I am pleased that FERC recognizes the need to protect these shorelines. I am equally glad to see that FERC understands that the goal of protecting these resources can only be achieved if easements are obtained on land not owned by Great Northern.

Although I am pleased by FERC's recognition of the need to protect shoreland, I am concerned with several aspects of the approach recommended in Alternative 2 of the draft EIS.

First, I am concerned that buffers of only 200' are not sufficient to achieve the goals of aesthetic, recreational and ecological protection. I believe that the proposed buffer zones should be expanded to a width of 500 feet. A width of 500' is the minimum that has been used on other buffer zones in the

immediate area. A 500' wide buffer should not be much more costly to Bowater/Great Northern than a 200' buffer since the most expensive land is that immediately fronting on water. The land behind the shorefront is much less expensive but of great value ecologically. Buffers included in the hydropower licenses should be consistent with other 500' buffers in the West Branch.

Second, I am concerned that the option to allow Great Northern to install a Shoreland Management Plan at Penobscot Mills with buffers narrower than 200' could be used to defeat the purpose of the buffer zones. I believe that FERC must set minimum guidelines for any management plan, which should mandate a buffer of 500', subject to change only on a very strong demonstration that aesthetic, recreational and ecological resources will be adequately safeguarded.

I urge FERC to adopt the recommended buffer zone proposals as modified above. I believe that FERC should adopt the shoreland protection plan set forth in Alternative 1 -- 500' buffers. Adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in Maine's northern forest region.

Thank you for the opportunity to comment.

Sincerely yours,

GRENVILLE B. LLOYD JR.
BOX 55
SOUTHWEST HARBOR, MAINE 04679

Kelly McClintock
65 Woodland Street
Sherborn, MA 01770

2/10/95

Lois Cashell
FERC
825 N Capitol St NE
Washington DC 20426

Re: FERC No. 2572-005 and No. 2458-009

I have just read about your proceedings on the West Branch of the Penobscot. I have canoed the river all my life, and care deeply that it be preserved — particularly shoreline buffers.

I am glad you are considering buffers - but 200' is, in my opinion, nowhere near enough. 200 yards is necessary.

Please - protect the fabulous area!

Thank you for considering these comments.

Sincerely, Kelly McClintock

COPY

COPY

JANUARY 25, 1995

Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

Re: Ripogenus Hydroelectric Project (FERC No. 2572)
Penobscot Mills Hydroelectric Project (FERC No. 2458)

Gentlemen:

I know how difficult it is for the Federal Government to get anything done right and I am one of many who expressed this sentiment in the last election.

Regarding the above Projects on which you recently issued a draft Environmental Impact Statement, come on! Do some research with the locals and make your Impact study clear and understandable so you won't get swamped with letters like this.

There are people like Daniel Sosland of the Conservation Law Foundation saying "owners of camps are frantic for no reason....the setbacks would only apply to future development... existing camps would not have to be pushed back 200 feet from the shore; camp owners could add a room; and permits would come only from LURC". Sounds reasonable to me. If this is so, why didn't you spell it out in your draft? I think ~~one~~ once this is done, the local "panic" will ease up a little.

I am unable to attend the meeting tonight in Millinocket that addresses this issue so felt compelled to write and at least show support for my fellow camp owners on Ambajejus Lake.

Sincerely,

Paul J. McPheters
15 Prospect Street
Brewer, ME 04412

GNP Lease No. 3165 Lot 234
T1 R9 WELS PISCATAQUIS

January 23, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

0085

Re: Draft Environmental Impact Statement -- Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458) - 0084

Dear Secretary Cashell:

I am submitting these comments on the draft environmental impact statement issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

FERC deserves considerable credit for preparing an environmental impact statement for these projects. Although I have not participated in the formal process of relicensing the dams, I do care deeply about the West Branch watershed and its future. I was unable to travel to Millinocket on January 25, 1995 to comment on the draft at the 7 p.m. evening public hearing and therefore want to make my comments to you in writing.

I strongly support the need to require shoreland protection zones on the lakes, ponds and streams in the Ripogenus and Penobscot Mills project areas. The West Branch is one of the most significant watersheds in the State of Maine and in the Northeast. Protecting its high value lakes, ponds, rivers and streams for aesthetic, ecological and recreational values is critically important. I am pleased that FERC recognizes the need to protect these shorelines. I am equally glad to see that FERC understands that the goal of protecting these resources can only be achieved if easements are obtained on land not owned by Great Northern.

Although I am pleased by FERC's recognition of the need to protect shoreland, I am concerned with several aspects of the approach recommended in Alternative 2 of the draft EIS.

First, I am concerned that buffers of only 200' are not sufficient to achieve the goals of aesthetic, recreational and ecological protection. I believe that the proposed buffer zones should be expanded to a width of 500 feet. A width of 500' is the minimum that has been used on other buffer zones in the

immediate area. A 500' wide buffer should not be much more costly to Bowater/Great Northern than a 200' buffer since the most expensive land is that immediately fronting on water. The land behind the shorefront is much less expensive but of great value ecologically. Buffers included in the hydropower licenses should be consistent with other 500' buffers in the West Branch.

Second, I am concerned that the option to allow Great Northern to install a Shoreland Management Plan at Penobscot Mills with buffers narrower than 200' could be used to defeat the purpose of the buffer zones. I believe that FERC must set minimum guidelines for any management plan, which should mandate a buffer of 500', subject to change only on a very strong demonstration that aesthetic, recreational and ecological resources will be adequately safeguarded.

I urge FERC to adopt the recommended buffer zone proposals as modified above. I believe that FERC should adopt the shoreland protection plan set forth in Alternative 1 -- 500' buffers. Adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in Maine's northern forest region.

Thank you for the opportunity to comment.

Sincerely yours,

RR1 Box 1525
Whitefield, ME
04353
207 549 7142
Fax 207 549 7172

COPY

HUGH MONTGOMERY
P. O. BOX J
PHILLIPS, MAINE 04966 - 1509
TELEPHONE 207 - 639 - 2881

January 23, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

005

Re: Draft Environmental Impact Statement -- Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458) - 009

Dear Secretary Cashell:

I am submitting these comments on the draft environmental impact statement issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

FERC deserves considerable credit for preparing an environmental impact statement for these projects. Although I have not participated in the formal process of relicensing the dams, I do care deeply about the West Branch watershed and its future. I was unable to travel to Millinocket on January 25, 1995 to comment on the draft at the 7 p.m. evening public hearing and therefore want to make my comments to you in writing.

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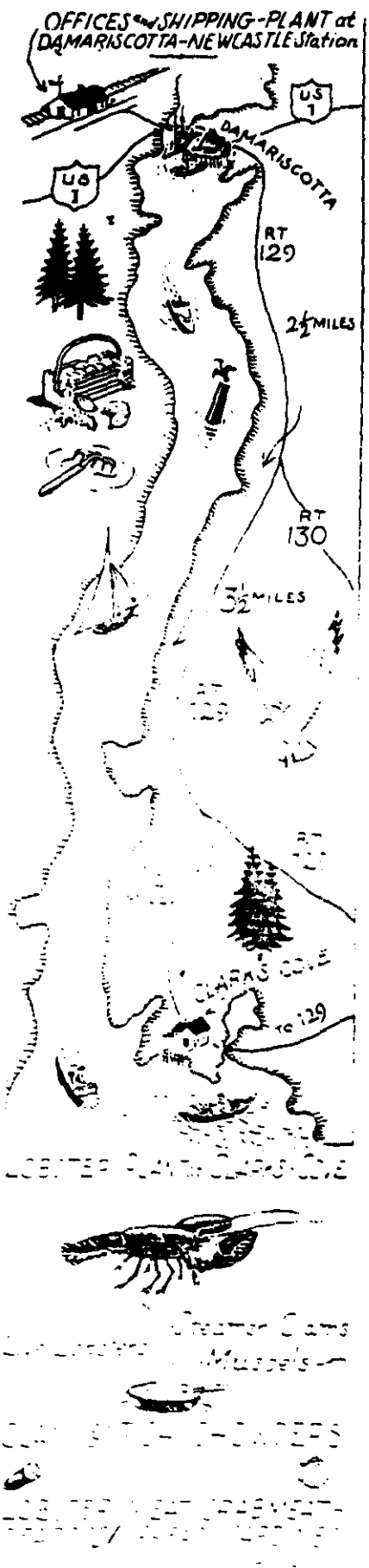
I urge FERC to adopt the recommended buffer zone proposals as modified above. I believe that FERC should adopt the shoreland protection plan set forth in Alternative 1 -- 500' buffers. Adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in Maine's northern forest region.

Thank you for the opportunity to comment.

Sincerely yours,

Hugh Montgomery



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SALTWATER FARM (INC.)

DAMARISCOTTA, MAINE 04543

TELEPHONE (207) 563-[illegible]

Filed office of the Sec

006

January 24, 1995

Lois D. Cashell, Secretary
FERC
825 North Capitol Street, NE
Washington, D. C. 20426

009

Re: Draft DEIS, Ripogenus Project (2572) and
Penobscot Mills Project (2459)

My dear Secretary Cashell:

Because we are unable to attend tomorrow's meeting in Millinocket, Mrs. Myers and I wish to convey to you by this letter our concerns about the two projects indicated above.

Everyone seems agreed on the need for shoreland protection of these magnificent watersheds, and that is all to the good, but in the matter of degree of protection, we would urge the adoption of Alternative 1, requiring 500' buffers. That footage should be the minimum protection, except possibly when awkward topography mandates shading it five or ten feet. In the event of heavy rains or accelerated snowmelt, Alternative 1 is better protection from erosion and siltation.

The discussion of dollars leaves us bemused. If we use 110 miles of shore, Alternative 2, and an average $3,000,000 cost, the shoreside buffer occupies 2,650 acres, thus valued at $1,100 per acre. The additional 300' for Alternative 1 is claimed at a cost of $6,000,000 for 4,000 acres, thus valued at $1,500 per acre. $1,100 per acre for shoreland and $1,500 per acre for back land seems beyond the canons of good sense; neither figure bears a sensible relationship to assessed valuation.

However the dollar confusion is resolved, Alternative 1 seems much the more urgently better for every consideration in this case.

Faithfully yours,

Edward Myers

Edward Myers:s

COPY

January 23, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

005

Re: Draft Environmental Impact Statement -- Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458)

009

Dear Secretary Cashell:

I am submitting these comments on the draft environmental impact statement issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

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First, I am concerned that buffers of only 200' are not sufficient to achieve the goals of aesthetic, recreational and ecological protection. I believe that the proposed buffer zones should be expanded to a width of 500 feet. A width of 500' is the minimum that has been used on other buffer zones in the

immediate area. A 500' wide buffer should not be much more costly to Bowater/Great Northern than a 200' buffer since the most expensive land is that immediately fronting on water. The land behind the shorefront is much less expensive but of great value ecologically. Buffers included in the hydropower licenses should be consistent with other 500' buffers in the West Branch.

Second, I am concerned that the option to allow Great Northern to install a Shoreland Management Plan at Penobscot Mills with buffers narrower than 200' could be used to defeat the purpose of the buffer zones. I believe that FERC must set minimum guidelines for any management plan, which should mandate a buffer of 500', subject to change only on a very strong demonstration that aesthetic, recreational and ecological resources will be adequately safeguarded.

I urge FERC to adopt the recommended buffer zone proposals as modified above. I believe that FERC should adopt the shoreland protection plan set forth in Alternative 1 -- 500' buffers. Adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in Maine's northern forest region.

Thank you for the opportunity to comment.

Sincerely yours,

Peter Nessen

Chairman
NCN Financial Corporation

George B. O'Connell
359 Redemption Rock Trail
Sterling, MA 01564

Lois Cashell
Secretary, Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

-005

Re: Draft EIS -- Ripogenus Project (FERC No. 2572)

Dear Secretary Cashell:

I am writing this letter in reference to the West Branch of the Penobscot river. I am a kayaker and enjoy kayaking on the West Branch very much. I enjoy the current situation, water levels and access. I hope in your relicensing you will keep in mind the interests of whitewater boaters.

I am also told that a buffer zone is to be established. This sounds like a good idea in that it keeps the river corridor aesthetically pleasing. It would be ideal to set a 500 foot buffer zone. I hope the agreement honors the existing leases along the river.

Thank you very much, and if you have never been to the Penobscot River you should. It is one of the most beautiful rivers in the country. The wildlife and scenery are spectacular.

Thank you for your help.

Sincerely,

George B. O'Connell

P-2458-009
2572-005

Lois Cashell
Secretary, ~~Federal Energy~~ Regulatory Commission
825 North Capitol St. NE
Washington, DC 20426

Dear Secretary Cashell,

We are writing this concerning the draft environmental impact statement on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine. Although we have not been able to participate in the formal process of relicensing the dams by attending the hearings, we both care very deeply about the future of the West Branch watershed. Because we were unable to travel to Millinocket on January 25 to comment on the draft at the 7 pm meeting, we want to make our comments in writing.

According to our understanding, the FERC has recognized the need to protect shoreline, and the prepared environmental impact statement addresses many clear and specific issues. The West Branch is certainly one of the most important (and most used!) watersheds in Maine. Its lakes, ponds, rivers and streams need protection for a host of reasons - aesthetic, ecological and recreational primarily. FERC certainly understands that this protection can only happen on the Ripogenus impoundment if easements are installed on all land, including what is not owned by Great Northern. We both think that these lands should be purchased on a willing seller basis and that Great Northern should be required to establish a conservation easement trust fund to purchase presently unavailable lands as they become available.

There are several aspects of FERC's approach, however, that we are concerned about. First, we think the proposed buffer zones should be expanded to 500' instead of the proposed 200'. We would like this buffer width to be required throughout the Ripogenus and Penobscot Mills project area. Acquiring the additional land should not prove very expensive since once one moves away from actual shore frontage, land is considerably cheaper.

In addition we would like to comment that conservation easements should be mandatory and necessary in any relicensing. We need the assurance that the public's use and enjoyment of the land is secure for the full term of the license, as is the applicant's right to generate power. The conservation easements of 500' should respect the rights of current leaseholders on the lakes by making the leases renewable and grandfathered.

Great Northern, which owns 80-85% of the shorelands under consideration, must be required, as suggested by the FERC environmental impact draft, to purchase from willing sellers lands it does not own in order to install the easements.

We realize the complexity of environmental regulation. We ourselves have enjoyed the West Branch area in particular for

many years and purposes. Effective compromise is certainly the way to go, as FERC is demonstrating.

Thank you very much for the opportunity to present our views.

Sincerely yours,

Lucia B. Owen

James B. Owen

P.O Box 613
Bethel, Me. 04217
207-928-2062

February 16, 1995

COPY

January 26, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, D.C. 20426

Dear Secretary Cashell:

006

I am writing to express my comments on the draft environmental impact statement issued by FERC on the Ripogenus Hydroelectric Project (FERC No. 2572) and the Penobscot Mills Hydroeclectric Project (FERC No. 2458) in Maine.

009

I strongly urge you to adopt Alternative 1, which would expand the shoreland buffer zone to 500', consistent with other existing easements on the West Branch of the Penobscot River and Chesuncook Lake. It is essential that FERC require Bowater/Great Northern Paper to obtain easements on land it doesn't own, and that any shoreland management plan prepared by Bowater sets minimum standards including the 500' buffer zone. I do not believe that a 500' buffer would be three times as expensive as a 200' buffer, since land behind the immediate shorefront is much less expensive.

The West Branch of the Penobscot River is one of the most significant watersheds in the State of Maine and indeed in the entire Northeastern United States. Protecting the ecology of this extraordinary watershed is extremely important. Adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in the northern forest region of Maine.

Sincerely,

Wayne Persons

Wayne Persons
RR 1 Box 348
Bradford, Maine 04410

BERKSHIRE CHAPTER
APPALACHIAN MOUNTAIN CLUB

Lois Cashell
Secretary, Federal Energy Regulatory Commission
825 North Capitol St., NE
Washington, D.C. 20426

2/19/95

005

009

cc: Governor Angus King, Jr., Augusta, Maine

Re: Draft Environmental Impact Statement --Ripogenus Project (FERC No. 2572) and the Penobscot Mills Project (FERC No. 2458)

Dear Secretary Cashell:

I was unable to travel to Millinocket on January 25, 1995 to comment on the draft at the public hearing and therefore want to make my comments to you in writing. I am pleased with Ferc's recognition to protect shoreline, but concerned with several aspects of the approach recommended in Alternative 2 of the draft EIS.

I strongly support the need to require shoreline protection zones the lakes, ponds, and streams in the Ripogenus and Penobscot Mills project areas. The West Branch is one of the most significant watersheds in the state of Maine and in the Northeast. Protecting its high value lakes, ponds, rivers, and streams for ecological, aesthetic, and recreational values is critically important.

My Concerns:

First, I am concerned that a 200' buffer zone is not sufficient to achieve the goals of aesthetic, recreational and ecological protection. I believe that the zones should be expanded to 500'--a width that is the minimum used on other buffer zones in the immediate area. This should not be more costly because the most expensive land is that immediately fronting on water. Buffers included in the hydropower licenses should be consistent with the other 500' buffers in the West Branch of the Penobscot and in the Allagash.

Second, I am concerned that allowing Great Northern the option to install a Shoreland Management Plan at Penobscot Mills with a buffer narrower than 200' could defeat the purpose of buffer zones. I believe that FERC must set minimum guidelines subject to change only on a very strong demonstration that aesthetic, recreational and ecological resources will be adequately safeguarded.

I also agree that any existing commercial and private leases as identified in the DEIS should continue to be honored and renewable under the conditions of LURC zoning regulations.

I urge you to adopt the shoreline protection [illegible]

Alternative 1 -- 500' feet buffers. Adequate shoreline protection zones should be considered a routine cost of holding valuable hydropower license, particularly in Maine's northern forest region.

Thank you for the opportunity to comment.

Sincerely yours,

Connie Peterson

Connie Peterson, Chair
Chapter Canoe Committee Chair, Berkshire Chapter
Appalachian Mountain Club

Glenn Rampe
15a Bennoch Rd
Orono, Maine 04473

Dear Secretary Caudell,

I strongly support the need for shoreland protection on the waterways affected by the Riggenso and Penobscot mills project areas here in Maine. I have canoed on these waters and find the wilderness character worth protecting with at <u>least</u> a 200' buffer. I feel that if Great Northern is allowed to continue to use our waters it is the least they can do in return.

Sincerely,
Glenn Rampe

P-2572-005
2458-009

COPY

Barbara & Ray Rappaport
33 Cleftstone Road
Bar Harbor, ME. 04609

January 24, 1995

FILED
OFFICE OF THE SECRETARY
95 JAN 30 AM 10:41
FEDERAL ENERGY
REGULATORY
COMMISSION

Ms Lois D. Cashell, Secretary
Fed. Energy Regulatory Commission
825 N. Capitol St., NE
Washington, DC 20426

Re: Draft Environmental Impact Statement - Ripogenus Project (FERC # 2572) — 005
and Penobscot Mills Project (FERC # 2458) — 009

Dear Secretary Cashell:

These two projects have considerable impact for our whole state. I have no self-interest or financial interest in either project, but I believe that FERC's environmental impact statements reflect much careful work. I am unable to attend the public hearing at Millinocket, but wish to have my comments on the record.

I support the need for shoreland protection zones on the lakes, ponds and streams of this northern area. I believe it is highly important to protect the watershed of the West Branch. Maine has little in the way of resources except for its natural environment, and so it is of utmost importance to protect the lakes, ponds, rivers and streams for ecological and recreational values.

The buffer zones in these areas are particularly important, and I would favor a width of 500 feet, the minimum that has been used on other buffer zones in the immediate area. This would maintain consistency also.

I urge FERC to adopt the recommended buffer zone proposals as modified above. I favor the adoption of the shoreland protection plan set forth in Alternative 1 -- 500' buffers. Shoreland protection zones should be a routine cost of holding a valuable hydropower license, particularly in Maine's northern forest region.

Thank you for recording my comments.

Sincerely yours,

Barbara M. Rappaport

NORMAN SIMS
143 FLAT HILLS ROAD • AMHERST, MA 01002 • (413) 253-7922
FAX: (413) 253-2636 • E-MAIL: SIMS@JOURN.UMASS.EDU

Feb. 20, 1995

Lois Cashell
Secretary
Federal Energy Regulatory Commission
825 North Capitol Street N.E.
Washington, D.C. 20426

005

Re: Draft Environmental Impact Statement: Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458) — 009

Dear Secretary Cashell:

I am submitting these comments on the draft environmental impact statement issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in the State of Maine.

I feel the EIS should be more strongly worded to insure adequate shoreland protection zones in these projects. I believe the 500' buffer zone set out in Alternative 1 is preferable to the 200' zone set in the draft EIS.

My objection to the narrower buffer zone is essentially aesthetic. These projects are located in the midst of some of the finest scenery on the East Coast. I believe the FERC should protect the lakes, ponds, rivers and streams in these projects from unsightly industrial and commercial activity. The 200' buffer is simply not big enough for that job. Nor does the narrower buffer protect these water resources from ecological damage.

As a longtime tourist, boater, and conservationist, dating from my first climb up Katahdin in 1971, I encourage you to provide more protection for these valuable natural resources.

In summary, I recommend that you expand the buffer zone to 500' so that these water resources receive protection similar to the Allagash and other easements on the West Branch; that you require Bowater and Great Northern to obtain easements on land it does not own, from willing sellers, to ensure protection; and that you permit existing commercial and private lease holders to continue their leases.

