

Land & Water Associates



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*R. Alec Giffen
Kathy Eickenberg*

March 19, 2002

Lydia Grimm, Executive Director
Low Impact Hydropower Institute
319 SW Washington Street, Suite 706
Portland, Oregon 97204-2518

Dear Lydia,

Attached is Land & Water Associates' completed review of the Putnam Project, located on the Quinebaug River in Putnam, Connecticut. We have determined that the Project meets the Low Impact Hydropower Institute (LIHI) certification criteria. We do recommend, however, that the LIHI conduct a follow-up review of Water Quality Criteria B.3 in October or November of 2002, when the State of Connecticut's new Water Quality Assessment report is expected to be issued, to verify that the state's determination, that the Project does not contribute to the non-attainment status of the river, has not changed. We will be happy to answer any questions at the Board's upcoming meeting to review this assessment.

Sincerely,

Kathy Eickenberg

Low Impact Hydropower Institute Certification Review Putnam Hydropower Project Quinebaug River, Connecticut

Introduction

An application for Low Impact Hydro Certification was filed with the Low Impact Hydro Institute (LIHI) on December 27, 2001 by Putnam Hydropower, Inc for its Putnam Project on the Quinebaug River, in Connecticut. The Project, which is operated as a run-of-river facility, has an installed capacity of 575 kW and an average annual generation of 2.75 MWh.

In 1982, then owner of the project, Raymond Rosenfield, was granted an exemption by the Federal Energy Regulatory Commission (FERC)(Exemption # 5645 issued July 6, 1982). Letters were filed with FERC during the exemption proceeding by the US Department of Interior (May 18, 1982) defining conditions for minimum flows, fish passage, angler access and public recreational use of the project; and by the Office of the State Historic Preservation Officer for Connecticut (May 17, 1982), which stated that the project had no impact on the state's historical, architectural, or archeological heritage.

Copies of these letters, and the FERC "Order Granting Exemption From Licensing of a Small Hydroelectric Project of 5 Megawatts or Less" were attached to the application. In addition, the application included letters from the US Fish and Wildlife Service (US FWS) (November 14, 2001), the Connecticut Department of Environmental Protection (DEP) (July 31, 2001, August 29, 2001 and September 10, 2001), and an Environmental Inspections report by Joseph Enrico, Environmental Protection Specialist with the FERC (May 3, 2001). The letters from the US FWS and Connecticut DEP indicated the project is in compliance with the terms of the exemption granted by FERC, and with the state of Connecticut water quality standards. The FERC inspection report indicated there were no issues of concern to FERC identified.

Context:

General Description of the Putnam Hydropower Project: The Putnam Hydropower Project is a small facility located on the Quinebaug River in the northeastern corner of Connecticut. The drainage area of the Quinebaug River at Putnam (as measured at a USGS gage about 1.5 miles below the Putnam Project) is 328 square miles. The Project has a 1.5 acre reservoir, and a pre-Civil War cut stone dam measuring 145 feet in length and 14 feet in height. It is operated in run-of-river mode.

Environmental Context: The Putnam Hydropower Project is located in an industrial area of Putnam, and is the middle dam of three located within a mile. The water quality in this area (a couple miles above and below the Putnam Project) does not meet criteria for primary contact recreation (swimming), and is a designated "non-attainment" area. However, the Putnam Project has not been identified as a contributor to this non-attainment.

Although northeastern Connecticut is relatively rural, the Quinebaug River is a moderately developed river system. Upstream from Putnam, the river, including the French River sub-drainage, is impacted by industrial and municipal discharges, urban runoff, flow regulation by

hydropower facilities, flood control dams, and consumptive water withdrawals. The Quinebaug has been the subject of a number of studies including most recently, a two year intensive study by the USGS on nutrient loading (nearing completion); and the upper Quinebaug (mostly in the Massachusetts portion of the drainage area) is the subject of a flow study related to recently permitted consumptive water withdrawals for a new gas fired power station (the Millennium Project in Charlton, Massachusetts). The Thames River (including the Quinebaug River) was also part of a two year (1992-1994) multi-basin assessment (including the Housatonic, Connecticut, and Thames rivers) by the USGS which assessed contaminants in streambed sediments and fish tissue, and nutrients and pesticides in surface water, as well as pesticides, volatile organic compounds, and nitrates in ground water. The Connecticut Department of Environmental Protection is in the process of revising its 1998 Water Quality Assessment and will be developing a focused management strategy for the river, including establishment of Total Maximum Daily Loads (TMDL's), by the end of this year. (See also Report of Contact, Erik Thomas, CT DEP; and Report of Contact, Melissa Grader, UFWS, attached).

Summary:

Based on our review of the application and supporting information, and contacts with resource agencies, we conclude that the Putnam project meets the Low Impact Hydropower Certification Program criteria. We recommend, however, that the LIHI contact the Connecticut Department of Environmental Protection (Brian Emerick or Ernie Pizzuto) in the Fall (October or November of 2002) to review the findings of the Final 2002 Water Quality Assessment, to determine whether there have been any changes to the Department's conclusions regarding the potential contribution of the project to the non-attainment status of the Quinebaug River in the project area (