Norman Sims

cc Gov. King

WICKHAM SKINNER
BOX 888B
ST. GEORGE, MAINE 04857

COPY

FILED
OFFICE OF THE SECRETARY

95 FEB -8 PM 12:04

FEDERAL ENERGY
REGULATORY
COMMISSION

VERSAR, INC.
FEB 24 1995
ECOLOGY

January 23, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

005

Re: Draft Environmental Impact Statement -- Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458)-009

Dear Secretary Cashell:

I am submitting these comments on the draft environmental impact statement issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

FERC deserves considerable credit for preparing an environmental impact statement for these projects. Although I have not participated in the formal process of relicensing the dams, I do care deeply about the West Branch watershed and its future. I was unable to travel to Millinocket on January 25, 1995 to comment on the draft at the 7 p.m. evening public hearing and therefore want to make my comments to you in writing.

I strongly support the need to require shoreland protection zones on the lakes, ponds and streams in the Ripogenus and Penobscot Mills project areas. The West Branch is one of the most significant watersheds in the State of Maine and in the Northeast. Protecting its high value lakes, ponds, rivers and streams for aesthetic, ecological and recreational values is critically important. I am pleased that FERC recognizes the need to protect these shorelines. I am equally glad to see that FERC understands that the goal of protecting these resources can only be achieved if easements are obtained on land not owned by Great Northern.

Although I am pleased by FERC's recognition of the need to protect shoreland, I am concerned with several aspects of the approach recommended in Alternative 2 of the draft EIS.

First, I am concerned that buffers of only 200' are not sufficient to achieve the goals of aesthetic, recreational and ecological protection. I believe that the proposed buffer zones should be expanded to a width of 500 feet. A width of 500' is the minimum that has been used on other buffer zones in the

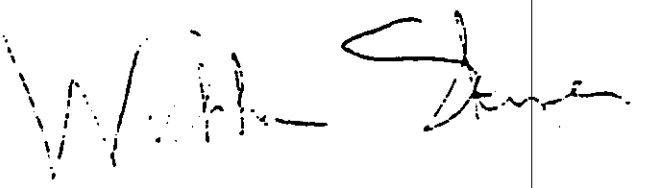
immediate area. A 500' wide buffer should not be much more costly to Bowater/Great Northern than a 200' buffer since the most expensive land is that immediately fronting on water. The land behind the shorefront is much less expensive but of great value ecologically. Buffers included in the hydropower licenses should be consistent with other 500' buffers in the West Branch.

Second, I am concerned that the option to allow Great Northern to install a Shoreland Management Plan at Penobscot Mills with buffers narrower than 200' could be used to defeat the purpose of the buffer zones. I believe that FERC must set minimum guidelines for any management plan, which should mandate a buffer of 500', subject to change only on a very strong demonstration that aesthetic, recreational and ecological resources will be adequately safeguarded.

I urge FERC to adopt the recommended buffer zone proposals as modified above. I believe that FERC should adopt the shoreland protection plan set forth in Alternative 1 -- 500' buffers. Adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in Maine's northern forest region.

Thank you for the opportunity to comment.

Sincerely yours,



President
National Resources Council
of Maine
1989-92

1409

January 23, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

005

Re: Draft Environmental Impact Statement — Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458) - 009

Dear Secretary Cashell:

I am submitting these comments on the draft environmental impact statement issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

FERC deserves considerable credit for preparing an environmental impact statement for these projects. Although I have not participated in the formal process of relicensing the dams, I do care deeply about the West Branch watershed and its future. I was unable to travel to Millinocket on January 25, 1995 to comment on the draft at the 7 p.m. evening public hearing and therefore want to make my comments to you in writing.

I strongly support the need to require shoreland protection zones on the lakes, ponds and streams in the Ripogenus and Penobscot Mills project areas. The West Branch is one of the most significant watersheds in the State of Maine and in the Northeast. Protecting its high value lakes, ponds, rivers and streams for aesthetic, ecological and recreational values is critically important. I am pleased that FERC recognizes the need to protect these shorelines. I am equally glad to see that FERC understands that the goal of protecting these resources can only be achieved if easements are obtained on land not owned by Great Northern.

Although I am pleased by FERC's recognition of the need to protect shoreland, I am concerned with several aspects of the approach recommended in Alternative 2 of the draft EIS.

First, I am concerned that buffers of only 200' are not sufficient to achieve the goals of aesthetic, recreational and ecological protection. I believe that the proposed buffer zones should be expanded to a width of 500 feet. A width of 500' is the minimum that has been used on other buffer zones in the

immediate area. A 500' wide buffer should not be much more costly to Bowater/Great Northern than a 200' buffer since the most expensive land is that immediately fronting on water. The land behind the shorefront is much less expensive but of great value ecologically. Buffers included in the hydropower licenses should be consistent with other 500' buffers in the West Branch.

Second, I am concerned that the option to allow Great Northern to install a Shoreland Management Plan at Penobscot Mills with buffers narrower than 200' could be used to defeat the purpose of the buffer zones. I believe that FERC must set minimum guidelines for any management plan, which should mandate a buffer of 500', subject to change only on a very strong demonstration that aesthetic, recreational and ecological resources will be adequately safeguarded.

I urge FERC to adopt the recommended buffer zone proposals as modified above. I believe that FERC should adopt the shoreland protection plan set forth in Alternative 1 -- 500' buffers. Adequate shoreland protection zones should be considered a routine cost of holding a valuable hydropower license, particularly in Maine's northern forest region.

Thank you for the opportunity to comment.

Sincerely yours,

Eleanor M Stetson
RR2 Box 719
Wells Me. 04090

Re #2572-005
2458-009

Philip Thompson
84 West Street, Portland, Maine 04102 JAN 24

Dear Lois and Members of F.E.R.C.

Great Northern and BoWater are transients in our State. Alternative #1 - 500ft Buffer zone if established now will remain forever. The extra 300 ft. will never be missed or questioned once established.

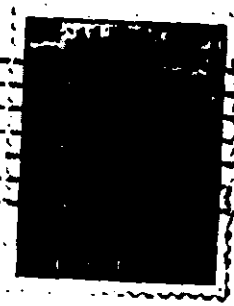
Go for Alternative #1 -

[illegible] of Maine will be ever thankful

Sincerely
Philip Thompson

PORTLAND, ME
PM
25 JAN
1995

USA

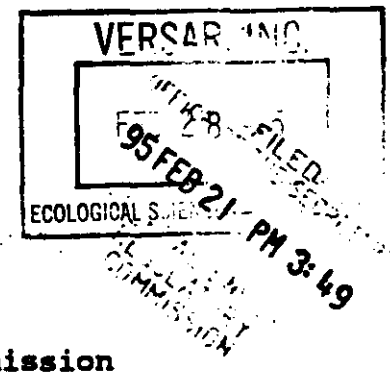


E486

THIS SIDE FOR ADDRESS

Attn Cashell - Sec
FERC.
825 N. Capitol St. NE
Washington, D.C.

COPY



February 10, 1995

Lois Cashell
Secretary, Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC 20426

005

RE: Draft Environmental Impact Statement - Ripogenus Project (FERC No. 2572) and Penobscot Mills Project (FERC No. 2458)

009

Dear Secretary Cashell,

Kathy Winslow

These comments are submitted by ~~[organization/individual]~~ on the draft environmental impact statement (DEIS) issued by FERC on the Ripogenus and Penobscot Mills Hydroelectric Projects in Maine.

FERC deserves considerable credit for preparing an environmental impact statement for these projects. Although we have not participated in the formal process of relicensing the dams, we do care deeply about the West Branch watershed and its future. We were unable to travel to Millinocket on January 25, 1995 to comment on the draft at the 7 PM evening public hearing and therefore want to make our comments to you in writing.

We strongly support the need to require shoreland protection zones on the lakes, ponds and streams in the Ripogenus and Penobscot Mills project ares. The West Branch is one of the most significant watershed in the state of Maine and in the Northeast. Protecting its high value lakes, ponds, rivers, and streams for aesthetic, ecological, and recreation values is critically important. We are pleased that FERC recognizes the need to protect these shorelines. We are equally glad to see that FERC understands that the goal of protecting these resources can only be achieved on the Ripogenus impoundment if easements are installed on all land, including those not owned by Great Northern. I believe that these lands should be purchased on a willing seller basis and that Great Northern should be obligated to establish a conservation easement trust fund to purchase presently unavailable lands as they become available.

Although We are pleased by FERC's recognition of the need to protect shoreland, we are concerned with several aspects of the approach recommended in the DEIS.

First, buffers of only 200' are not sufficient to achieve the goals of aesthetic, recreational, and ecological protection stated in the DEIS. The proposed buffer zones should be expanded to a width of 500' feet. A 500' wide

buffer should not be much more costly than a 200' buffer; the most expensive land is that immediately fronting on water. The land behind the shorefront is much less expensive because it is less desirous for development, although it has great value ecologically. Buffers included in the hydropower licenses should be consistent with other 500' buffers in the West Branch of the Penobscot River and the Allagash. Also, we believe that the buffer width should be 500' throughout the Ripogenus and Penobscot Mills Project area.

We also agree with FERC that any existing commercial and private leases as identified in the DEIS should continue to be honored and renewable, subject to LURC zoning regulations.

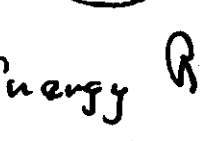
We urge FERC to adopt the recommended buffer zone proposals as modified above. Adequate shoreland protections zones are a routine and necessary aspect of ownership of a valuable hydropower license. The need for shoreland protection is particularly keen in the Northern Forest region, as the DEIS acknowledges. The public is entitled to assurances that its use and enjoyment of the natural character of this region, like the applicants right to generate power, will be secure for the term of the license. Shoreland easements are a critical element of that assurance.

Thank you for the opportunity to comment.

Sincerely yours,

Kathy K. Wenslow

K. Winslow
211 Rocky Dundee Rd
West Buxton Me
04093



E-489

Lois Cashell
Secretary. Federal Energy Regulatory Commission

825 North Capitol St. NE
Washington DC. 20426

RESPONSES TO CONCERNED CITIZENS CONCERNING LAND USE ON PENOBSCOT/RIPOGENUS MILLS DEIS

Group - C

We received comments from many concerned citizens regarding our recommended land use recommendations in the Ripogenus/Penobscot Mills DEIS. Our response to these comments are provided here and the comments follow.

Comment noted. The staff developed revised land use recommendations (see section 4.9). The staff's recommendations provide measures to protect shoreland resources within the project areas while considering existing land use regulatory controls (see section 4.9, 4.10 and 5.3.4).

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

RE: Penobscot Mills Project, FERC No. 2458 -009
Ripogenus Project, FERC No. 2572 - 005

Dear Ms. Cashell:

This letter is written in support of Great Northern's applications for new licenses for its Ripogenus and Penobscot Mills Projects.

I have reviewed the Draft Environmental Impact Statement and generally agree with its conclusions but strongly disagree that project boundaries must be expanded by means of a conservation easement or by prohibiting all future development.

Land use of property around the impoundments is presently regulated by Maine's Land Use Regulation Commission which is well able to discharge its duties and is largely responsible, along with the landowners, for conditions as they presently exist.

I object to a Washington bureaucracy dictating to the State of Maine and local residents how land use decisions should be made. This State has done a good job to date and the residents of this State are perfectly capable of making our own decisions.

Under no circumstances should anyone be forced to sell their land.

Very truly yours,

John W. Anderson
Western Auto
78-80 Penobscot Ave
Millinocket ME
04462

1405

71 Foreside Road
Falmouth, Maine 04105
January 25, 1995

Lois D. Cashell, Secretary
FERC
825 North Capitol Street NE
Washington, DC 20426

002

RE: Ripogenus Project (FERC#2572) & Penobscot Mills Project (FERC#2458) – 009

Dear Secretary Cashell:

As citizens of Maine, who have canoed the Chesuncook and rafted on the West Branch of the Penobscot, we are concerned about the West Branch watershed and its future. We are unable to travel to Millinocket for the hearing tonight, but send this letter regarding the Draft Environmental Impact Statement.

We are pleased that the Federal Energy Commission recognizes the need to protect shoreland on the lakes, ponds and streams in the Ripogenus and Penobscot Mills project areas, including land not owned by Great Northern.

However, we urge you to expand the proposed buffer zones to a width of 500 feet to ensure adequate protection for water quality and wildlife resources in the watershed. Five hundred foot buffers would be consistent with other buffers in the West Branch. Since the land closest to the water is the most valuable, additional width should not add greatly to the cost of easements. We also ask you to mandate 500' buffers for the Shoreland Management Plan at Penobscot Mills unless a clear and convincing demonstration is made that resources will be protected adequately.

Great Northern is asking for license to use a public resource. Sufficient shoreland buffers are a reasonable cost of obtaining these valuable rights. Please adopt the shoreland protection plan described in Alternative 1.

Thank you for your consideration.

Sincerely,

Nancy C. Anderson

Richard G. Rockefeller

I - 26 - 95
2 Morse Place
Athol, Ma. 01331

Lois E Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital St. N.E.
Washington, D. C. 20426

Dear Sir,

RE: Great Northern Paper Company
Ripogenus Hydroelectric Project (FERC # 2572) -005
Penobscot Mills Hydroelectric Project
FERC # 2458 -009

The proposal for a five hundred foot buffer zone would take all my cottage and most all the land on my lease, Lease number 25A on plan 8-573.

The proposed two HUNDRED foot zone would take part of my camp. Is FERC prepared to buy the camp?

I have a cottage on South Twin Lake (Penobscot Mill Impoundment) which I purchased in1970. It may be fifty yards from my porch steps, down a steep hill, across a raised R. R. track, and down to the highigh water mark. The R. R. follows the eastern shoreline of the lake very closely. There are a lot of cottages with the R. R. between the lake and the camps. It seems to me the R. R. is about the buffer youcould find.

I can make very little sense of this proposal and am very much against it. This is an unwarranted restriction on my right to use and enjoy my property.

Sincerely,

Brad W Austin

cc to Senators William C Cohen and Olympia Snowe
Representatives James Longley and John B Aldacci

COPY

Bruce Bailey
PO Box 204
Cumberland Center ME 04021
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572 -005

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

I (We) further demand that FERC answer the following questions about its proposed alternatives to Bowater's application before it takes further action.

- Will land owners be allowed to maintain existing buildings and docks within the proposed setback zones?

- Will land owners be allowed to construct any new buildings or docks within the proposed setback zones?

- Will land owners be allowed to remove any vegetation within the proposed vegetative buffers?

- How will the value of property be affected by the proposed setbacks and vegetative buffers?

- Will any grandfathering in regard to new regulations be transferable to next of kin, or on upon sale of the property?

- Will relicensing opponents and federal agencies convince FERC to increase the proposed building setback and vegetative buffer in proposal 2 to 500 feet, and 250 feet respectively?

- Will land owners have to deal with both LURC and FERC concerning future changes to their property?

A written response to these questions may be sent to the above address.

Sincerely,

Bruce Bailey

Woodruffe Bartley
Pritham Ave PO Box E
Greenville ME 04441
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572-005

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

I (We) further demand that FERC answer the following questions about its proposed alternatives to Bowater's application before it takes further action.

- Will land owners be allowed to maintain existing buildings and docks within the proposed setback zones?

- Will land owners be allowed to construct any new buildings or docks within the proposed setback zones?

- Will land owners be allowed to remove any vegetation within the proposed vegetative buffers?

- How will the value of property be affected by the proposed setbacks and vegetative buffers?

- Will any grandfathering in regard to new regulations be transferable to next of kin, or on upon sale of the property?

- Will relicensing opponents and federal agencies convince FERC to increase the proposed building setback and vegetative buffer in proposal 2 to 500 feet, and 250 feet respectively?

- Will land owners have to deal with both LURC and FERC concerning future changes to their property?

A written response to these questions may be sent to the above address.

Sincerely,

Woodruffe L Bartley

Woodruffe Bartley

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

009
RE: Penobscot Mills Project, FERC No. 2458
Ripogenus Project, FERC No. 2572 — 005

Dear Ms. Cashell:

This letter is written in support of Great Northern's applications for new licenses for its Ripogenus and Penobscot Mills Projects.

I have reviewed the Draft Environmental Impact Statement and generally agree with its conclusions but strongly disagree that project boundaries must be expanded by means of a conservation easement or by prohibiting all future development.

Land use of property around the impoundments is presently regulated by Maine's Land Use Regulation Commission which is well able to discharge its duties and is largely responsible, along with the landowners, for conditions as they presently exist.

I object to a Washington bureaucracy dictating to the State of Maine and local residents how land use decisions should be made. This State has done a good job to date and the residents of this State are perfectly capable of making our own decisions.

Under no circumstances should anyone be forced to sell their land.

Very truly yours,

Daivd Beaulieu
Millinocket ME

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

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Ripogenus Project, FERC No. 2572-005

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Very truly yours,

Linda Belmont

Linda Belmont
TARIO
PO Box 536
Millinocket, Me 04462

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

-009

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Ripogenus Project, FERC No. 2572 -005

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Under no circumstances should anyone be forced to sell their land.

Very truly yours,

Mary Bernier
12 South St
Millinocket, Me 04462

Bernard Bienkowski
316 Elmwood Drive
Cliffwood Beach NJ 07735
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572 - 005

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

I (We) further demand that FERC answer the following questions about its proposed alternatives to Bowater's application before it takes further action.

- Will land owners be allowed to maintain existing buildings and docks within the proposed setback zones?

- Will land owners be allowed to construct any new buildings or docks within the proposed setback zones?

- Will land owners be allowed to remove any vegetation within the proposed vegetative buffers?

- How will the value of property be affected by the proposed setbacks and vegetative buffers?

- Will any grandfathering in regard to new regulations be transferable to next of kin, or on upon sale of the property?

- Will relicensing opponents and federal agencies convince FERC to increase the proposed building setback and vegetative buffer in proposal 2 to 500 feet, and 250 feet respectively?

- Will land owners have to deal with both LURC and FERC concerning future changes to their property?

A written response to these questions may be sent to the above address.

Sincerely,

Bernard Bienkowski

Bernard Bienkowski

1-17-95

F.E.R.C.

LOIS B CASHELL, SEC.

DEAR SECRETARY, 005 & 2458-009

I AM SERIOUSLY CONCERNED ABOUT THE [illegible], FERC # 2572, AND PENOPSCOT MILLS, FERC # [illegible] HYDROELECTRIC PROJECTS. I HAVE A SUBSTANTIAL INVESTMENT IN SHOREFRONT PROPERTY [illegible] ALREADY OVERLY IMPACTED BY THE MAINE [illegible] REGULATORY COMMISSION, L.U.R.C. THE IMPACT OF MORE RESTRICTIONS WILL BE VERY COSTLY TO PROPERTY OWNERS SUCH AS I.

FILED
OFFICE OF THE SECRETARY
95 FEB -2 PM 1:18
FEDERAL ENERGY REGULATORY COMMISSION

THANK YOU,

Frank Bolton Jr.

PO BOX 76

COPY

VERSAR, INC.

FEB 24 1995

ECOLOGICAL SCIENCES

LOIS D. CASHELL, SEC.
FED. ENERGY REG. COMMISSION
8 [illegible] ST. N.E.
WASH. DC. 20426

03281-0076

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OFFICE OF THE SECRETARY
95 FEB -2 AM 11:18
FEDERAL ENERGY
REGULATORY COMMISSION

Wadsworth Atheneum
Hartford, Connecticut
150th Anniversary
1842 1992

FILED OFFICE OF THE SECRETARY
95 FEB -9 AM 12:07
FEDERAL ENERGY REGULATORY COMMISSION

ORIGINAL

Millinocket Maine
Jan. 31, 1995

Re: Ripogenus Hydroelectric Project FERC No 2572 and Penobscot Mills Hydroelectric Project FERC No: 2458.

FEB 23 [illegible]
ECOLOGICAL SERVICES

COPY

Dear Mrs Cashell Sec

I find it very disturbing that it has taken almost 10 years and 10 million dollars for FERC to relicense the subject dams. I would call this a disgrace and a good example how poorly the Federal government operates. I'm happy to hear that current licenses have been grandfathered but I strongly urge that the environmental be put on waiting as your final proposal which you have scheduled for March 31. I have been a user of the West Branch area for 65 years and I have not seen any or at least very little degradation of the area in this period. I've had a camp on Millinocket Lake for 42 years and the water quality has remained great. I drink it in the winter time. The State Land Use Regulation Commission although irksome at times has done a great job and I strongly feel that we do not need any help from FERC in controlling wildlands.

To require Bowater to purchase land on the basis of Ripogenus is ridiculous. Bowater does a great job with its leasing program and I feel that any interference from FERC or any other outside "do-gooders" is not justified. Quit dragging your feet and get on with your licensing.

Yours truly

[signature]

cc: Sen. W. Cohen
Sen. O. Snowe
Rep. J. Longley

E-504

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

009

RE: Penobscot Mills Project, FERC No. 2458
Ripogenus Project, FERC No. 2572 —005

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I object to a Washington bureaucracy dictating to the State of Maine and local residents how land use decisions should be made. This State has done a good job to date and the residents of this State are perfectly capable of making our own decisions.

Under no circumstances should anyone be forced to sell their land.

Very truly yours,

January 17th, 1995

Lois B. Cashell, Secretary
F. E. R. C.
825 North Capital Street, N. E.
Washington, D. C. 20426

-005

RE: Ripogenus Hydroelectric Project (FERC No. 2572)

Dear Ms. Cashell:

As a Leaseholder from Great Northern Paper on the Ripogenus and Penobscot Mills Impoundments I wish to give my opinion in this letter and express my views on your Draft environmental Impact Statement covering development, setback requirements, etc.

Development is not rampant in this area, and due to Forestry and Economic conditions it is doubtful that development will ever be an issue. This area is already under the Maine Land Use Regulation Commission regulations and as such, has effectively prohibited any real development. New, and old Businesses as well as campowners are affected. I find it very discouraging to think that I would have to deal with yet MORE restrictions if I should want to do anything to my existing property. I do not want to move my existing buildings, or my existing "vegetation". This should rightfully be my choice.

In closing I urge you to PLEASE help eliminate the proposed building setback and proposed vegetative buffer.

Thank you very much.

Sincerely,

Marjorie Briggs

Marjorie Briggs, Campowner
Golden Road
Millinocket, Maine 04462

Mrs. Frank Browning
Morgan Bay Rd.
RFD 1, Box ~~156A~~ 1985
Surry, Maine 04684

Feb 18, 1995

Dear Secretary Cashell,

I wish to voice my support for the Draft Environmental Impact Statement on the Ripogenus Project (Ferc # 2572) ~~-005~~ and the Penobscot Mills Project (Ferc # 2458) ~~-009~~ strongly support protection for the lakes and rivers in these areas, feeling such protection is essential to Maine's quality of life & to Maine's future.

I would suggest though that a 200 ft. buffer zone is not wide enough. My husband & I went down the Allagash River last

✓

Mrs. Frank Browning
Morgan Bay Rd.
RFD 1, Box ~~156A~~ 1985
Surry, Maine 04684

COPY

Laura Burch
96 1/2 Quarry Road
Ithaca NY 14850-8801
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572 -005

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

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- Will land owners be allowed to maintain existing buildings and docks within the proposed setback zones?

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- Will relicensing opponents and federal agencies convince FERC to increase the proposed building setback and vegetative buffer in proposal 2 to 500 feet, and 250 feet respectively?

- Will land owners have to deal with both LURC and FERC concerning future changes to their property?

A written response to these questions may be sent to the above address.

Sincerely,

Laura J. Burch
Laura Burch

Shannon C. Burch

Mariah Burch

COPY

FILED
OFFICE OF THE SECRETARY
95 JAN 20 PM 12:00
FEDERAL ENERGY REGULATORY COMMISSION

17 January 1995

VERMONT
NOV
ECOLOGICAL SCIENCES AND

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street
Washington, D.C. 20426

Reference: Ripogenus Hydroelectric Project (FERC No 2572) -005
Penobscot Mills Hydroelectric Project (FERC No 2458) -009

Dear Ms Cashell:

I lease a lot from Great Northern Paper which will be effected by the decisions pending on reference projects. I am writing to express my concern regarding the proposals to increase the building setback and vegetative buffer. I do not believe that expansion of project boundaries is necessary nor is it justified by the record of use in the case of these projects. In this I disagree with the Draft Environment Impact Statement and find the proposal for a 500 foot building setback ludicrous.

I am also concerned that the Draft Environment Impact Statement fails to address grand fathering of the current construction, deal with the issue of new construction as part of existing facilities within the proposed setback area or the issue of Great Northern selling the leased property during the license period.

I request these comments be taken into account as the Commission reviews the Draft Impact Statement.

Douglas B. Campbell
222 North Dickinson School Road
Carlisle, PA 17013

CC: Congressman Goodling

Management Company Inc. *Timberland Service*
107 COURT STREET • P.O. BOX 637 • BANGOR, MAINE 04402-0637
TELEPHONE 207 942-8295 • FAX 207-942-1488

COPY

January 31, 1995

Lois B. Cashell
Federal Energy Regulatory Commission
825 North Capital Street, NE
Washington, DC 20426

Re: Ripogenus Hydroelectric Project (FERC No. 2572) -005

Dear Ms. Cashell:

Our company represents three large timberland owning families who collectively own fifty two miles of shore frontage on the waters behind Ripogenus Dam. Of the three family groups, the shortest length of ownership has been over fifty years and the longest is in excess of one hundred and ten years. In the case of the latter family, they are now into the sixth generation of ownership.

These owners strongly object to the provision in your November 1994 FERC/DEIS-0075 which calls for FERC to transfer its eminent domain power to Bowater and force Bowater to exercise this power to buy the fee or a conservation easement on their fifty two miles of frontage as a condition of granting a hydropower license to Bowater.

Maine's Land Use Regulation Commission (LURC) has adequate rules and regulations already in place to protect the economic and recreational value of the land adjacent to the impoundments.

While our clients have no interest in selling their land or conveying conservation easements, I can tell you if they were forced by eminent domain powers to sell they would vigorously oppose the values you have proposed. We have well-documented evidence that the use of $5-$8 per frontage foot is not even close to the value of what FERC proposes to take. Your proposal would cost Bowater well over $10,000,000. This would be an undo and unfair burden to add to the already high cost of relicensing.

As you know, on January 25th a public hearing was held in Millinocket, Maine on your DEIS. About four hundred people attended. The hearing started at 7:00 p.m. and ended at 2:15 a.m. the next morning. Seventy one people testified with the main issue being the need for the 200 foot FERC buffer strip. Sixty seven of the seventy one people who testified were opposed to the 200 foot taking. Only four supported it. I have enclosed a Bangor Daily News (BDN) account of the hearing, our company's testimony, my letter to the editor of the BDN that appeared the day of the hearing, and a copy of a letter to the BDN from the town manager of Millinocket expressing the town's feeling. The articles represent the overwhelming opinion of Maine people and the specific tone of the January 25th hearing. You can confirm this latter point with the FERC people who were at the hearing.

We in Maine value the economic and recreational benefits of the West Branch of the Penobscot River. We feel we have and will continue to protect these benefits without a FERC taking. I encourage you to get on with the business at hand and grant Bowater a thirty year license without the provision that they be forced to buy our clients' land as a condition of relicensing.

Sincerely,

PRENTISS & CARLISLE
MANAGEMENT COMPANY, INC.

David M. Carlisle
President

DMC/jm
Enclosures

cc: The Honorable Elizabeth A. Moler, Chair (w/enclosures)
Federal Energy Regulatory Commission

BANGOR DAILY NEWS • THURSDAY, JANUARY 26, 1995

Mainers take aim at FERC proposals

Hundreds at hearing on Bowater dams

By Andrew Kalmes
Of the NEWS Staff

MILLINOCKET — The Federal Energy Regulatory Commission threatens to usurp state powers by proposing limits to development on miles of shore front along the West Branch of the Penobscot River.

That was the overwhelming message Wednesday night from state officials and average citizens who spoke at a public hearing on the relicensing of hydroelectric dams owned by Bowater Inc.

FERC is considering a draft environmental impact statement that imposes several conditions on the relicensing. Hundreds of people filled the auditorium at Stearns High School to denounce one requirement that Bowater buy conservation easements on miles of waterfront land in the region and restrict future development within 200 feet of the shore.

Sen. Leo Kieffer, R-Caribou, majority leader in the state Senate, expressed grave concern about the requirements. Some of the shore front belongs to the state of Maine. "I urge FERC to disregard the recommendation," said Kieffer. "... Federal imposition of land-use standards will raise an immediate conflict with the state of Maine."

Rep. Richard Gould, D-Greenville, House chairman of the Legislature's Energy and Natural Resources Committee, said the Maine Land Use Regulation Commission was well-qualified to take care of development in the unorganized townships.

"I know that you are interfering with the sovereign rights of the state of Maine when you attempt to regulate development," said Gould. "Maine has no intention of giving up any rights on any land it owns."

Stephen Adams of the State Planning Office said the King administration would fight any attempt by FERC to impose land-use restrictions.

"The state of Maine has no intention of selling its property or property rights in the area, and it will strongly resist any attempt to take them by eminent domain," said Adams.

Residents of northern Maine also blasted the proposal.

"Money needs to be spent in the mills, not in buying shore-front property to protect the view," said Maureen Bacon, a local real estate agent.

Bowater's hydroelectric system on the West Branch includes five generating stations that produce 92.8 megawatts of electricity. It is said to be the nation's largest hydropower system owned by a private manufacturer.

The dams provide about half the electricity needed by the company's Great Northern Paper mills in Millinocket and East Millinocket.

Great Northern spent most of a decade and millions of dollars trying to relicense the dams. The process is finally drawing to a close, as FERC commissioners consider a draft environmental impact statement released by the staff in December.

In the EIS, the FERC staff proposed only minor modifications to Bowater's proposal to regulate water flows on the West Branch. Environmentalists had sought substantial changes to the company's proposed use of water in the region.

Even so, environmentalists were delighted by the staff's proposals that Bowater develop a shoreland management plan for the watershed and restrict further development.

"These waters have extraordinary value," said Daniel Sosland of the Conservation Law Foundation. "The setback zones will help to protect the scenic values that are so important to this part of Maine."

If FERC accepts the draft EIS as it is written, Bowater would be obligated to buy conservation easements on about 2,000 acres of shore-front land on Ripogenus, Chesuncook and Caribou lakes at an estimated cost of $8 million.

"FERC would require GNP to obtain the title or conservation easements for the land area it does not currently own," read the draft EIS. "This protection zone would require a 200-foot building setback and a 100-foot vegetative buffer, prohibit individual and temporary docks and piers, and require approval for public docks and piers."

Closer to Millinocket, the company would be required to prohibit waterfront development only on land it already owns. That includes much of the shoreline on Dolby Pond and Passadumcook, Ambejejus, Twin, Millinocket and Quakish lakes.

Environmentalists said the setback provisions were a bold step by FERC staffers to protect resources in the watershed. They had sought a 500-foot setback, but said the more modest recommendation would help safeguard the aesthetic, recreational and ecological values of the West Branch.

The proposal, however, worried some of the 1,000 camp owners who lease land from Great Northern. They questioned whether the setback would make it impossible to improve their camps or rebuild in the event of fire.

Some feared the government ultimately would force them to give up their leases on the pristine backwoods lakes. A FERC staff member assured the audience that the restrictions would not apply to existing camps, only to future development.

Doug Schmidt of the Maine Leaseholders Association, which represents hundreds of people who lease land from Great Northern, threatened to sue FERC if it attempted to regulate existing camps.

FERC Hearing (No. 2572)
Bangor (ME) Daily News
January 26, 1995
(Page 1 of 1)

CLF asks for what already exists on rivers

By James F. Kotredes

I would like to correct misconceptions and inaccuracies fostered by the Conservation Law Foundation's recent Op-ed column in the Bangor Daily News concerning the draft environmental impact statement issued by the Federal Energy Regulatory Commission on Great Northern Paper Co.'s Ripogenus and Penobscot mills relicensing projects.

The Conservation Law Foundation waxed eloquently and at great length about the benefits of building setbacks and vegetative buffers around the impoundments but failed to mention that there is no factual need for either in these cases.

Past operation of the projects in question by Great Northern Paper Co. has given the area and the state of Maine all of the environmental benefits that the Conservation Law Foundation feels needs to be protected, including scenic views, a world-class salmon fishery, whitewater rafting flows, steady year-round flows that benefit the entire watershed and flood control, which has prevented millions of dollars of devastation from flooding over the years. Great Northern's proposed operation under the new licensing terms will continue to provide and protect these important resources without the necessity of expanded project boundaries and more government regulation.

Not only has the Conservation Law Foundation ignored Great Northern Paper Co.'s contribution to providing these benefits to the public as a whole, it has also accused the citizens of the state of Maine and our Land Use Regulation Commission of having inadequate regulations in place to protect these resources.

LURC's rules and regulations were adopted after extensive input from Maine citizens in accordance with Maine law, and represent a judgment by the citizens of this state of the measures necessary to protect our resources in the unorganized territories, including the project areas. CLF obviously does not feel Maine's citizens have done an adequate job and wants federal regulations to correct our mistakes as they perceive them. CLF also has failed to explain why these projects should be subject to rules different than those which apply to Maine's thousands of other lakes, streams and rivers.

Those of us who choose to live in and near Maine's unorganized territories believe that LURC's regulations are extremely restrictive and are more than sufficient to protect the aesthetic, recreational and ecological values of the West Branch River and the surrounding territory. The irony in CLF's arguments is that the resources CLF claims to cherish are present because of LURC's rules and not in spite of them.

Maine people are capable of protecting environmental resources

CLF and its out-of-state allies want to lock up these lakes and prevent all future land development. Their intent is, first and foremost, part of a larger scheme to create a national park in northern Maine which would replace the privately owned working forests which have steadfastly proven their worth to Maine's economy and, secondly, to protect the local residents of northern Maine from themselves. I believe that the people of this state, and of northern Maine in particular, are fully capable of protecting their environmental resources through agencies such as LURC and that private ownership of the forests should continue.

Water quality in the impoundments and throughout the West Branch is excellent by any standards, and diverse recreational opportunity is widespread. Additional restrictions are not justified by present conditions or any reasonably foreseeable events which may occur over the new license terms.

It's especially unfortunate that CLF has created great uncertainty over the continued use and property rights of more than 900 lessees on the impoundments. These uncertainties include:

1. Will camp owners be allowed to maintain their existing buildings and docks within the proposed 200-foot setback zone?
2. Will camp owners be allowed to construct any new buildings, expand existing buildings or new docks within the 200-foot setback zone?
3. Will Great Northern be allowed to sell the leased land to camp owners during the term of the new licenses should it decide to sell and camp owners decide to buy?
4. Will camp owners be allowed to remove any vegetation within the proposed 100-feet vegetative buffer?
5. How will the value of the camp owners' property be affected by the proposed 100-foot vegetative buffer?
6. Will relicensing opponents and federal agencies convince FERC to increase the proposed building setback to 500-feet and the vegetative buffer to 250 feet?
7. Will camp owners have to deal with LURC and FERC concerning future changes to camp owners' property?

It is equally unfortunate that CLF wishes to force Great Northern Paper Co. to buy through the power of eminent domain if necessary, some 67 miles of shoreline around Chesencook Lake that Great Northern does not presently own in order to expand project boundaries. The affected landowners have not been parties to this proceeding and should not be forced to give up their land in order to foster CLF's land grab. The affected landowners have been good stewards of the land for generations and should be allowed to continue their ownership.

The draft issued by FERC's staff is not final and its purpose is to allow the public an opportunity to comment. We feel confident that once FERC understands LURC's rules, it will withdraw its proposal for expansion of project boundaries.

The projects and their impoundments are not just the wilderness. They are an integral part of a modern working forest that supports a good part of Maine's economy and certainly is of utmost importance to the Millinocket area.

The draft environmental impact statement rejected most all of CLF's other proposals, and FERC should reject expansion of project boundaries for the same reason; expansion is simply not justified by the facts in these cases, and any costs unnecessarily passed on to Maine's businesses results in direct job reductions and further erosion of the state's economy.

James F. Kotredes is the town manager of Millinocket

James F. Kotredes
Letter to the Editor
Bangor Daily News
January 26, 1995
(Page 1 of 1)

TESTIMONY OF LAWRENCE E. PHILBRICK / FEDERAL ENERGY REGULATORY COMMISSION DRAFT ENVIRONMENTAL IMPACT STATEMENT / GREAT NORTHERN PAPER HYDRO RELICENSING APPLICATION / RIPOGENUS IMPOUNDMENT

JANUARY 25, 1995

My name is Lawrence Philbrick, I am the vice president of Prentiss & Carlisle Management Company Inc. which is a timberland management company located in Bangor Maine. We manage the timberland interests of clients who have substantial ownership within the FERC project area behind the Ripogenus impoundment. It is our understanding that FERC in it's Draft Environmental Impact Statement on the GNP relicensing application is requesting that Great Northern Paper should acquire fee or conservation easements on all of the land within a 200 foot setback of the shoreline of the waters impounded by Ripogenus Dam in order to maintain the aesthetics and water quality of the area.

Our clients in this area consist of three large timberland owning families who collectively own 274, 853 feet (52 miles) of shore frontage in this project area. At a depth of 200 feet this amounts to 1,262 acres of land within this area. Our clients have owned this property for a long period of time (the shortest length of family ownership is 50 years and one family has owned here for 110 years - now in the sixth generation of family ownership) and they have a strong sense of stewardship. Most of these owners are Maine residents and many of them actively use the area for recreation and family activities. These owners have not abused this land over the years. In fact the aesthetics and water quality of this property are judged high today because of our client's care and management of these resources. Our clients have no interest in selling fee interests or conservation easemnents on this property.

We and our clients also feel that it is not fair for the Federal government to force GNP to acquire fee or conservation easements on property of others as a condition of having this impoundment relicensed. This seems to us to be excessive use of the powers of the Federal government.

The Maine Land Use Regulatory Commission (LURC) has the regulatory authority and the zoning responsibility over the subject lands. We sincerely feel that LURC's present rules and regulations provide more than adequate insurance that the water quality and aesthetics of this area will be carefully protected

In summary, we and our clients are very much opposed to FERC's suggestion that GNP should acquire the land or rights of others within this impoundment area. We feel that this land is currently well managed by it's-owners and it is adequately protected by the existing rules and regulations of the State of Maine. We furthermore feel that the federal government should not attempt to override the authority and powers of the State of Maine and the property rights of its citizens.

Thank you.

FERC's proposals don't ease dispute

David M. Carlisle

I am writing in response to the guest column by Daniel Sosland of the Conservation Law Foundation (BDN, Dec. 27), regarding the Federal Energy Regulatory Commission and Great Northern Paper Inc.'s hydro relicensing efforts.

Sosland is correct in stating that the West Branch of the Penobscot River is an extraordinary resource — both from the point of view of low-cost power and varied recreational use. We, too, support efforts to protect these economic and recreational benefits. However, we oppose the means by which Sosland, the CLF and FERC propose to protect these special features of the West Branch. We view the CLF/FERC approach as an egregious abuse of the power of the federal government. It is yet another case of the federal government attempting to override the authority and powers of the state of Maine and the property rights of its citizens.

In December, FERC issued its Draft Environment Impact Statement on GNP's hydro relicensing application. As a condition of its relicensing, FERC proposes to force GNP (using FERC's eminent domain power) to "grab" the land that GNP does not presently own on the shores of the impounded waters behind Ripogenus Dam. The protection zone that GNP would have to acquire would be a 200-foot setback with no building allowed within the 200 feet. There would also be a 100-foot vegetation buffer. It appears that FERC would not allow permanent and temporary docks on the shores of the impoundment area.

Our company represents three large timberland owning families who collectively own 52 miles of shore frontage on the waters behind Ripogenus Dam. Of the three family groups, the shortest length of family ownership has been over 50 years and the longest has been in excess of 110 years. In the case of the latter family, they are now into the sixth generation of family ownership. Most of the owners are Maine residents and many of them actively use the area for recreation and family pursuits. All three of these families have a strong sense of stewardship. They have no interest in selling this land that the CLF and FERC are trying to grab. To me, it is an outrage that the federal government could force GNP through eminent domain to buy others' land as a condition of GNP being granted a dam license. Great Northern Paper Co., for its part, does not want to have any part in being forced to take land under the threat of the eminent domain power of the federal government.

Maine's Land Use Regulation Commission has the regulatory authority and responsibility over the land involved. LURC's present rules and regulations provide ample regulatory authority and power to protect the future aesthetics and water quality. Sosland, the Conservation Law Foundation and FERC seem to be saying that LURC and the people of Maine cannot be trusted to protect the aesthetics and water quality of the West Branch. I do not agree.

Sosland refers to FERC's DEIS as gains in the interest of all; in other words, "no winners or losers." He obviously forgot to take into account the owners of land on the shore of the impoundment area, the lessees who have camps on the shore of the impoundment area and, for that matter, all of the residents of the state of Maine who own Gero Island in the middle of Chesuncook Lake — which also would be subject to the federally mandated taking. FERC's land-taking proposal is not in the interest of the Maine people.

All Maine citizens are losers when we allow the might of the federal government to overpower us and usurp our rights.

David M. Carlisle is president of Prentiss & Carlisle Management Co. Inc.

Editorial Page
Bangor Daily News
January 25, 1995
E-515

David M. Carlisle
Letter to the Editor
Bangor Daily News
January 25, 1995
Re: FERC No. 2572
(Page 1 of 1)

January 25, 1995

Peter J. & Norma F. Cesare
9844 Burke Pond Lane
Burke, VA. 22015
or
116 Penobscot Ave, P.O. Box 849
Millinocket, Maine 04462

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

Re; Ripogenus Hydroelectric Project (FERC No.2572) -005
Penobscot Mills Hydroelectric Project (FERC No. 2458) -009

We feel compelled to add our voices to the many who will be attending the public hearing concerning the Draft Environmental Impact Statement for these projects on this date at Stearns High School in Millinocket, Maine.

We have been lease holders and owners of a cabin on Caribou Lake (adjoining Chesuncook Lake) for close to twenty years. This cabin has been a very special place for our family and friends during this period and we were hoping for many more years to come. However the proposed regulations for building and development setbacks along with vegetation buffers are completely inappropriate for the type of leased lot that we possess on the lake. The proposed 500 foot setback would place us on or near the hauling road which runs behind the cabin. The 200 foot setback would place us very near to the loud sounds of the passing trucks and the huge clouds of dust and dirt caused by their passing. In effect you will destroy our ability to enjoy the wonderful lakeside and wilderness experiences that we have been priviledged to share for so many years. It represents another glaring example of big goverment intruding upon the lives of ordinary people because it has some honorable goal which has been distorted by over-zealous extremists. We also feel that the State of Maine has been very responsive to the local environmental issues and does not require any assistance from the Federal level of government. Therefore we are hopeful that you will become more respectful of local government on these issues.

We feel we should be allowed to continue to enjoy our cabin at its present location and to be allowed to make improvements to it as we deem necessary for our family's use. We also have great respect for the land and water in and around Caribou Lake. We insist that all of our visitors to the cabin do nothing to harm the environment. Also we have observed that our neighbors on the lake feel and behave in a like manner. Therefore we find your proposed regulations as unnecessary and not appropriate for this region of Maine. We feel strongly that these proposed regulations will severly impact the ambience of our vacation home and the homes of our Maine neighbors and friends, which is a very important part of all of our lives. Therefore we urge FERC to eliminate the proposed building setback and vegetation buffer regulations.

Thank you for your understanding in this matter of great concern and worry.

Very truly yours,

Peter J. Cesare + Norma F. Cesare

Peter J. & Norma F. Cesare

cc Senator William S. Cohen
Senator Olympia Snowe
Congressman John E. Baldacci
Congressman James Longley
Govenor Angus King
Mr. Dean A. Beaupain, Attorney for the Town of Millinocket

Kendall Chevalier
287 Atlantic Ave
North Hampton NH 03862
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572 -005 1

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

I (We) further demand that FERC answer the following questions about its proposed alternatives to Bowater's application before it takes further action.

- Will land owners be allowed to maintain existing buildings and docks within the proposed setback zones?

- Will land owners be allowed to construct any new buildings or docks within the proposed setback zones?

- Will land owners be allowed to remove any vegetation within the proposed vegetative buffers?

- How will the value of property be affected by the proposed setbacks and vegetative buffers?

- Will any grandfathering in regard to new regulations be transferable to next of kin, or on upon sale of the property?

- Will relicensing opponents and federal agencies convince FERC to increase the proposed building setback and vegetative buffer in proposal 2 to 500 feet, and 250 feet respectively?

- Will land owners have to deal with both LURC and FERC concerning future changes to their property?

A written response to these questions may be sent to the above address.

Sincerely,

Kendall Chevalier

Kendall Chevalier 2/1/95

MECRI

MICHAEL S. COFFMAN, Board Member

January 28, 1995

Ms. Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington. DC 20426

Regarding: Ripogenus Hydroelectric Project, FERC No. 2572 and Penobscot Mills Hydroelectric Project, FERC No 2458

005
009

Dear Ms. Cashell:

The Maine Conservation Rights Institute MECRI is a 501-3c institution whose purpose is to promote through education and action good conservation practices within the Constitutional framework of the Fifth Amendment and property rights. MECRI filed as an intervenor for Great Northern in 1993. I also attended the January 25, 1995 public hearing held by FERC in Millinocket, Maine.

MECRI commends the action taken by FERC to not require flows into the backwater channel as proposed in Alternative #1. We agree that the requirement would provide only marginal environmental gains at unacceptable costs to Great Northern.

However, we are very concerned that you elected Alternative #2 which requires the project boundaries to be expanded to include a 200 foot no development buffer, and a 100 foot no timber harvesting buffer zone around all waterways within the project. Of particular concern is the condition that Great Northern be given powers of eminent domain to purchase, through fee or easement, lands not presently owned by Great Northern but which are within a 200 foot buffer around waterways bounded by the project area. Such requirements represent:

1. An expansion of the powers of eminent domain for purposes that are totally unjustified and which establish a serious precedent for fascist-like collusion between government and private business.
2. An unacceptable intrusion of Federal jurisdiction into state and private rights as guaranteed by the United States Constitution. The Maine Land Use Regulatory Commission already has stringent set-back requirements that more than adequately protect water quality. There is simply no justification for FERC to require their own set-back requirements. Not only does it create jurisdictional nightmares, but is an insult to the State of Maine and our ability to control our own destiny while protecting our resources.
3. There is no specific language to protect existing development along the shoreline other than a vague grandfather clause. If FERC is to assume jurisdiction in this matter, it must develop full guidelines governing existing development and establish an office to administer and enforce the rules. FERC must spell out whether a camp owner can repaint his house another color, or whether the owner can improve his home, build a garage, or replace his home if it burns down. Such minutia are not hypothetical but are real-world issues which consume tremendous time of the local code enforcement officer whom FERC would have to employ or contract. Do you want to assume this headache?

MAINE CONSERVATION RIGHTS INSTITUTE. Lubec, Maine 04652

Although the above represent major concerns of MECRI, we also have serious questions about the process FERC has used in Great Northern's application for relicensing. This process has now taken nearly 10 years and $10 million. Great Northern has demonstrated that it is a good steward and a good corporate citizen. From the very start, it was obvious that environmental groups were using nuisance issues to stall and otherwise harass Great Northern in their efforts to renew a simple license for operating its hydro-power facilities. It is obvious that these environmental groups are using these nuisance issues to not only drive up the cost of the application, but are attempting to create uncertainty about the applicants financial future and stability. In the case of the paper industry, competition is fierce and requires continuous major capital improvement to remain competitive. It is well known that Great Northern was to receive an essential $150 plus million capital improvement project. But as long as there remains doubt about the relicensing of its hydro-power facilities there is no way Bowater could provide that level of capitalization. If the licensing process is delayed long enough, the mill might become so uncompetitive that capitalization is no longer feasible. Great Northern and the State of Maine need a decision soon for the health of both.

The environmentalists have made much of the so-called public good in their arguments. But the public good that Great Northern and the forest products industry in general have provided in the State of Maine is even better documented and has been vital to Maine's economy. By including conservation buffers demanded by environmental groups, FERC extended its powers beyond its specific mandate and effectively secured the values of a tiny, but powerful, handful of environmentalists that otherwise had little if any legal or political support. Furthermore, FERC catered to the special interest groups who have no real stake in the issue while simultaneously playing Russian roulette with local residents whose lives depend on your decision. It was insulting to the citizens of northern Maine that your consultant during the public hearing on January 25, 1995 stated that the 200 foot conservation restriction was a *balance* between the Applicant's proposal and Alternative #1, which required a 500 foot buffer. To use that logic is like saying a thief is balanced because he only stole half your belongings.

This is not a new issue. The Northern Forest Lands Study suggested similar mechanisms to give land use jurisdiction to federally sanctioned agencies. The U.S. Forest Service then spent $4 million on the Northern Forest Lands Council, which took four years and heard testimony from several thousands of people to investigate and recommend where government should go from there. An unjustified 25 percent of the seats on the Council were reserved for profession environmental representatives, and the Council's consensus process gave each of them virtual veto authority, yet the Council recanted support for each and every suggestion which would give jurisdiction over land use issues to federal agencies. The Council's Final Recommendations adopted the following principles:

- The rights of private property owners must be respected.
- States must be allowed to determine their own futures.

The Maine Conservation Rights Institute recommends that FERC learn from this exhaustive study and adopt the Applicant's Proposal instead of Alternative #2 which requires a 200 foot setback and a 100 foot no harvest buffer..

Sincerely yours,

Robert Voight
President

Michael S. Coffman, Ph.D.
Board Member

MAINE CONSERVATION RIGHTS INSTITUTE, Lubec, Maine 04652

KATAHDIN AIR SERVICE INC.
P. O. BOX 171
MILLINOCKET, MAINE 04462
(207 723 8378)

January 17th, 1995

Lois B. Cashell, Secretary
F.E.R.C.
825 North Capital Street, N. E.
Washington, D. C. 20426

RE: Ripogenus Hydroelectric Project (FERC No. 2572) -005

Dear Ms. Cashell:

As a Leaseholder from Great Northern Paper on the Ripogenus and Penobscot Mills Impoundments I feel compelled to write this letter to express my views on your Draft Environmental Impact Statement covering development, setback requirements, etc.

Contrary to some beliefs, development is not rampant in this area, and due to Forestry and Economic conditions it is doubtful that development will ever be an issue. This area is already under the Maine Land Use Regulation Commission regulations and as such, has effectively prohibited any real development in this area.

As President and owner of Katahdin Air Service Inc., a business which has been in existence here since 1946, I find it very discouraging to do business under existing regulations. To add further restrictions would be economically, and in some cases, physically impossible to comply with. This would inhibit the small businesses in this area from continuing and the resultant loss of jobs amd economic benefits to an already depressed area.

I would hope that the current political climates in Washington would not be in favor of unneccessarily restricting small business and higher unemployment because of these unneccessary bureaucratic decisions.

Sincerely,

Randall E. Comber, Pres.
Katahdin Air Service Inc.

FILED
OFFICE OF THE SECRETARY
95 MAR -2 AM 9:56
FEDERAL ENERGY
REGULATORY
COMMISSION

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

RE: Penobscot Mills Project, FERC No. 2458-009
Ripogenus Project, FERC No. 2572-005

Dear Ms. Cashell:

This letter is written in support of Great Northern's applications for new licenses for its Ripogenus and Penobscot Mills Projects.

I have reviewed the Draft Environmental Impact Statement and generally agree with its conclusions but strongly disagree that project boundaries must be expanded by means of a conservation easement or by prohibiting all future development.

Land use of property around the impoundments is presently regulated by Maine's Land Use Regulation Commission which is well able to discharge its duties and is largely responsible, along with the landowners, for conditions as they presently exist.

I object to a Washington bureaucracy dictating to the State of Maine and local residents how land use decisions should be made. This State has done a good job to date and the residents of this State are perfectly capable of making our own decisions.

Under no circumstances should anyone be forced to sell their land.

Very truly yours,

Janet L. [illegible]
Creative Paper
Sales Clerk

COPY

VERSAR, 1488 Knapp Ll
Millinocket Me
04462

FILED
OFFICE OF THE SECRETARY
95 FEB -3 PM 4:17
FEDERAL ENERGY REGULATORY COMMISSION

FEB 2 ...

FERC
Washington DC

Jan 27, 1995

P-2572-005
P-2458-009

Sirs:

I attended the Jan 25th meeting in Millinocket which drew a full house plus standees. I had no previous connection with or knowledge of the matter in hand. I lasted three hours and about 80 speakers and left with 30 odd speakers left to go.

Several things impressed me —

1. The quality and caliber, the breadth and depth of knowledge of those who spoke.

2. the unanimity of opinion and good sense evidenced, even how polite they all managed to be.

3. the wasteful and burdensome cost of the whole federal regulatory process - a serious indictment of FERC's ability to do its job properly.

4. the gratuitous intrusiveness of federal regulation expanding from legitimate energy and fisheries concerns into land use regulation where it has no authority or business to be - political blackmail, really, and in an area already well taken care of by the state and its people.

E-523

~~5 the violation of state rights, property rights personal rights by our own alleged public servants - the insufferable federal attitude that we are really not much more than retarded wards of the state.~~

The whole affair impressed me as wasteful, inefficient, meddlesome, expensive, incompetent and abusive - 8 years and ten million dollars badly needed for plant modernization down the tubes and still no license renewal - what an abuse of power!

No wonder the voters last fall said - get off my back and out of my business

I say, stop stalling, get out of the land use racket, get on with your proper job, and issue the licenses immediately. Too many "deadlines" have come and gone & really think your group should be compelled to reimburse the Great Northern for its wasted time and money. They and all the rest of us have surely been needlessly damaged.

Marian Comstock

Robert Cressey
HC 74 Box 232C
East Baldwin ME 04024
January 29, 1995

COPY

-005

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

I (We) further demand that FERC answer the following questions about its proposed alternatives to Bowater's application before it takes further action.

- Will land owners be allowed to maintain existing buildings and docks within the proposed setback zones?

- Will land owners be allowed to construct any new buildings or docks within the proposed setback zones?

- Will land owners be allowed to remove any vegetation within the proposed vegetative buffers?

- How will the value of property be affected by the proposed setbacks and vegetative buffers?

- Will any grandfathering in regard to new regulations be transferable to next of kin, or on upon sale of the property?

- Will relicensing opponents and federal agencies convince FERC to increase the proposed building setback and vegetative buffer in proposal 2 to 500 feet, and 250 feet respectively?

- Will land owners have to deal with both LURC and FERC concerning future changes to their property?

A written response to these questions may be sent to the above address.

Sincerely,

Robert Cressey

Robert Cressey

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

RE: Penobscot Mills Project, FERC No. 2458
Ripogenus Project, FERC No. 2572

Dear Ms. Cashell:

This letter is written in support of Great Northern's applications for new licenses for its Ripogenus and Penobscot Mills Projects.

I have reviewed the Draft Environmental Impact Statement and generally agree with its conclusions but strongly disagree that project boundaries must be expanded by means of a conservation easement or by prohibiting all future development.

Land use of property around the impoundments is presently regulated by Maine's Land Use Regulation Commission which is well able to discharge its duties and is largely responsible, along with the landowners, for conditions as they presently exist.

I object to a Washington bureaucracy dictating to the State of Maine and local residents how land use decisions should be made. This State has done a good job to date and the residents of this State are perfectly capable of making our own decisions.

Under no circumstances should anyone be forced to sell their land.

Very truly yours,

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

RE: Penobscot Mills Project, FERC No. 2458-009
Ripogenus Project, FERC No. 2572 -005

Dear Ms. Cashell:

This letter is written in support of Great Northern's applications for new licenses for its Ripogenus and Penobscot Mills Projects.

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Very truly yours,

Emily Cullen

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

009
005

RE: Penobscot Mills Project, FERC No. 2458
Ripogenus Project, FERC No. 2572

Dear Ms. Cashell:

This letter is written in support of Great Northern's applications for new licenses for its Ripogenus and Penobscot Mills Projects.

I have reviewed the Draft Environmental Impact Statement and generally agree with its conclusions but strongly disagree that project boundaries must be expanded by means of a conservation easement or by prohibiting all future development.

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Under no circumstances should anyone be forced to sell their land.

Very truly yours,

Barbara J. Curtis
153 Spruce St
Millinocket, ME 04462
723-8196

COPY

Alyce Cusson
163 Hebron Road
Bolton CT 06043-7809
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572 -005

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

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- Will relicensing opponents and federal agencies convince FERC to increase the proposed building setback and vegetative buffer in proposal 2 to 500 feet, and 250 feet respectively?

- Will land owners have to deal with both LURC and FERC concerning future changes to their property?

A written response to these questions may be sent to the above address.

Sincerely,
Alyce J. Cusson
Alyce Cusson

William Van Deventer
154 East Nassau Street
Islip Terrace, NY 11752

January 23, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

RE: Ripogenus Hydroelectric Project (FERC No.2572) -005
Penobscot Mills Hydroelectric Project (FERC No. 2458) -009

Dear Lois Cashell:

I am a lease holder with the Great Northern Paper Company (Lease #3948). This lease resides on property within the Ripogenus Impoundment. Although I hold permanent residence in New York State, it is my hope to purchase this land when the opportunity is made possible. I have visited this area since 1969 and have utmost respect for the land and the environment.

I recently applied for and received approval from Maine Land Use Regulatory Commission (LURC) to construct a seasonal camp. I can attest first hand that the guidelines provided by LURC meet all environmental concerns and more. There is absolutely no reason for further restrictions placed on this land use by the Federal Energy Regulatory Commission. Maine's LURC guidelines are more than adequate for building setbacks and vegetative buffers within watershed areas.

I fully support Great Northern's proposal to add no additional restriction on existing leases within the impoundment.

Sincerely,

William Van Deventer

WVD/wvd
cc: Dean A. Beaupain
Attorney for Town of Millinocket

COPY

John & Charlotte Dilworth
Box 10
Jonesboro ME 04648
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572 - 005

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

I (We) further demand that FERC answer the following questions about its proposed alternatives to Bowater's application before it takes further action.

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- Will land owners have to deal with both LURC and FERC concerning future changes to their property?

A written response to these questions may be sent to the above address.

Sincerely,
John & Charlotte Dilworth

COPY

1/27/95

To: Lois B. Cashell
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

From: Robert L. Dishon
33 Independence Lane
East Millinocket , ME 04430

To Whom It May Concern;

009

As a lease holder and campowner on South Twin Lake, Maine (an area controlled by the Penobscot Mills and Ripogenus Hydroelectric projects, FERC No.'s 2458 &2572) – 005 I wish to make my views known to you.

We strongly oppose FERC's proposal to impose building setbacks or vegetative buffers on property surrounding these projects. (Whether it be 500' & 200' or 250' & 100' respectively.) We feel this would be extremely restrictive to property owner's in these areas, especially since FERC has not elaborated on whether any current lease holder's or campowner's would be " grandfathered" under this ruling.

We understand that relicensing of these dams is imperative to the survival of Great Northern Paper Co., but feel that FERC should allow the Maine LURC to continue to make decisions on this matter.

Thank you.

Robert L. Dishon

Robert L. Dishon & family

Richard Doane
291 Tuttle Road
Cumberland ME 04021
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572-005

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

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- Will land owners have to deal with both LURC and FERC concerning future changes to their property?

A written response to these questions may be sent to the above address.

Sincerely,

Richard Doane

John Downing
Box 655 Rt #76, Chesuncook Villiage
Greenville ME 04441
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

-005

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

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A written response to these questions may be sent to the above address.

Sincerely,

John Downing

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

RE: Penobscot Mills Project, FERC No. 2458-009
Ripogenus Project, FERC No. 2572-005

Dear Ms. Cashell:

This letter is written in support of Great Northern's applications for new licenses for its Ripogenus and Penobscot Mills Projects.

I have reviewed the Draft Environmental Impact Statement and generally agree with its conclusions but strongly disagree that project boundaries must be expanded by means of a conservation easement or by prohibiting all future development.

Land use of property around the impoundments is presently regulated by Maine's Land Use Regulation Commission which is well able to discharge its duties and is largely responsible, along with the landowners, for conditions as they presently exist.

I object to a Washington bureaucracy dictating to the State of Maine and local residents how land use decisions should be made. This State has done a good job to date and the residents of this State are perfectly capable of making our own decisions.

Under no circumstances should anyone be forced to sell their land.

Very truly yours,

ROBERT ERICKSON, D.M.D.
50 Summer St.. P.O. Box 829
Millinocket. ME 04462-0829
(207) 723-4543

P.S. PLEASE ISSUE THE LICENCE SOON SO WE CAN GET ON WITH OUR LIVES.

CORRECTION in dkt #s

12 Cottage Road
Millinocket, ME 04462

January 26, 1995

Ms. Lois D. Cashell
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426

005 009

Dear Ms. Cashell:

I attended the FERC public hearing held in Millinocket, ME on January 25th; concerning Project Nos. 2572 and 2458; however I did not speak at that meeting. I have two points I wish to make pertaining to the DEIS-0075, issued in November 1994.

First, I oppose the recommendation that would require GNP to purchase lands that border the project area. This is a needless expense to GNP, comes upon the heels of an economic recession, and comes at a time of tough economic conditions for GNP and for Bowater, Inc. The region's economy, and especially the people of northern Maine, has suffered greatly due to the economic conditions that have prevailed for the past several years. The added burden placed upon GNP to purchase lands from uninterested sellers, takes capital away that is needed to improve mill facilities. The improvement of mill facilities will ultimately lead toward improving our region's economy.

Second, I oppose the recommendation that requires a 200' set back from the high water mark for buildings, and a 100' vegetative buffer zone, within the project area. Current regulations enforced by Maine's Land Use Regulation Commission, are adequately protecting the environment and need not be duplicated or superseded by the Federal Government.

I urge FERC to expeditiously issue a long term license to GNP for Project Nos. 2572 and 2458 and that the license not be encumbered with the above mentioned conditions of approval.

With this letter I am urging Maine's congressional delegation to press for the approval of Project Nos. 2572 and 2458, as outlined in this letter.

I thank you for the opportunity to comment in support of GNP's re-licensing effort.

Sincerely,

A. Filauro

Anthony Filauro

cc: Congressman John E. Baldacci
Senator William S. Cohen
Congressman James Longley
Senator Olympia J. Snove

COPY

MAINE SPORTING CAMP ASSOCIATION

February 13, 1995

Honorable Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N. E.
Washington D. C. 20426

RE: Penobscot Mills Project, FERC No. 2458 -009
Ripogenus Project, Ferc No. 2572 -005

Dear Secretary Cashell:

Overall, I was pleased with the content and recommended alternatives in the Draft Environmental Impact Statement for the above referenced projects, but there were several areas which I feel should be changed.

Your conclusion and recommendation that no water be released in the Back Channel is correct. However, even though your modeling indicates that with flows up to 165 cfs there would be no significant impact on the WUP during most years, the negative impact would be much more significant during dry years because of the unpredictability and timing of rainfall and snow runoff. The language used on this subject should leave no doubt that no water is to be released into the Back Channel except for spillage in the case of a full impoundment due to excessive rainfall or spring runoff.

Any expansion of project boundaries is completely unnecessary. If regulation is necessary with anything above the high water mark of the impoundments, it should be specifically stated that any existing development would not be affected - it would be "grandfathered" - and would not be subject to any conditions or regulations other than those currently in place by landowners and state agencies.

The most unreasonable aspects of the DEIS are the expansion of the boundaries to include 200 feet of shoreline above the high water mark, and the requirement that in the Ripogenus Project, Great Northern Paper Company purchase lands they do not currently own, or acquire conservation easements in order to achieve this. Any transaction which takes place for the conservation of any land should take place on a willing seller - willing buyer basis. This would not be the case in this instance; Great Northern would obviously not be interested in purchasing land from which it would gain nothing. I also doubt that current landowners would be willing to sell this same property, which may have been in family ownership for generations. If it is necessary to further restrict activities on Chesuncook Lake, conservation

easements such as are in effect for the West Branch of the Penobscot itself should be negotiated by the state with all landowners involved, and should be satisfactory to all. Governmentally mandated purchase of land by one owner from another flies in the face of the principles of freedom on which this country was founded.

It is difficult to believe that Federal officials located hundreds of miles from this state, prompted by environmental groups similarly located, feel more qualified to determine what is best for us, the people of Maine, or that our state government and regulatory agencies such as the Land Use Regulation Commission cannot adequately protect the state's environment. The Federal government and envirnomental groups appear to have lost sight of a unique and critical fact: within the state of Maine is a vast area which remains forested and undeveloped - even though timber has been harvested and the water resources used for log driving and power generation for well over 100 years - <u>because</u> of the management policies of Great Northern and the regulatory policies of Maine's state government. In its comprehensive use plan, LURC obviously recognizes the value of Chesuncook Lake by classing it 1A, the highest classification, which indicates it is of statewide significance. Its management class indicates an accessible, undeveloped lake with exceptional values. LURC, through its own regulations, would endeavor to protect the lake for the values it deems important in order to preserve its character. LURC's zoning for most of the Ripogenus Project is among its most restrictive. I believe that current policies and regulations are certainly adequate to preserve the aesthetics desired for the area.

For twenty-two years I have owned and operated Frost Pond Camps, a sporting camp which is located 3 miles north of Ripogenus Dam. Many of our guests fish both the lower West Branch of the Penobscot and Chesuncook Lake, and use the lake for boating as well. I have also owned and operated a canoe trip outfitting business serving the West Branch and Chesuncook for 28 years. Logically, I would be supportive of any measure ensuring the preservation of the wilderness character of the area. However, I recognize that private management of the area for production of forest products as well as the recreational needs of the public has worked extremely well in the past, and I see no need to undermine this unique system of stewardship. During the past twenty-eight years of living and working in the West Branch-Chesuncook region, I have noticed few changes to its wilderness character other than those resulting from the public's increasing recreational use of the area. We serve numerous clients each year, and I cannot recall any comments or concerns about how the lake is managed or regulated. In fact, the opposite is true; most are amazed that this area in private ownership has remained as it is, and appreciate that Great Northern has chosen to continue their policies and that current state regulations ensure that it will remain as it is.

I find a certain irony in the concern by what I feel is a vocal minority to prohibit any future development, while these same people would like to preserve such past developments as the Ambejejus Boom House and Chesuncook Village for their cultural and historical value.

If the restrictions currently proposed for these projects had been in effect in the past, these sites of such great cultural and historical value would never have been constructed.

Requiring Great Northern to purchase additional land around Chesuncook Lake is entirely unnecessary. I am personally offended that others who know very little about my home, lifestyle, and livelihood feel that they have the right to tell me what is best for me. The public benefit so often referred to must include not only the pristine aesthetics of the area, but also recreational activities, the need for the forest products produced here, and the many jobs and other widespread economic benefits resulting from a healthy and profitable Great Northern Paper Company.

A situation which had some similarities to this one was the creation of the Allagash Wilderness Waterway in 1965 - 67. The Allagash River had been Fedrally designated as a Wild and Scenic River and a decision needed to be made as to whether the area should be managed by Federal or State agencies. Maine state government chose to create a State Park in order to keep management and control at the state level rather than in the hands of bureaucrats from a Federal agency hundreds of miles away. The State of Maine, through its management and regulation, has done an admirable job of maintaining the wild character of the Allagash. I see no reason why the State of Maine cannot continue to regulate the lands around the projects waters through LURC as it has in the past, and as it has done with the Allagash. Obviously, the people of Maine want to keep their lands in their control, as was evidenced by the decision with the Allagash almost 30 years ago, and by the comments made at the hearing on January 25 in Millinocket. As indicated by the results of the November elections, the public wants <u>less</u> governmental interference and control in their lives. Where possible, local and statewide control should be handled at the local and state level, not by the Federal government. In this instance, the regulations in place which are administered by LURC are more than adequate and should continue. Keep regulation of Maine's wildlands in the hands of those who have successfully preserved them for many years and who know best what the people of Maine need - that is, our own local Company and State government.

Sincerely yours,

Eric Givens

Eric Givens
Maine Sporting Camp Association

P. O. Box 552
Kingfield, ME 04947
207-265-2049

January 27,1995

Office of Hydro Power Licensing
Federal Energy Regulatory Commission
825 North Capitol Street, NE
Washington, DC.

Re: FERC Case #2458
FERC Case #2572

Dear Commissioners:

Please accept this written testimony regarding the above referenced cases.

My major concern is with the proposed addition of land use restrictions within the project area. I heard much excellent testimony at your your public hearing on January 25 in Millinocket, but missed any discussion of the following two points.

BALANCE

Your consultant opined that the 250 foot conservation restriction was a **balance** between the Applicant's proposal and Alternative #1. I do not believe that the concept of **balance** has any relevance to the issue. Meaningful **balance** must hang from legitimate **principle**. We do not excuse a thief who takes only half of his victim's possessions.

Your alternatives would put FERC in the position of securing the values of a tiny, but powerful, handful of environmental organizations, though the legal and political rationale for such action is questionable. Effective arrogation of such land use authority requires not only a legal basis but the fundamental consent of the people whose lives are most affected.

This is not a new issue. The Northern Forest Lands Study suggested similar mechanisms to give land use jurisdiction to federally sanctioned agencies. The U. S. Forest Service then spent $4,000,000 on the Northern Forest Lands Council, which took four years and heard testimony from several thousands of people to investigate and recommend where government should go from there. An unjustified 25% of the seats on the Council were reserved for professional environmental representatives, and the Council's consensus process gave each of them virtual veto authority, yet the Council recanted support for each and every suggestion which would endorse federal land use jurisdiction. The Council's Final Recommendations adopted the following principles:

* **The rights of private property owners must be respected.**
* **States must be allowed to determine their own futures.**

I believe FERC should think hard before dismissing the recommendations which have flowed from such an exhaustive and public process.

ADMINISTRATION

Your consultant emphasized that existing uses within the buffer area would be grandfathered. You are deluded if you think the distinction between old and new development is a bright line. Can a camp owner repaint his house another color? Can he use a better material on the roof? Can he plant different shrubbery or extend his lawn? Such minutia are not hypothetical but are the very real issues which consume a good deal of the time of local code enforcement officers every day.

If you take jurisdiction of land use, they are issues which **you** must decide every day, and it is a lead pipe cinch that environmental organizations will be nipping at your heels with every step. Does FERC really want the headaches that come with this responsibility? Would you set up a full time permitting office in the area? I don't think this is what the citizens of Millinocket had in mind when they emphasized the need for economic development.

I leave it to others to argue whether or not FERC has the legal authority to assume land use control authority. I question whether FERC has the **competence**. Land use regulation is not a hobby. If you accept the responsibility, you will be thrust into an arena where your jurisdiction overlaps with that of other government agencies. The simplest request can blossom into a time and cost consuming nightmare. This is the sort of situation in which environmentalists can work their manipulative machinations like a virtuoso. Unless there is a truly compelling reason for getting into land use (and none has yet been advanced), I believe you'd be well advised to stick to your strict mandate.

Once again I appreciate your giving the public opportunity to have their values considered in your process.

Very truly yours,

David W. Guernsey

COPY

January 23, 1995

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OFFICE OF THE SECRETARY

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FEDERAL ENERGY
REGULATORY
COMMISSION

William S. Haggerty
36 Bokum Rd.
Deep River CT 06417

Lois E. Cashell Secretary
Federal Energy Regulation Commission
825 North Capitol St. N.E.
Washington D.C. 20426

Dear Ms. Cashell,

I am writing to you to inquire about the Ripogenus Hydro Electric Project. #2572 - 005

It seems that this project will impact very heavily upon the residents of Chesuncook Village. I have had a home there for the last twenty five years. Like most people who live in Chesuncook I am a second generation resident, in fact, many people are third and fourth generation residents. This evening I received a phone call from a friend in Millinocket Maine asking me if I planned to attend a meeting at Stearns High School to discuss project 2572. It is the middle of winter and Millinocket is over 500 miles away. Many Chesuncook residents find themselves in similar circumstances. I am very concerned about this lack of notice. It would seem that those of us who are most greatly impacted deserve the right to be heard and be informed about this plan.

Please send me a copy of this proposal. I will distribute a copy to each property owner, when this is complete we will petition to hold a meeting where we can be heard.

I am sure that this proposal is viable for many areas of the country and it might be viable for most parts of the Ripogenus area, but not for Chesuncook Village. I am certain that no one has told you that Chesuncook Village is an historical site. Many of the homes have been restored and maintained as they were originally built. My home is one of the few remaining examples of a period logging camp home. Chesuncook Lake House is one of the last examples of the early logging and sporting camp industries in Maine. The Chesuncook Lake House has been written up in the most significant tourist guide for New England.

Lastly, I would like you to explain to me how it was determined that the meeting in the dead of winter with less than 30 hours notice is fair or morally correct. WE WERE NOT INFORMED by the FERC, who is responsible for the scheduling of meetings, and how did they determine who to contact?

I look forward to hearing from you as soon as possible concerning this matter.

Sincerely,

William S Haggerty

William S. Haggerty

Fin and Feather Club
P. O. Box 123
MILLINOCKET, MAINE 04462

SPEECH TO FERC 1/25/95

THE MILLINOCKET FIN & FEATHER CLUB SUPPORTS THE RELICENSING OF G.N.P.'S HYDROELECTRIC DAMS IN THE PENOBSCOT MILLS AND RIPOGENOUS PROJECTS.

WE FEEL THAT G.N.P. HAS BEEN A GOOD STEWARD OF THE BASINS FOR THE PAST 97 YEARS, AND WE FEEL THAT THEY WILL BE A BETTER ONE FOR THE NEXT 30 YEARS.

WE STRONGLY SUPPORT THE ALIENABLE RIGHTS OF BOTH THE CAMP OWNERS AND GREAT NORTHERN PAPER, AND WE FEEL THAT ALL EXISTING CAMP LEASES SHOULD BE GRANDFATHERED, BOTH IN THEIR ALIENABLE RIGHTS, AND CONTINUE TO BE UNDER L.U.R.C. JURISDICTION. WE WOULD WANT THE FINAL DRAFT TO CONTAIN A CLAUSE STATING SUCH, INCLUDING GREAT NORTHERN PAPER'S RIGHT TO SELL EXISTING LOTS TO PRESENT LEASEHOLDERS SHOULD THEY SO DESIRE.

WE DO NOT FEEL THAT ANY CONDITION SHOULD BE PLACED UPON THE RELICENSING OF THESE DAMS THAT WOULD HAVE AN ADVERSE IMPACT UPON THE ECONOMY, RIGHTS, AND WAY OF LIFE OF THIS AREA'S CITIZENS, AND COMMERCIAL VENTURES.

Vernon Haines

VERNON HAINES, DIRECTOR

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

RE: Penobscot Mills Project, FERC No. 2458-009
Ripogenus Project, FERC No. 2572 - 005

Dear Ms. Cashell:

This letter is written in support of Great Northern's applications for new licenses for its Ripogenus and Penobscot Mills Projects.

I have reviewed the Draft Environmental Impact Statement and generally agree with its conclusions but strongly disagree that project boundaries must be expanded by means of a conservation easement or by prohibiting all future development.

Land use of property around the impoundments is presently regulated by Maine's Land Use Regulation Commission which is well able to discharge its duties and is largely responsible, along with the landowners, for conditions as they presently exist.

I object to a Washington bureaucracy dictating to the State of Maine and local residents how land use decisions should be made. This State has done a good job to date and the residents of this State are perfectly capable of making our own decisions.

Under no circumstances should anyone be forced to sell their land.

Very truly yours,

Chester L. Hamm Jr.
P.O. Box 808
Ambajejus Lake
Millinocket, ME 04462

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

RE: Penobscot Mills Project, FERC No. 2458-009
Ripogenus Project, FERC No. 2572-005

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Under no circumstances should anyone be forced to sell their land.

Very truly yours,

Arthur Hansen
213 Congress St
Millinocket ME
04462

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FEDERAL ENERGY
REGULATORY
COMMISSION

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

RE: Penobscot Mills Project, FERC No. 2458-009
Ripogenus Project, FERC No. 2572-005

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Under no circumstances should anyone be forced to sell their land.

Very truly yours,

[signature]
29 Grand Ave
Mkt, ME 04462

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

RE: Penobscot Mills Project, FERC No. 2458 - 009
Ripogenus Project, FERC No. 2572 - 005

Dear Ms. Cashell:

This letter is written in support of Great Northern's applications for new licenses for its Ripogenus and Penobscot Mills Projects.

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Under no circumstances should anyone be forced to sell their land.

Very truly yours,

Kenneth A Hanson
29 Grand Ave
Millinocket ME
04462

ORIGINAL

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

RE: Penobscot Mills Project, FERC No. 2458 - 009
Ripogenus Project, FERC No. 2572 - 005

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Under no circumstances should anyone be forced to sell their land.

Very truly yours,

Melanie Hansen
29 Grand Avenue
Millinocket, ME
04462

Michael Harney
15 Walnut Ave
North Hampton NH 03862
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572 - 005

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

I (We) further demand that FERC answer the following questions about its proposed alternatives to Bowater's application before it takes further action.

- Will land owners be allowed to maintain existing buildings and docks within the proposed setback zones?

- Will land owners be allowed to construct any new buildings or docks within the proposed setback zones?

- Will land owners be allowed to remove any vegetation within the proposed vegetative buffers?

- How will the value of property be affected by the proposed setbacks and vegetative buffers?

- Will any grandfathering in regard to new regulations be transferable to next of kin, or on upon sale of the property?

- Will relicensing opponents and federal agencies convince FERC to increase the proposed building setback and vegetative buffer in proposal 2 to 500 feet, and 250 feet respectively?

- Will land owners have to deal with both LURC and FERC concerning future changes to their property?

A written response to these questions may be sent to the above address.

Sincerely,
Michael Harney

Michael Harney

PLSB

JAN 20, 1995

MS. LOIS B. CASHELL, SECRETARY
FERC
825 NORTH CAPITAL STREET, NE.
WASHINGTON, D.C. 20426

RE: GREAT NORTHERN PAPER, INC.
RIPOGENUS HYDROELECTRIC PROJECT (FERC NO. 2572) -005
PENOBSCOT MILLS HYDROELECTRIC PROJECT (FERC NO. 2458) -009

DEAR MS. CASHELL:

MY WIFE AND I PRESENTLY LEASE 3 LOTS ON AMBAJEJUS LAKE WHICH IS LOCATED IN ONE OF THE PENOBSCOT MILLS IMPOUNDMENTS. WE ORIGINALLY LEASED THESE LOTS IN 1968. SINCE THAT TIME WE HAVE BROUGHT UP 4 DAUGHTERS SPENDING OUR COMPLETE SUMMERS (DURING THE TIME SCHOOL WAS IN RECESS), MANY WEEKENDS AND WINTER VACATIONS AT OUR COTTAGE. SINCE MY RETIREMENT APPROXIMATELY 5 YEARS AGO MY WIFE AND I HAVE UTILIZED THE CAMP A MINIMUM OF 5 MONTHS/YR. AS YOU CAN SEE FROM THE ABOVE A GOOD PART OF OUR LIVES OVER THE PAST 27 YEARS HAS BEEN AT CAMP.

DURING THESE MANY YEARS AS A FAMILY ALONG WITH FRIENDS THERE HAS BEEN A TERRIFIC AMOUNT OF PLEASURE ENJOYING NATURE - THE FEEDING OF DUCKS AND HUMMING BIRDS, WATCHING THE MANY LOONS, CATCHING FISH, SWIMMING, BOATING ON THE LAKES AND UP THE PENOBSCOT RIVER, WATCHING THE DEER, MOOSE AND AT ONE TIME 4 BALD EAGLES.

PRESENTLY OUR CAMP IS LOCATED ABOUT 50 FEET FROM THE HIGH WATER MARK AND IF YOU THINK IT IS AN "EYE SORE" OR IT BOTHERS THE AVERAGE NATURE LOVER YOU ARE WRONG — IT IS A LOG CONSTRUCTED BUILDING THAT LOOKS VERY NICE FROM THE WATER. IF WE WERE REQUIRED TO SET IT BACK 200 OR 500 FEET AS SOME SMALL PERCENTAGE OF THE PEOPLE INVOLVED WOULD LIKE WE COULD NOT EVEN SEE THE LAKE. (SEEING THE WATER, WATCHING THE DUCKS, LOONS, PEOPLE CANOEING OR BOATING, LISTENING TO THE WATER LAP ONTO THE SHORE IS PART OF WHAT LIFE IS ALL ABOUT).

AS FAR AS DOCK CONSTRUCTION BEING ALLOWED - IT WOULD BE RIDICULOUS TO STOP THIS. OVER THESE 27 YEARS I HAVE BUILT/MODIFIED MY DOCKS AT LEAST 15 TIMES AND HAVE NOT HURT THE ENVIRONMENT ONE BIT. IN FACT WITH THE AMERICAN FLAG FLYING AT THE END IT LOOKS PRETTY DARN NICE.

ALSO OVER THIS TIME PERIOD I HAVE CUT UP APPROXIMATELY 50 TREES WHICH HAVE DIED OR BLOWN OVER DUE TO HIGH WINDS, SPRUCE BUDWORM OR SATIN MOTH. THIS AGAIN DID NOT HURT ANYTHING.

I HAVE LIVED IN THIS AREA FOR MOST OF MY 61 YEARS AND HAVE FOUND GREAT NORTHERN PAPER TO BE A VERY RELIABLE COMPANY AS AN OPERATOR OF THE DAMS IT CONTROLS AND WORKING WITH THE PEOPLE IT LEASES LOTS TO FOR THE ENJOYMENT OF NATURE.

A PERSON LEASING A LOT TODAY SHOULD ALSO HAVE THE SAME OPPORTUNITY TO BUILD WITHIN THE PRESENT GUIDE LINES IN ORDER TO ENJOY THE SAME

THINGS THAT OTHERS HAVE HAD THE PRIVILEGE TO ENJOY. THERE IS NO NEED (OR SOUND LOGIC) TO BE 200 OR 500 FEET BACK FROM THE HIGH WATER MARK. (THAT IS LIKE WATCHING A FOOTBALL GAME FROM OUTSIDE THE STADIUM).

IN SUMMARY, ALLOW GREAT NORTERN TO CONDUCT BUSINESS LIKE IT HAS IN THE PAST AND ALLOW THE PRESENT AND FUTURE LEASE HOLDERS TO ENJOY THEIR LOTS AND CAMPS WITHOUT INCREASED REGULATIONS OR RESTRICTIONS. IT HAS BEEN FINE FOR YEARS AND WILL CONTINUE TO BE FINE IF A FEW PEOPLE LEAVE IT ALONE.

SINCERELY,

Walter R Hall

COPY

Dan & Deborah Hoffses
RR #2 Box 1310
New Gloucester ME 04260
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572-005

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

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Sincerely,
Dan & Deborah Hoffses

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

009

RE: Penobscot Mills Project, FERC No. 2458
Ripogenus Project, FERC No. 2572 — 005

Dear Ms. Cashell:

This letter is written in support of Great Northern's applications for new licenses for its Ripogenus and Penobscot Mills Projects.

I have reviewed the Draft Environmental Impact Statement and generally agree with its conclusions but strongly disagree that project boundaries must be expanded by means of a conservation easement or by prohibiting all future development.

Land use of property around the impoundments is presently regulated by Maine's Land Use Regulation Commission which is well able to discharge its duties and is largely responsible, along with the landowners, for conditions as they presently exist.

I object to a Washington bureaucracy dictating to the State of Maine and local residents how land use decisions should be made. This State has done a good job to date and the residents of this State are perfectly capable of making our own decisions.

Under no circumstances should anyone be forced to sell their land.

Very truly yours,

Dorothy Jamieson

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

RE: Penobscot Mills Project, FERC No. 2458-009
Ripogenus Project, FERC No. 2572 - 005

Dear Ms. Cashell:

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Very truly yours,

Jon Hamilton

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

-009

RE: Penobscot Mills Project, FERC No. 2458
Ripogenus Project, FERC No. 2572 -005

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Very truly yours,

Carolyn J. Johnson

V

VERSAR, INC.
-9 r 5
ECOLOGICAL SCIENCES AND ANALYSIS

Planning & Support Br

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FEDERAL ENERGY REGULATORY COMMISSION

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

RE: Penobscot Mills Project, FERC No. 2458-009
Ripogenus Project, FERC No. 2572-005

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Under no circumstances should anyone be forced to sell their land.

Very truly yours,

Donald M. Johnson

January 26, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

-005
-009

RE: Ripogenus Hydroelectric Project (FERC No. 2572)
Penobscot Mills Hydroelectric Project (FERC No. 2458)

Dear Ms. Cashell:

I am aware that Great Northern Paper has applied for new 30 year licenses for projects which are known as the Ripogenus Hydroelectric Project (FERC No. 2572) and the Penobscot Mills Hydroelectric Project (FERC No. 2458) and that the Staff of FERC has recently issued a Draft Environmental Impact Statement against such.

I lease a lot from Great Northern Paper on the Penobscot Mills Impoundments. As a leaseholder, I wish to express my opposition to the restrictions and all future restrictions imposed by the Federal Energy Regulatory Commission.

Cordially,

Donna Kelly

Donna Kelly
Leaseholder

January 27, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

RE: Ripogenus Hydroelectric Project (FERC No. 2572) - 005
Penobscot Mills Hydroelectric Project (FERC No. 2458) - 009

Dear Ms. Cashell:

I am aware that Great Northern Paper has applied for new 30 year licenses for projects which are known as the Ripogenus Hydroelectric Project (FERC No. 2572) and the Penobscot Mills Hydroelectric Project (FERC No. 2458) and that the Staff of FERC has recently issued a Draft Environmental Impact Statement against such.

I lease a lot from Great Northern Paper on the Penobscot Mills Impoundments. As a leaseholder, I wish to express my opposition to the restrictions and all future restrictions imposed by the Federal Energy Regulatory Commission.

Cordially,

Dora J. Kelly

Dora Kelly
Leaseholder

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

RE: Penobscot Mills Project, FERC No. 2458-009
Ripogenus Project, FERC No. 2572 -005

Dear Ms. Cashell:

This letter is written in support of Great Northern's applications for new licenses for its Ripogenus and Penobscot Mills Projects.

I have reviewed the Draft Environmental Impact Statement and generally agree with its conclusions but strongly disagree that project boundaries must be expanded by means of a conservation easement or by prohibiting all future development.

Land use of property around the impoundments is presently regulated by Maine's Land Use Regulation Commission which is well able to discharge its duties and is largely responsible, along with the landowners, for conditions as they presently exist.

I object to a Washington bureaucracy dictating to the State of Maine and local residents how land use decisions should be made. This State has done a good job to date and the residents of this State are perfectly capable of making our own decisions.

Under no circumstances should anyone be forced to sell their land.

Very truly yours,

Kathy Kenneson
Creative Paper
(Retail Office & Gift Store)

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

RE: Penobscot Mills Project, FERC No. 2458 -009
Ripogenus Project, FERC No. 2572 -005

Dear Ms. Cashell:

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Under no circumstances should anyone be forced to sell their land.

Very truly yours,

Linda L. Labby

Tom Lambert
93 Mill Road
North Hampton NH 03862
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572 – 005

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

I (We) further demand that FERC answer the following questions about its proposed alternatives to Bowater's application before it takes further action.

- Will land owners be allowed to maintain existing buildings and docks within the proposed setback zones?

- Will land owners be allowed to construct any new buildings or docks within the proposed setback zones?

- Will land owners be allowed to remove any vegetation within the proposed vegetative buffers?

- How will the value of property be affected by the proposed setbacks and vegetative buffers?

- Will any grandfathering in regard to new regulations be transferable to next of kin, or on upon sale of the property?

- Will relicensing opponents and federal agencies convince FERC to increase the proposed building setback and vegetative buffer in proposal 2 to 500 feet, and 250 feet respectively?

- Will land owners have to deal with both LURC and FERC concerning future changes to their property?

A written response to these questions may be sent to the above address.

Sincerely,

Tom Lambert

Lois B. Cashell, Secretary

Federal Energy Regulatory Commission

825 North Capital Street, N. E.

Washingto D.C.

Subject: Ripogenus Hydroelectric Project (FERC # 2572 – 002

Penobscot Mills Hydroelectric Project (FERC # 2458) – 009

Dear secretary:

I am writing this letter in support of Great Northern Paper Co. and in protest of the proposed building setbacks and vegetative buffers recommended by opponents of the relicensing of these projects.

I am familiar with the licensing process having been the project manager of the Big A Project which was proposed by Great Northern Paper. I am also familiar with the self serving interests of the environmental groups opposing the relicensing.

Great Northern Paper and the State of Maine have done an excellent job of managing the project areas over the past 95 years and proven that no added restrictions or control based on the demands of special interest groups is necessary or desirable. The fact that these projects were built and managed so well is the very reason that the excellent fisheries and other wilderness experiences are available to the public.

I own a camp on one of the lakes and have concern as to the implications of the proposed protection zone. We residents of this part of the state of Maine have chosen to live and work here enduring the hard winters and short summers to be able to enjoy the lakes, forests and wildlife God has given us. We do not need special interest groups placing controls on the area where we have chosen to live.

The controls governmental bodies have placed upon us as landowners and camp owners on leased land are already too restrictive and taking away further rights to safe guard aesthetics for the sake of visitors to the area, who live in cities and communities where they have the luxuries of life that they want, is unwarranted and selfserving on their part.

Finally, no American company should be forced to spend the years and Millions of dollars to continue their operation as a company that this relicensing process imposes. While americans are losing their jobs and the foreign trade deficit is growing, companies like Great Northern Paper are forced to spend wasted dollars driving up the price of their products making them less competitive. We as a country cannot afford to be so wasteful of our time and money and let foreign competition out us as a country out of business. We will become a country of monuments to place on the federal register for visitors to come and see and learn a lersson from.

Please be considerate of the individual resident of this area of our great country in your decision making.

Yours truly

Galen Lander

January 20, 1995

COPY

VERSAR, INC.

JAN 30 1995

ECOLOGICAL SCIENCES AND ANALYS

FILED
OFFICE OF THE SECRETARY
FEDERAL ENERGY
REGULATORY
COMMISSION
95 JAN 25 AM 9:49

Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

-005
-009

Re: Ripogenus Hydroelectric Project (FERC No. 2572)
Penobscot Mills Hydroelectric Project (FERC No. 2458)

Dear Sirs:

I am writing this letter in hopes I can receive some assurance that the recently issued draft environmental impact statement will not affect me and my seasonal dwelling on South Twin Lake which is part of the Penobscot Mills Hydroelectric Project. As I have reviewed the document it is apparent to me that the environmental impact study of FERC established a protection zone around these waterways at a depth of five hundred feet from the high water mark. I also understand that FERC staff has studied a two hundred foot building set back and a possible one hundred foot vegetative buffer as part of a second alternative. I would like to have my input on the implementation of these proposals.

I now have a season dwelling in a lot that at no point reaches two hundred feet. At the most, from the high water mark my lot is one hundred fifty feet.

How do you propose my season dwelling will be affected with a two hundred foot set back zone? Does that mean I have to up root my camp and put it on someone else's property just simply to satisfy your regulations? Also, I have not come across any notation of a grandfather clause, consequently, if these buffers go into affect it would totally negate my lot and render it valueless. This concerns me since over the last two years I have put in over forty thousand dollars in renovations.

I would like some indications that my property will come under a grandfather clause as it relates to these buffer zones.

I have been renovating my camp in a three year project plan. At

this point my camp is done and I am happy to say I have done all renovations according to LURC licensings and permits. I am totally legal. My next step is to place, through proper permitting, a garage on this property as well. But, according to your impact studies and statements, I will not be able to build any new buildings or docks within the two hundred foot set back zone. Here again I am stymied, and the simple reason I am stymied is I simply do not have two hundred feet. I need to have some assurance, that since I do not have that much land, that I will still be able to build a muchly needed garage. I feel it is foolishness that this end product bureaucracy is occurring. I have been on this sight for over ten years and have enjoyed it immensely, and now I have some pencil pusher from Washington telling me that I am going to lose my dream, this is absurd.

My lot is heavily wooded in the back end and since I do not have two hundred feet, most of my lot falls within the one hundred foot [illegible] vegetative buffer zone. Consequently, if I have a dead tree or a dying tree that is harmful to my grandchildren and children you are telling my I can not remove it! This again is absurd, if I move a particular tree that proposes a hazard to me and my family, I should have the right to dispatch that tree without breaking the law. If this law does go into affect, and such a situation occurs, whether it's my property or someone else's and the hazard is not properly disposed of there could be law suits naming for the particular agency that is in control. Please consider that twist to your vegetative buffer zone.

[illegible], since I do not have anything that goes beyond one hundred and fifty feet from the high water mark, your proposed two hundred foot building set back and one hundred foot vegative buffer renders my lot and my camp totally worthless. I do not want nor do I wish to lose my dream of my seasonal dwelling or see it altered by bureaucratic tampering.

Please use this letter as my view point concerning this and please file it where it needs to be filed knowing full well they need to be in your hand by February 6, 1995. Please be considerate to the

land owners and lease holders of this great area in the state of Maine.

Thank you for your time and consideration in this matter.

Sincerely,

Lawrence Lankhorst, Jr.
Chiropractor

LL/sh

FILED
OFFICE OF THE SECRETARY
95 FEB 28 PM 1:45
FEDERAL ENERGY
REGULATORY
COMMISSION

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

-009

RE: Penobscot Mills Project, FERC No. 2458
Ripogenus Project, FERC No. 2572 -005

Dear Ms. Cashell:

This letter is written in support of Great Northern's applications for new licenses for its Ripogenus and Penobscot Mills Projects.

I have reviewed the Draft Environmental Impact Statement and generally agree with its conclusions but strongly disagree that project boundaries must be expanded by means of a conservation easement or by prohibiting all future development.

Land use of property around the impoundments is presently regulated by Maine's Land Use Regulation Commission which is well able to discharge its duties and is largely responsible, along with the landowners, for conditions as they presently exist.

I object to a Washington bureaucracy dictating to the State of Maine and local residents how land use decisions should be made. This State has done a good job to date and the residents of this State are perfectly capable of making our own decisions.

Under no circumstances should anyone be forced to sell their land.

Very truly yours,

Nathalie Lest

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

009

RE: Penobscot Mills Project, FERC No. 2458
Ripogenus Project, FERC No. 2572 — 005

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Very truly yours,

Carol J. Mackin

Carol J. Mackin
P.O. Box 808
Ambajejus Lake
Millinocket, ME 04462

Meyer

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

-009

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Very truly yours,

Lynne M. Mackin

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

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Very truly yours,

Paul C Mac
15 Newmarket St
Whitinsville Ma
01462

Louisa P. Malizia
P.O. Box 215
Cherryfield, ME 04622

March 30, 1995

Lois D. Cashell, Sec.
Federal Energy Regulatory Commission
825 N. Capital St., NE
Washington, D.C. 20426

RE: Ripogenus Hydroelectric Project (FERC No. 2572) -005
Penobscot Mills Hydroelectric Project (FERC No. 2458) -009

Dear Ms. Cashell;

As leaseholders from Great Northern Paper Co. on the shores of Caribou Lake in the Ripogenous Impoundment, we are very distressed by the continual encroachment of government, solving problems which they and the elite Conservation Societies deem important.

Over the thirty years that my father and I have held this lease the costs and restrictions have increased monumentally, while the so called "wilderness experience" allows every snowmobiler, vandal (we've been vandalized twice) and bozo to cut through our lots, cut our trees, use our firewood, use our spring water, break down our doors and steal equipment -- all on our nickle.

We are totally and irrevocably opposed to any government rules, regulations, laws, etc., and as soon as possible will sell our lease and cabin. It's just not worth it any more. We are retired and we certainly do not need government or conservation people telling us what to do or how to do it.

We have been responsible stewards of this land for 30 years, and now must pay for the arrogance and stupidity of the Federal and State governments and the elite conservationist movement.

We will take our chances and let a new owner demolish our architect designed cabin, and let the land revert to the woods primeval, so that today's Thoreaus from out of state can come and contemplate their navels.

We have always been happy with Great Northern and we certainly wish them well in their dealings with the government.

Very truly yours,

Louisa P. Malizia

Louisa P. Malizia
Joseph P. Malizia

cc: Dean A. Beaupain, Atty.
Great Northern Paper Company

This letter is arriving a bit late, I'm afr.
but perhaps you could find someone
there who might be interested. Thank

Grace Maloney
Box 804
Madison CT 06443
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572-005

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

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- Will any grandfathering in regard to new regulations be transferable to next of kin, or on upon sale of the property?

- Will relicensing opponents and federal agencies convince FERC to increase the proposed building setback and vegetative buffer in proposal 2 to 500 feet, and 250 feet respectively?

- Will land owners have to deal with both LURC and FERC concerning future changes to their property?

A written response to these questions may be sent to the above address.

Sincerely,
Grace E. Maloney
Grace Maloney

Michael Maloney
Box 804
Madison CT 06443
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

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Sincerely,

Michael Maloney

COPY

Richard & Lenore Maloney
Box 804
Madison CT 06443
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572 -005

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Sincerely,

Richard & Lenore Maloney

Lenore Maloney
Richard Maloney

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

RE: Penobscot Mills Project, FERC No. 2458 — 009
Ripogenus Project, FERC No. 2572 — 005

Dear Ms. Cashell:

This letter is written in support of Great Northern's applications for new licenses for its Ripogenus and Penobscot Mills Projects.

I have reviewed the Draft Environmental Impact Statement and generally agree with its conclusions but strongly disagree that project boundaries must be expanded by means of a conservation easement or by prohibiting all future development.

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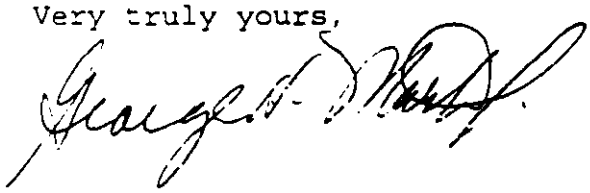
Very truly yours,



104 Falmouth Road
Falmouth, ME 04105

January 15, 1995

Lois B. Cashell, Secretary
Federal EnergyRegulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

005

Dear Secretary:

I understand that the FERC is considering additional restrictions on land adjoining the Ripogenus Lake Hydro-electric Project, (FERC 2572) relative to the relicensing application from Great Northern Paper, Inc.

I have a leased lot in this area and am interested in knowing what impact the new restrictions will have on the use of my cabin and lot.

Will I be able to continue using my lot, can I continue to clean up down trees on my lot, and a lot of other questions.

I am opposed to the increasing of restrictions until I know how they will affect me.

Thank you for your help.

Sincerely yours,

Harold L. Mason

Chesuncook Lake House
Bert & Maggie McBurnie
Rt. 76, Box 656
Chesuncook Village
Greenville, Maine 04441
Daily • (207) 745-5330 (8 p.m. - 10 p.m.) • Preferably

Feb. 1995

Lois B. Cashell Secretary
Federal Energy Regulatory Commission
825 North Capital St. N.E.
Washington DC 20426

P-2572-005
P-2458-009

Dear Ms. Cashell;

After attending the Jan. 25th public hearing of the FERC board on the Ripogenus Hydro project at Millinocket Maine, I would like to comment on the proposed regulation of the 200ft building set back and 100ft vegetative zone.

Since 1935 I have been a resident of Chesuncook Village, which is located on the north west shore of Chesuncook Lake, the major part of the Ripogenus inpoundment in question. Here, for nearly 40 years now, my wife and I have owned and operated a lodge known as the Chesuncook Lake House. This old inn, having been in existence since 1863, and along with the village, is on the Federal Historical Register. This small hamlet comprises of fifty odd lots and buildings, owned not leased,by individuals from far and wide.Chesuncook Village is primarily accessible by air or water only. A logging road ends some four miles south of the village, .From there only tractors, log skidders or special four wheel drive vehicles can negotiate.

I am very concerned with the 200 ft building setback as over 50 percent of the village lies within its boundaries.

We were told, by a FERC member, that all present structures are Grandfathered. I cannot find any reference to this in the DEIS I have studied.

If this clause exists, could you please explain how it will effect the private owners here in this village. Will we also be allowed, as in the past, to have temporary floating docks to load unload and moor our boats to?

I would like to be placed on the mailing list of any future proposals, also could I have a copy of the present DEIS,as the one I have is borrowed.

I leave you with the hope that FREC will speedily issue a license for the Ripogenus Hydro project, allowing us to deal with facts and regulation rather than the threatening proposals we hear.

Sincerely

Bert W. McBurnie
Owner
Chesuncook Lake House

V

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

RE: Penobscot Mills Project, FERC No. 2458 -009
Ripogenus Project, FERC No. 2572 -005

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Under no circumstances should anyone be forced to sell their land.

Very truly yours,

COPY

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95 JAN 23 PM 12:14
FEDERAL ENERGY
REGULATORY
COMMISSION

Maurice C. McLean
194 Highland Avenue
Millinocket, ME 04462

January 20, 1995

Federal Energy Regulatory Commission
825 North Capital Street NE
Washington, DC 20426

Attn: Lois B. Cashell
Secretary

RE: Repogenus Hydro-electric Project (FERC No. 2572) -005
Penobscot Mills Hydro-electric Project (FERC No. 2458) -009

Dear Mr. Lois Cashell:

I have great concerns on the proposal by FERC to establish a protection zone on the impounded shoreline of waters known as the Ripogenus and Penobscot Mills Hydro-electric Projects.

I have been a camp owner on land leased from Great Northern Paper Company for more than thirty years and I hope that my children will own the camp for another thirty years.

We presently have the State Land Use and Regulations that are more than adequate to preserve the impounded water shorelines. We do not need or want the Federal Government taking over what should be and is a State responsibility.

Additional restrictions on Great Northern Paper Company will prevent the mills from being competitive and restrict any further economic development in this area which is greatly needed.

These restrictions should be removed from the Draft Environmental Impact Statement.

Sincerely,

Maurice C. McLean

Maurice C. McLean

CC: Senator Olympia Snowe
Senator William Cohen
Rep. John Baldacci
Rep. James Longley, Jr.
Rep. Herbert Clark

COPY

January 25, 1995

FILED
OFFICE OF THE SECRETARY
95 JAN 30 AM 10: 38
FEDERAL ENERGY
REGULATORY
COMMISSION

Ms. Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

Dear Ms. Cashell:

-005
-009

RE: Ripogenus Hydroelectric Project (FERC No. 2572)
Penobscot Mills Hydroelectric Project (FERC No. 2458)

At this time we would like to voice our concerns regarding the Draft Environmental Impact Statement which will affect all of the lease lots on North and South Twin Lakes.

We have owned and paid the cost of a leased lot since the summer of 1981 waiting until the appropriate time prior to our retirement when we could begin building a cottage. We have held the land regardless of the fact that there is no electricity knowing that there are to be no future available lots on any one of these lakes. We only have several years to go before retirement, and are planning to start building at the first opportunity.

If this ruling is accepted, we will not be able to build on the lot we presently hold. We all realize the concern with degradation of water quality. You also need to understand that those presently on these lakes are concerned daily with these problems and have been for years - this is not a new concern to any of them. They take special care in observing all of the existing regulations and you must admit that they have been extremely successful over a very long period of time. There are not that many lots still existing that have not been built on - why at this time are you considering additional building setbacks and vegetative buffers?

We are planning to submit a potential plan for a retirement cottage to Lurc sometime this summer and would sincerely hope that consideration will be given to the many years we have held this lot, paid for it, and been very concerned with the environment and everything that keeps it healthy/clean/ and something to be enjoyed by families in the area.

Most if not all of the opposition to the current existing plans come from people/s who are not involved with the lake and its many existing and planned homes. They cannot know the great care that is currently being taken to keep it the way it has been for many years. We are not dealing with condominiums or retirement villages

or large extravagant additions that would substantially affect our water - these are the same families who have lived in the Millinocket area for years and plan to remain there for many more. We find it extremely difficult to understand the logic behind any of these new rules and regulations being proposed.

It would be a devastating blow to us at this time to learn that we would not be able to build the summer cottage we've dreamed of. Please reconsider any changes you may be considering for the existing lots on these lakes.

Sincerely,

Robert A & Charlene O. Meininger

cc: Senator William S. Cohen
Senator Olympia J. Snow
Congressman James Longley, Jr.
Governor Angus King

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

RE: Penobscot Mills Project, FERC No. 2458-009
Ripogenus Project, FERC No. 2572-005

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This letter is written in support of Great Northern's applications for new licenses for its Ripogenus and Penobscot Mills Projects.

I have reviewed the Draft Environmental Impact Statement and generally agree with its conclusions but strongly disagree that project boundaries must be expanded by means of a conservation easement or by prohibiting all future development.

Land use of property around the impoundments is presently regulated by Maine's Land Use Regulation Commission which is well able to discharge its duties and is largely responsible, along with the landowners, for conditions as they presently exist.

I object to a Washington bureaucracy dictating to the State of Maine and local residents how land use decisions should be made. This State has done a good job to date and the residents of this State are perfectly capable of making our own decisions.

Under no circumstances should anyone be forced to sell their land.

Very truly yours,

John H. Michaud

John H. Michaud
Millinocket ME

Box 326
East Baldwin, ME 04024
March 11, 1995

Lois G. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D. C. 20426

Dear Ms. Cashell,

005
009

RE: Ripogenus Hydroelectric Project (FERC No. 2572)
Penobscot Mills Hydroelectric Project (FERC No. 2458)

In 1981 my husband and I executed a 99 year lease of land from Great Northern Paper, Inc. on which we built a seasonal camp. This leased land is on Turkey Tail Lake. That Lake and the surrounding land are apparently considered part of the Ripogenus or Penobscot Mills Impoundments for which new, retroactive restrictions are being considered in the context of the referenced relicensings.

I am writing to oppose any such new restrictions as being unwarranted and inappropriate and as an infringement on my right to use and enjoy my property.

Our camp means a great deal to our family and friends. Although its remote location means we can only visit it a few times a year for limited periods, those have all been quality leisure times in an otherwise difficult existence. You see, my husband and I, and thus many of our closest friends are deaf. The camp has been a haven for us. For our two sons, both hearing persons, the camp symbolizes the joys of outdoor living and family togetherness that we were able to provide them because of our lease.

The camp has become even more important to us recently. My husband died of a heart attack at age 53 last October. The camp meant so much to him that we had a drawing of the camp etched on his gravestone as a perpetual remembrance. Having lost my husband and the boys' father, the threat of the opponents of relicensing to take our camp is especially cruel. It is also an unwarranted taking of our property rights. There is simply no way we could afford now to rebuild our camp to meet some new set of regulations.

To argue that the handful of camps on Turkey Tail Lake and neighboring lakes impose a threat to the water quality of those lakes or the environment in general of the areas seems patently absurd. We view the proposals of the opponents of relicensing as an effort to steal from us. In

v

our case a modest Maine family, our property. We urge the FERC to reject the restrictions being proposed by organized lobbying groups for their own nefarious objectives.

Thank you for your consideration of our plea.

Sincerely,

Lois G. Morin

cc: Dean A. Beaupain, 4 Hill Street, Millinocket ME 04462
Senator Olympia Snow
Representative James Longley

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

009

RE: Penobscot Mills Project, FERC No. 2458
Ripogenus Project, FERC No. 2572 — 005

Dear Ms. Cashell:

This letter is written in support of Great Northern's applications for new licenses for its Ripogenus and Penobscot Mills Projects.

I have reviewed the Draft Environmental Impact Statement and generally agree with its conclusions but strongly disagree that project boundaries must be expanded by means of a conservation easement or by prohibiting all future development.

Land use of property around the impoundments is presently regulated by Maine's Land Use Regulation Commission which is well able to discharge its duties and is largely responsible, along with the landowners, for conditions as they presently exist.

I object to a Washington bureaucracy dictating to the State of Maine and local residents how land use decisions should be made. This State has done a good job to date and the residents of this State are perfectly capable of making our own decisions.

Under no circumstances should anyone be forced to sell their land.

Very truly yours,

Roger A. Morin

COPY

January 27, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital St. N.E.
Washington, D.C. 20426

Re: Pejepscot Hydroelectric Project
(FERC No. 2572)-005
Penobscot Mills Hydroelectric Project
(FERC No. 2458)-009

We are land leaseholders from Great Northern Paper Co. (Bowater). We strongly oppose the unwarranted restrictions and vegetative buffers as proposed in the above captioned matter.

We also urge the relicensing of the dams for the benefit and welfare of the people who depend on Great Northern Paper Co. for their livelihood.

cc: Sen. William Cohen
Rep. John Baldacci

Mr. & Mrs Robert Mosca
P.O. Box 969
Millinocket, Maine
04462

RS

COPY

Charles Paul
147 Woodland Road
North Hampton NH 03862
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

-005

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

I (We) further demand that FERC answer the following questions about its proposed alternatives to Bowater's application before it takes further action.

- Will land owners be allowed to maintain existing buildings and docks within the proposed setback zones?

- Will land owners be allowed to construct any new buildings or docks within the proposed setback zones?

- Will land owners be allowed to remove any vegetation within the proposed vegetative buffers?

- How will the value of property be affected by the proposed setbacks and vegetative buffers?

- Will any grandfathering in regard to new regulations be transferable to next of kin, or on upon sale of the property?

- Will relicensing opponents and federal agencies convince FERC to increase the proposed building setback and vegetative buffer in proposal 2 to 500 feet, and 250 feet respectively?

- Will land owners have to deal with both LURC and FERC concerning future changes to their property?

A written response to these questions may be sent to the above address.

Sincerely,

Charles Paul

Charles Paul

V

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

009

RE: Penobscot Mills Project, FERC No. 2458
Ripogenus Project, FERC No. 2572 — 005

Dear Ms. Cashell:

This letter is written in support of Great Northern's applications for new licenses for its Ripogenus and Penobscot Mills Projects.

I have reviewed the Draft Environmental Impact Statement and generally agree with its conclusions but strongly disagree that project boundaries must be expanded by means of a conservation easement or by prohibiting all future development.

Land use of property around the impoundments is presently regulated by Maine's Land Use Regulation Commission which is well able to discharge its duties and is largely responsible, along with the landowners, for conditions as they presently exist.

I object to a Washington bureaucracy dictating to the State of Maine and local residents how land use decisions should be made. This State has done a good job to date and the residents of this State are perfectly capable of making our own decisions.

Under no circumstances should anyone be forced to sell their land.

Very truly yours,

Beverly Pelletier

V

COPY

P-2458-009
P-2527-005

Jan 25, 1995
Cape Canaveral, FL. 329

FILED
OFFICE OF THE SECRETARY
95 JAN 30 PM 12: 04
FEDERAL ENERGY
REGULATORY
COMMISSION

FEB 24 1995
ECOLOGICAL SCIENCES AND ANALYSIS

Dearing Grizell,

Please accept this note to verify my opposition of your Dept's (FERC) Bldg. setback and vegetative buffer!

I have property located in the so called Penobscot Mills project (Hydro) and it seems plain enough to me, that the numerous pine trees, from 6" to 36" in diameter that stand on my lots, which is on a point, at South Twin Lake. This point is approximately 100' wide. These trees of 24" to 36" diameter took many many years to grow to this size.

Putting it very bluntly, FERC didn't exist 1/20 th of the time these tree's have, so I see absolutely, positively no need for FERC's so called proposal.

Thank You,
Thomas Pelletier

Winter Residence) Thomas Pelletier
8700 Ridgewood Ave A-402
Cape Canaveral, FL. 32920

Summer HC 74 Box 557
Millinocket, ME. 04462

(OVER)

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

RE: Penobscot Mills Project, FERC No. 2458-009
Ripogenus Project, FERC No. 2572-005

Dear Ms. Cashell:

This letter is written in support of Great Northern's applications for new licenses for its Ripogenus and Penobscot Mills Projects.

I have reviewed the Draft Environmental Impact Statement and generally agree with its conclusions but strongly disagree that project boundaries must be expanded by means of a conservation easement or by prohibiting all future development.

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Under no circumstances should anyone be forced to sell their land.

Very truly yours,

Suzanne Pelican
15 Ohio St
Millinocket, ME
04462
207-723-6202

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

009

RE: Penobscot Mills Project, FERC No. 2458
Ripogenus Project, FERC No. 2572 - 005

Dear Ms. Cashell:

This letter is written in support of Great Northern's applications for new licenses for its Ripogenus and Penobscot Mills Projects.

I have reviewed the Draft Environmental Impact Statement and generally agree with its conclusions but strongly disagree that project boundaries must be expanded by means of a conservation easement or by prohibiting all future development.

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Under no circumstances should anyone be forced to sell their land.

Very truly yours,

COPY

FILED
OFFICE OF THE SECRETARY

95 FEB -9 AM 10:01

FEDERAL ENERGY REGULATORY COMMISSION

Philip and Carol Ramu
P.O. Box390
Mt. Sinai, N.Y. 11766

January 31, 1995

VERSION

FEB 2 1995

ECOLOGICAL

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C., 20426

Dear Ms. Cashell:

005

I am a leaseholder with Bowater/Great Northern Paper Co. in Northern Maine. We have been informed of the current proposals that FERC has put forth in response to licensing applications introduced by Great Northern (Ripogenus hydroelectric project, FERC # 2572 & Penobscot Mills Hydroelectric Project FERC #2458). 009

Please be advised that we are against any legislation that would cause setbacks for our home in Maine. The current Maine State LURC regulations are more than sufficient in protecting the environmental concerns. Additional setbacks are not indicated and would cause great problems for myself and other fellow homeowners in the Penobscot Region.

Please allow Great Northern the licenses they require without adding additional burden to the citizens who enjoy the current pleasures of life in this area of Maine.

Sincerely,

Philip & Carol M. Ramu

Philip M. Ramu
Carol M. Ramu

V

COPY

Ms Lois Cashell FERC 2/6/95
825 North Capital ST NE
Washington, DC 20426

Dear Ms. Cashell

I am writing in opposition to the Great Northern Paper Co. Dam Relicensing Ripogenus Hydroelectric Project (FERC No. 2572) in the State of Maine.

Several hundred of us who reside the impoundment area of Ripogenus Dam i.e. Chesuncook Lake, met in Millinocket at a public hearing regarding FERC-2572. About a hundred people got to speak. Only 5 or 6 were in favor of the provisions of the project the rest were against it. 005

For the life of me I cannot understand why FERC has any business forcing a privately owned paper company to use federal powers of eminent domain to enforce a 200 ft buffer strip along the shore of Chesuncook Lake. I believe that Maine's Land Use Regulatory Commission has done an excellent job of regulating water quality and land use in the region.

I am a lessee on the lake and have been since 1970. We have a summer place there for about 25 years. I have fished, camped and hiked in the area. I am extremely concerned about Chesuncook Lake in particular and all of our wild lands generally. I have never met a land owner or lessee on the lake who does not feel as I do. In fact I have never even heard of an infraction under LURC rules and regulations.

I believe that all of us in the impoundment area deserve a lot of credit for our (page 2)

stewardship. We do not need the Federal Energy Regulatory Commission involved with its long tangled and what seems a real take of the powers of the Federal Government vis-a-vis FERC No. 2572.

Sincerely,
D. Conrad Rice
6 Court St
Farmington Me 04938

OFFICE OF SELECTMEN
53 MAIN STREET
EAST MILLINOCKET, ME 04430-1199

TEL. 746-3376
FAX 746-3560

January 25, 1995

Lois D. Cashell, Secretary
Federal Energy Regulatory commission
825 North Capitol Street, NE
Washington, DC 20426

005 009

RE: FERC PROJECTS #2572 (RIPOGENUS) AND #2458 (PENOBSCOT MILLS)

Dear Secretary,

Below is my testimony as prepared for presentation at the FERC public hearing on the Draft Environmental Impact Statement, Wednesday, January 25, 1995, in Millinocket, Maine:

My name is John Rouleau and I am Chairman of the Board of Selectmen in the Town of East Millinocket, an Employee of Great Northern and a campowner. I would like to welcome the Commission to our Region and thank you for allowing the public to speak at this public hearing.

There are two issues in this DEIS which I hope the Commission will reconsider before issuing the final license to Great Northern:

a) 200' setback along the water areas; and
b) the requirement of FERC for GNP to purchase land that is not already in their possession.

As others have said before me, I reiterate that:

a) The State of Maine, Land Use Regulation Commission very adequately addresses all of the environmental concerns concerning shoreland properties and timber harvesting.
b) The Commission has grossly understated the market value of the 54+ miles of land which will need to be purchased. Therefore, the additional several million dollars which the company will be required to spend should be directed toward the mill expansion to secure the economic stability of The Katahdin Region, Penobscot County and The entire State of Maine.

I would like to thank the Commission for the decision <u>not to require</u> Great Northern to put flows down the back channel.

Thank you for your time tonight and for expediting a decision on these licenses.

Sincerely,

John E. Rouleau

John E. Rouleau
Chairman, Board of Selectmen

A. L. de Saint-Rat
P.O. Box 42
Oxford, Ohio 45056-0042 U.S.A.

COPY

Feb. 1, 1995

P-2572-005
2458-009

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital St., N.E.
Washington, D.C. 20426

Dear Secretary Cashell:

I understand that your Commission is presently considering relicensing the Ripogenus Hydroelectric Project and the Penobscot Mills Hydroelectric Projects (Maine).

As a Great Northern leaseholder, I am strenuously opposed to any protection zones, either 250' or 500', that would affect my present dwelling on S. Twin Lake, Penobscot River. As my lot is 100'x100', [illegible] possibly [illegible] into the [illegible] scheme? [illegible] supposed to

V

E-597

COPY

21 January 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

RE: Ripogenus Hydroelectric Project (FERC No. 2572) -002
Penobscot Mills Hydroelectric Project (FERC No. 2458) -009

Dear Ms. Cashell:

We recently received a letter from Mr. Dean A. Beaupain, Esquire informing us that *"opponents of relicensing and certain federal agencies recommended to FERC that it create building setbacks and vegetative buffers"* within the watershed of the dams listed above, and that from these comments, *"FERC, as part of its environmental impact statement, studied establishing a protection zone around the impoundments to a depth of 500 feet from the high water mark"* in Alternative #1 and 200 feet in Alternative #2.

We have been leaseholders with the Great Northern Paper Company since 1981, leasing a two acre island lot located in Indian Purchase T4, North Twin Lake. FERC's proposed increase to restrict a building setback from the current restriction of 100 feet, for *"shorelines of a flowing water draining 50 square miles or more and a body of standing water greater than 10 acres in size,"* as written in the Maine Land Use Regulation Commission's, (LURC), Building Permit Application, 9/94, would make it impossible to build any structure on our island lot and without a structure we will never be able to transfer or sell the lease. We have a considerable amount invested in this property and ironically were planning to start construction on a small camp this summer. If FERC should proceed with establishing a setback beyond that currently required by LURC, our property will be deemed valueless, and we would lose not only the dream of a modest cabin on the lake, but the thousands of dollars we have invested in this dream. We believe that this would infringe upon our rights as leaseholders and law abiding citizens of the United States. If after 14 years we are denied the opportunity to construct a camp, due to new government regulations, we will be forced to seek whatever legal recourse possible to either receive an exception or sue for reimbursement.

We have family and friends in Millinocket who are dependent upon the Great Northern Paper Company. Without the relicensing of the dams, it is our understanding that the company would be forced to either burn greater quantities of fossil fuel, having a greater impact on the environment and the already cancer laden population, or the mills could ultimately close. By adding more government regulations to the ridiculous skyrocketing land use fees, it is the local leaseholders, not the companies, who are penalized.

To the best of our knowledge, the Great Northern Paper Company stopped giving leases for shorefront property back in the early 1990's, therefore, only those leaseholders who haven't yet built will be adding to the visual impact to the lake shorefronts and reduced water quality. For anyone who has not been in the Maine woods recently, 100 feet of dense Maine woods is ample buffer to obscure any man-made obstruction from the water. In addition, if gray water is properly drained and filtered into the sandy soils of the terrain, there should be no resulting loss of water quality. To control pollution and water quality, we suggest that the federal regulationists think more about limiting gasoline motor boats, sulfur smokestack emissions, and paper company clear cutting, where the chemical and visual pollution is most prevalent.

Please leave the existing Maine Land Use Regulation Commission setbacks as written.

Sincerely,

Patrick J. Santerre
Celeste M. Bard

Patrick J. Santerre
Celeste M. Bard
604 South Race Street, #2N
Urbana, IL 61801

SAWYER ENVIRONMENTAL SERVICES
TEL: (207) 947-8100 • FAX: (207) 947-8822
115 FRANKLIN STREET • BANGOR, MAINE 04401-4936

VERSAR, INC.

FEB [illegible] 1995

ECOLOGICAL SCIENCES AND ANALYSIS

February 3, 1995

COPY

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426

RE: COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT/
RIPOGENUS AND PENOBSCOT MILLS HYDRO ELECTRIC PROJECTS.
(FERC NUMBERS 2572 AND 2458) -009
005

Dear Ms. Cashell:

By this letter, I am writing to provide my comments on the Draft Environmental Impact Statement. As the President of a Maine business with a strong track record in protecting Maine's environment through proper management of solid waste, and as an employer of 92 employees, I know the importance of this relicensing to both Maine people and to Maine's environment.

Great Northern's hydro system provides a guaranteed flow of water at Millinocket of 2,000 CFS on which the municipal and industrial wastewater treatment facilities on the Penobscot River rely. Moreover, through management of the cold waters from the bottom of the Ripogenus Impoundment, Great Northern's hydro system provides clean, cool waters for a world-class landlocked salmon fishery below McKay Station. Some of the best whitewater rafting on the East Coast can be found in the Gorge on the West Branch.

With regard to the specific determinations reached in the Draft Environmental Impact Statement, I praise FERC for a careful review of the Water Use Plan. FERC has reasonably concluded that it is unnecessary to spill water down the Upper Gorge or the Back Channel (beyond what the Water Use Plan, as revised, already requires). This conclusion is particularly correct in light of the substantial fisheries habitat and boating opportunity available elsewhere on the West Branch.

As a business owner who has been through the environmental permit process a number of times, I am concerned, however, that FERC not give in to arguments made by intervenors in environmental permit proceedings. The requirement that Great Northern acquire a 200' strip of land all the way around every one of the Ripogenus Impoundment lakes is disturbing to me. Great Northern, and all the other landowners in the Ripogenus Impoundment, have a proud tradition of limiting development. LURC's current zoning, as I understand it, limits most development on these impounded waters to no more than one cottage for every mile of shore frontage. This suggests to me that the Maine Land Use

Regulation Commission is doing its job.

In these days, when both the State and Federal Governments are trying to reduce the number of mandate they impose, it is unclear to me whey this specific mandate is necessary or should be imposed given the adequacy of the State's protection. If there is any evidence that the water quality of the impounded waters has been in any way impaired, there would likely be greater support.

I ask that your take these comments into consideration as you prepare the Final Environmental Impact Statement. I would be happy to address any questions that you may have.

Sincerely,

W. Tom Sawyer, Jr.
President

DWL

Lois D. Cashell, Secretary
Federal Engery Regulatory Commission
825 North Capitol Street, N.E.
Washington, DC 20426

Re: Ripogenus Hydro-Electric Project FERC #2572 -005
Penobscot Mills Hydro-Electric Project FERC #2458 -009

Please accept these comments on the captioned draft environmental impact statement.

Millinocket, East Millinocket and Medway are dependent on Great Northern for the economy of our area. We are isolated geographically and have few opportunities to diversity.

Past operation of the dams have proven their environmental and economic worth to the entire state.

I want to commend you for approving Great Northern's water use plan with minor modification. Dedication of the west branch to multiple use is appropriate and will allow Great Northern to effectively compete in changing global markets.

We hope to see Great Northern embark on a massive modernization plan in the next few years. Your decision will certainly lay the groundwork for Great Northern to move forward.

As Great Northern moves forward, we expect our economy will improve and that we will regain some of what has been lost during the recent past.

I want to commend you for the job you have done but I would like to point out that you seem to have misconstrued not only the ability of the Land Use Regulation Commission's Rules to protect water quality and aesthetics but also the right of the State of Maine to act in these areas.

Lurc rules govern over one half of the state and have proven their worth in protecting the quality of our water as well as aesthetics for recreation and all other purposes. Those rules have been and are sufficient to protect these impoundments and there is no reason to have different rules here than apply elsewhere in Lurc's jurisdiction.

On a more fundamental level, it is Maine's job to protect these impoundments. Maine has done a good job and there is no basis for you to usurp Maine's authority and judgment in these matters.

Expansion of project boundaries is not needed.

I think the present level of use of the impoundments shows that present level of development does not hurt recreation. Lurc rules provide that new development must be done in a manner that is compatible with the environment. Therefore, any new development would not adversely impact recreation. Our economy has suffered over the last few years and we need to diversify. Some level of development in accordance with Lurc's rules should be allowed.

Your draft was very unclear concerning existing camps and leases. Please answer the following questions:

(1) will campowners be allowed to maintain their existing buildings and docks within the proposed 200 foot setback zone;

(2) will campowners be allowed to construct any new buildings or docks within the 200 foot setback zone;

(3) will Great Northern be allowed to sell the leased land to campowners during the term of the new licenses should it decide to sell and campowners decide to buy;

(4) will campowners be allowed to remove any vegetation within the proposed 100 foot vegetative buffer;

(5) how will the value of the campowners property be affected by the proposed 200 foot building setback and 100 foot vegetative buffer;

(6) do you intend to increase the proposed building setback to 500 feet and the vegetative buffer to 250 feet;

(7) will campowners have to deal with Lurc and FERC concerning future changes to campowners property.

(8) If existing camps, docks and leases are grandfathered, what does "grandfathered" mean:

(a) if a camp burns, can it be rebuilt.
(B) can an existing camp be expanded.
(C) can new accessory buildings be built.
(D) can vegetation be cut in front of existing camps.

Sincerely,

WAYNE SCARANO
BGG003D3

43 Katahdin Avenue
Millinocket, ME 04462

COPY

1-21-95

To: Lois B. Cashell

Re: (FERC) No. 2458- No. 2572

I received notice about the new proposals re: the ~~application~~

I own a camp on South Twin Lake within 200 ft. of the high water ~~make~~ mark.

I urge Ferc to eliminate the proposed building set back and proposed vegetative buffer.

For instance one example of a camp on an island without 200 ft of space on either side of camp to the high water mark. What happens here?

If allowed an island camp to remain as is. Why not the others?

Sincerely,

Charles A. Shorter

P.S. I lease Lot #281 Plan B-573

#2058

My address – 166 Blake Rd.
Standish Me. 04084

Raymond Sikoski
6 Hillside Road
North Hampton NH 03862
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572 -005

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

I (We) further demand that FERC answer the following questions about its proposed alternatives to Bowater's application before it takes further action.

- Will land owners be allowed to maintain existing buildings and docks within the proposed setback zones?

- Will land owners be allowed to construct any new buildings or docks within the proposed setback zones?

- Will land owners be allowed to remove any vegetation within the proposed vegetative buffers?

- How will the value of property be affected by the proposed setbacks and vegetative buffers?

- Will any grandfathering in regard to new regulations be transferable to next of kin, or on upon sale of the property?

- Will relicensing opponents and federal agencies convince FERC to increase the proposed building setback and vegetative buffer in proposal 2 to 500 feet, and 250 feet respectively?

- Will land owners have to deal with both LURC and FERC concerning future changes to their property?

A written response to these questions may be sent to the above address.

Sincerely,
Raymond Sikoski
Raymond Sikoski

Jan. 31, 1995

Ms. Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington , D.C. 20426

Dear Ms. Cashell, 005 009

The purpose of my letter is to address and comment on the relicensing of Projects Nos. 2572 (Ripogenus) and 2458 (Penobscot Mills) located in Maine, owned and operated by Bowater, Great Northern Paper,Inc.

As an employee of Great Northern Paper, I am supportive to the relicensing of these two projects and hope that the license will be issued very soon.

The DEIS addresses many concerns, areas, public and private issues. Having read the draft, I have several concerns also. The following statements pertain to some of which were mentioned in the DEIS.

My residence lies in an unorganized township, Indian #3. One of the many areas LURC has regulated very professionally and strictly.
LURC has done an excellent job, why change the responsibility over to another agency? Think of the costs in terms of federal dollars lost to all taxpayers. These monies could support other programs needing more attention. Consider the hardships imposed on the many citizens because of new government regulations.
Changing the regulations on future developments creates major problems for landowners, regardless of who they are.

I do not agree with the requirement imposed on Bowater to aquire lands, 67 miles, belonging to public and private owners along the impoundments. The capital expenses here, to aquire these areas, should instead be spent on repairs to the mills which are badly needed.

After attending the public hearing, I was amazed to see such a small turn out on the opposition's side. Special interest groups have hired representatives to address their concerns. A handful attended the public meeting held in Millinocket on Jan. 25, 1995.

Their comments presented at the public meeting seem to have made a great impact regarding the commissions decisions on land use regulations in the future; way out of proportion to what they have at stake or their numbers.

This area is facing a major change. Our community and surrounding areas are counting on this license and having Bovater continue capital investments. Outside factions are imposing unvanted restrictions in hov the area is to be used. We plain folk want to continue living in this area vithout unnecessary changes. I can understand the need to preserve and protect. We, living in this area take pride to what is here and will protect the area in which we live!

PLEASE, for the PEOPLE, (first and foremost) living and vorking in this area reconsider these sensitive issues raised at the public hearing and ones addressed in this letter.

Thank you.

Sincerely,

Carolyn J. Simone

Carolyn J. Simone

Doc Simmons
8 Exeter Road - Box 550
North Hampton NH 03862
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572-005

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

I (We) further demand that FERC answer the following questions about its proposed alternatives to Bowater's application before it takes further action.

- Will land owners be allowed to maintain existing buildings and docks within the proposed setback zones?

- Will land owners be allowed to construct any new buildings or docks within the proposed setback zones?

- Will land owners be allowed to remove any vegetation within the proposed vegetative buffers?

- How will the value of property be affected by the proposed setbacks and vegetative buffers?

- Will any grandfathering in regard to new regulations be transferable to next of kin, or on upon sale of the property?

- Will relicensing opponents and federal agencies convince FERC to increase the proposed building setback and vegetative buffer in proposal 2 to 500 feet, and 250 feet respectively?

- Will land owners have to deal with both LURC and FERC concerning future changes to their property?

A written response to these questions may be sent to the above address.

Sincerely,

Doc Simmons

Doc Simmons DVM

Thomas Simmons
8 Exeter Road
North Hampton NH 03862
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572-005

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

I (We) further demand that FERC answer the following questions about its proposed alternatives to Bowater's application before it takes further action.

- Will land owners be allowed to maintain existing buildings and docks within the proposed setback zones?

- Will land owners be allowed to construct any new buildings or docks within the proposed setback zones?

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- Will land owners have to deal with both LURC and FERC concerning future changes to their property?

A written response to these questions may be sent to the above address.

Sincerely,

Thomas Simmons

COPY

Fred & Marianne Smith
106 Euclid Avenue
Massapequa, Long Island NY 11758
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572 -005

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

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- Will land owners have to deal with both LURC and FERC concerning future changes to their property?

A written response to these questions may be sent to the above address.

Sincerely,

Fred & Marianne Smith

Frederick C. Smith
Marianne L. Smith

COPY

Richard and Jean Smith
6 Greystone M.H. Park
Veazie ME 04401-7059
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572 — 005

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

I (We) further demand that FERC answer the following questions about its proposed alternatives to Bowater's application before it takes further action.

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- Will land owners have to deal with both LURC and FERC concerning future changes to their property?

A written response to these questions may be sent to the above address.

Sincerely,
Richard C. Smith

Richard and Jean Smith

Sandra Smith
263 State Road
Eliot ME 03903
January 29, 1995

- 005

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

I (We) further demand that FERC answer the following questions about its proposed alternatives to Bowater's application before it takes further action.

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- Will relicensing opponents and federal agencies convince FERC to increase the proposed building setback and vegetative buffer in proposal 2 to 500 feet, and 250 feet respectively?

- Will land owners have to deal with both LURC and FERC concerning future changes to their property?

A written response to these questions may be sent to the above address.

Sincerely,

Sandra Smith

10 Maine Avenue
Millinocket, Maine, 04462
Feb. 20, 1995

Federal Energy Regulation Commission

Gentlemen: re: Penobscot River and Ripogenus Dam Water Use

I attended both of the hearings in Millinocket, Maine. As a life-long resident of Millinocket, I am much concerned both for the present and for the future, whether it affects me or my grandchildren.
My family has had a cottage (we generally call camp) on Ambajejus Lake on a small hill overlooking the lake and three islets. I now am aged 72, am legally blind, and have rheumatoid arthritis; I am thankful that I am close enough to the shore to be able to see as much as I am able to see, that I am able to get down to the shore in my condition. If I had to put a camp 500 feet away from the shore with specified vegetation between me and the shore, then I would not be close enough to see the lake and I would be forever trying to hobble or [illegible] from my camp to the shore through the vegetation. So,
even if I am grandfathered by the FERC proposed regulation, I am concerned for others in future without grandfathering; for older and infirm persons, you would be prohibiting them from any access to our waters and views: if [illegible] to [illegible] a fire or [illegible] destruction of my camp, I undoubtedly would be [illegible] hidden [illegible] rebuilding. Also, if I wanted [illegible] to sell my camp, you [illegible] no [illegible] or [illegible] sell to just [illegible] water [illegible] do. [illegible] consider that [illegible] to [illegible] from [illegible], I am a lover of [illegible] birds, squirrels, chipmunks, and I [illegible] that I do my part to protect them and to be a friend of [illegible] you should not [illegible] regulate in any in such [illegible] I would be unable to [illegible] also that is not Energy that you are trying to regulate, but you are trying to [illegible] to myself and us.

Furthermore, tourism and recreation is important to us in Maine. Your proposal is unfriendly to tourism and to recreation, and that is unfriendly to Maine people and to those who desire to visit us from other areas. Please let us do our own governing in such matters [illegible] federal regulation in such matters. Let us be friends, Maine and you.

Yours truly,
[illegible] Sheed

[signature]

Lois B. Cashell, Secretary
Federal Energy Regulatory Comm.
825 North Capital Street, N. E.
Washington, D. C. 20426

RE: Ripogenus Hydroelectric Project (FERC No. 2572) -005
Penobscot Mills Hydroelectric Project (FERC No. 2458)- 00

Dear Madam:

Please be advised that as a tax payer and a leased land holder on Ambajejus Lake, Millinocket, Maine, I see no reason to expand the project boundaries and are not justified by the record of the case.

I am urging FERC to eliminate the proposed building setback and proposed vegetative buffer.

Thomas and Patricia E. St. John
9 Orchard Street
Millino ket, Maine 04462

Thomas W. St John &
Patricia E. St. John

P-4803

Mr and Mrs. Robert Van Deventer
45 Grenadier Lane
East Islip , N.Y. 11730
January 23, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N. E.
Washington, D.C. 20426

RE: Ripogenus Hydroelectric Project (FERC No. 2572) -005
Penobscot Mills Hydroelectric Project (FERC No. 2458) -009

Dear Lois Cashell,

I am a lease holder with the Great Northern Paper Co. on property within the Ripogenus Impoundment. My family has held this lease for over 5 years. We hold permanent residence in New York State and utilize the property in Maine on a seasonal basis. We hope some day to be able to purchase this land. Our camp was built, on this lease property, within the strict guidelines of the Maine Land Use Regulatory Commission (LURC). The guidelines provided by LURC, were developed to meet all environmental needs and concerns. I urge no further restrictions placed on this land use by the Federal Energy Regulatory Commission (FERC). Any further restrictions are unwarranted and unnecessary. I am in full support of Great Northern's proposal to add no additional restrictions on existing leases within the impoundment. Please consider the vast number of people you will affect with the proposal's that are being considered by FERC. Please take into consideration less government regulation and recognize Maine's LURC guidelines as adequate for building setbacks and vegetative buffers within watershed areas. Thank you.

Sincerely,

Robert Van Deventer and Family

cc Dean A. Beaupain
Attorney for Town of Millinocket

✓

COPY

Mr and Mrs. Glen Van Deventer
769 Greenlawn Avenue
Islip Terrace, N.Y. 11752
January 23, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N. E.
Washington, D.C. 20426

RE: Ripogenus Hydroelectric Project (FERC No. 2572) -005
Penobscot Mills Hydroelectric Project (FERC No. 2458) -009

Dear Lois Cashell,

I am a lease holder with the Great Northern Paper Co. on property within the Ripogenus Impoundment. My family has held this lease for over 10 years. We hold permanent residence in New York State and utilize the property in Maine on a seasonal basis. We hope some day to be able to purchase this land. Our camp was built, on this lease property, within the strict guidelines of the Maine Land Use Regulatory Commission (LURC). The guidelines provided by LURC, were developed to meet all environmental needs and concerns. I urge no further restrictions placed on this land use by the Federal Energy Regulatory Commission (FERC). Any further restrictions are unwarranted and unnecessary. I am in full support of Great Northern's proposal to add no additional restrictions on existing leases within the impoundment. Please consider the vast number of people you will affect with the proposal's that are being considered by FERC. Please take into consideration less government regulation and recognize Maine's LURC guidelines as adequate for building setbacks and vegetative buffers within watershed areas. Thank you.

Sincerely,

Glen H. Van Deventer and Family

GHV/ghv
cc: Dean A. Beaupain
Attorney for Town of Millinocket

Robert Wells
70 Walnut Ave
North Hampton NH 03862
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572 -005

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

I (We) further demand that FERC answer the following questions about its proposed alternatives to Bowater's application before it takes further action.

- Will land owners be allowed to maintain existing buildings and docks within the proposed setback zones?

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- Will land owners have to deal with both LURC and FERC concerning future changes to their property?

A written response to these questions may be sent to the above address.

Sincerely,

Robert Wells

Robert Wells

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

009
RE: Penobscot Mills Project, FERC No. 2458
Ripogenus Project, FERC No. 2572 — 005

Dear Ms. Cashell:

This letter is written in support of Great Northern's applications for new licenses for its Ripogenus and Penobscot Mills Projects.

I have reviewed the Draft Environmental Impact Statement and generally agree with its conclusions but strongly disagree that project boundaries must be expanded by means of a conservation easement or by prohibiting all future development.

Land use of property around the impoundments is presently regulated by Maine's Land Use Regulation Commission which is well able to discharge its duties and is largely responsible, along with the landowners, for conditions as they presently exist.

I object to a Washington bureaucracy dictating to the State of Maine and local residents how land use decisions should be made. This State has done a good job to date and the residents of this State are perfectly capable of making our own decisions.

Under no circumstances should anyone be forced to sell their land.

Very truly yours,

Perley Wheaton

Perley Wheaton, President

Millinocket Ford-Mercury, Inc.
1009 Central Street
Millinocket, ME 04462

Richard J. Wheaton Jr.
398 So. Main St.
Old Town, ME 04468

COPY

OFFICE OF THE SECRETARY
FILED
95 FEB -6 PM 2:55
FEDERAL ENERGY REGULATORY COMMISSION

NO ANALYSIS

January 31, 1995

Lois B. Chashell, Secretary
Federal Energy Regulator Commission
825 North Capitol Street, N. E.
Washington D. C. 20426

Re: Great Northern Paper, Inc.
Ripogenus Hydroelectric Project (FERC No. 2572) -005
Penobscot Mills Hydroelectric Project (FERC No. 2458) -009

Dear Ms. Cachell,

As a typical member of the silent majority this is only the second time I have been compelled to speak. The first was a year ago with regard to the James River Land Fill.

I work at the James River mill in Old Town, Maine, where we have spent $2,000,000, six years and produced five volumes of paper, in an effort to procure a license for a land fill.

Now, Great Northern Paper, Inc. is in the process of relicensing their dams, Ripogenus Hydroelectric Project (FERC No. 2572) and Penobscot Mills Hydroelectric Project (FERC No. 2458).

While growing up in Millinocket, we lived six months of the year on Ambajesus Lake and I have owned a camp on Millinocket Lake for the last 15 years. It is my hope to spend my summer retirement there.

The Draft Environmental Impact Statement suggest the need for a 500 foot building setback and 250 foot vegetative buffer.

I do not understand how the relicensing of the existing dams will cause further degradation of the waterways. The dams and waterways are there and will not change with a new license. In fact, if the dams weren't there, much of the waterway we seek to protect would not exist. Development around these waterways is a completely separate issue and should not be a condition of relicensing.

This would seem to me to be a ploy of special interest groups to impose unreasonable and possibly unnecessary restrictions, using the relicensing process as a lever. This misuse of well intended processes needs to stop. Industry in Maine, and the country cannot compete in this rapidly shrinking world if we continue to imposes costly, drawn out processes with

unreasonable expectations and often minimal or unmeasurable impact. Of course there are those who would have Maine become a pure Vacation Land. This provides them a place to escape their fast paced, economical environment. Unfortunately, for those of us who live in Maine and make their living here, it promotes fewer and fewer opportunities, and Millinocket can certainly attest to that.

Much of the industry that existed in Maine is gone and what is left has downsized significantly. A salesman that comes to the mill told me he doesn't make as many calls as he used to, many of the businesses he called on, just aren't there any more". One does not have to travel very to find falling down buildings that represent an industry that has become extinct. With this extinction went the jobs that the industry provided. If there was an endangered specious list for industries, many Maine industries are showing the signs that would place them on the list.

I do not wish to destroy the environment in which I hope to retire, but I have seen the water quality of these waterways improve in the thirty some years that I have hunted and fished them. I have also seen many jobs disappear. We must do something to improve the ability of industry survive in this state.

LURC has many restrictions that are intended to protect the quality of Maine's waterways. The limit on the number of leases that may be issued makes it almost impossible to get a new lease for the purposes of development. Are the present restrictions on development in these areas not working? Will the proposed restrictions do anything more than current restrictions? If there are any gains, will they be of sufficient significance to justify the restrictions? Will the gains be measurable or even be noticeable?

Somewhere, someone has to apply some basic logic and good common sense! Are the purposed restriction of value? Will there be sufficient gains to justify the cost or impact? What will be the impact on industry and the general public? I'm sure that there are many more basic questions that should be considered before allowing the vocal minorities and special interest groups dictate the destiny of the silent majority.

It is time for the silent majority to be heard, before the special interest groups force us to extinction!

Cordially,

Richard J. Wheaton Jr.

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95 MAR -2 AM 9:56
FEDERAL ENERGY REGULATORY COMMISSION

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

RE: Penobscot Mills Project, FERC No. 2458 -009
Ripogenus Project, FERC No. 2572 -005

Dear Ms. Cashell:

This letter is written in support of Great Northern's applications for new licenses for its Ripogenus and Penobscot Mills Projects.

I have reviewed the Draft Environmental Impact Statement and generally agree with its conclusions but strongly disagree that project boundaries must be expanded by means of a conservation easement or by prohibiting all future development.

Land use of property around the impoundments is presently regulated by Maine's Land Use Regulation Commission which is well able to discharge its duties and is largely responsible, along with the landowners, for conditions as they presently exist.

I object to a Washington bureaucracy dictating to the State of Maine and local residents how land use decisions should be made. This State has done a good job to date and the residents of this State are perfectly capable of making our own decisions.

Under no circumstances should anyone be forced to sell their land.

Very truly yours,

[signatures]

COPY

David Whorf
4 Tanya Lane
Falmouth ME 04105
January 29, 1995

Secretary
Federal Energy Regulatory Commission
825 North Capitol Street NE
Washington DC 20426

Re: Ripogenus Hydroelectric Project, Maine, Project No. 2572-005

Dear Secretary, FERC;

I (We) support the relicensing of Bowater's hydroelectric project under the terms of Bowater's original application, and do not support either alternative proposed by FERC.

I (We) further demand that FERC answer the following questions about its proposed alternatives to Bowater's application before it takes further action.

- Will land owners be allowed to maintain existing buildings and docks within the proposed setback zones?

- Will land owners be allowed to construct any new buildings or docks within the proposed setback zones?

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- Will relicensing opponents and federal agencies convince FERC to increase the proposed building setback and vegetative buffer in proposal 2 to 500 feet, and 250 feet respectively?

- Will land owners have to deal with both LURC and FERC concerning future changes to their property?

A written response to these questions may be sent to the above address.

Sincerely,

David Whorf

COPY

27 Hutchinson Street
New Britain, Connecticut 06053

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OFFICE OF THE SECRETARY

95 FEB -6 PM 3:09

FEDERAL ENERGY
REGULATORY
COMMISSION

FEB 2 4 1995

ECOLOGICAL

January 26th, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

Dear Ms. Cashell:

005

As the owner of a camp on North Twin Lake in Millinocket, Maine I am writing in support of the applications of Great Northern, Inc. for renewal of their thirty year license for the Ripogenus Hydroelectric Project (FERC No. 2572) and the Penobscot Mills Hydroelectric Project (FERC No. 2458). 009

Our family goes back many generations in the area encompassed by the Penobscot Project. Additionally, we have owned a camp on land leased from Great Northern on North Twin Lake for the last sixty years. During this time we have seen a good situation environmentally decline and then improve greatly after the establishment of Maine's Land Use Regulatory Commission in 1981. There have been far reaching effects from this point forward. Logging practices have been greatly improved, our beautiful lakes are in pristine condition, and most recently we have observed great improvement in the quantity and diversification of fish and water fowl populations. We have never in our lengthy lifetimes seen the area in better condition than it is now. This pleases us greatly.

That this is the case is in no small way due to the fact that LURC - Land Use Regulation Commission - serving approximately two thirds of the state of Maine, has already set and enforced on its own with no Federal suggestion solid environmental standards for the area in which both FERC No. 2572 and FERC No. 2458 fall. These LURC standards are tough, environmentally sound, working well, fair to area residents and visitors alike, and already paid for by the state of Maine and its residents.

If the Draft Environmental Impact Statement were so accurate, and tighter environmental controls needed, why are residents seeing continuous, steady environmental improvement such as that which we outlined? Perhaps the excellent controls already

In place in the state of Maine are not always in evidence in other areas serviced by FERC. But, for us in Maine your attempt to over regulate leads me to think of this as unneccesary Federal intervention. This seriously interferes with the individual rights of many people and the autonomy of an entire area of already environmentally conscious people.

Once again, we reiterate our total support of the renewal applications of Great Northern, Inc. as submitted and hope you will in wisdom leave matters affecting surrounding property in these areas encompassed by both projects up to the state of Maine and their Land Use Regulatory Commission which appears to already be doing a more than adequate job of regulating their own environment.

Respectfully,

Betty Trott Tessman
27 Hutchinson St.
New Britain, CT 06053

Camp Owner
Millinocket, ME

Betty Trott Tessman
ET

Sandra Trott Davenport
12 Eton Place
New Britain, CT 06051

Camp Owner
Millinocket, ME

Sandra Trott Davenport

FILED
OFFICE OF THE SECRETARY

95 FEB 28 PM 1:44

FEDERAL ENERGY
REGULATORY
COMMISSION

February 16, 1995

Lois B. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington D.C. 20426

RE: Penobscot Mills Project, FERC No. 2458 — 009
Ripogenus Project, FERC No. 2572 — 005

Dear Ms. Cashell:

This letter is written in support of Great Northern's applications for new licenses for its Ripogenus and Penobscot Mills Projects.

I have reviewed the Draft Environmental Impact Statement and generally agree with its conclusions but strongly disagree that project boundaries must be expanded by means of a conservation easement or by prohibiting all future development.

Land use of property around the impoundments is presently regulated by Maine's Land Use Regulation Commission which is well able to discharge its duties and is largely responsible, along with the landowners, for conditions as they presently exist.

I object to a Washington bureaucracy dictating to the State of Maine and local residents how land use decisions should be made. This State has done a good job to date and the residents of this State are perfectly capable of making our own decisions.

Under no circumstances should anyone be forced to sell their land.

Very truly yours,

[signature]
TECHNICIAN

[signature]
PRESIDENT

[signature]
OFFICE MANAGER

Brent Rollins
TECHNICIAN

All members of [illegible] Heating, Inc.
[illegible]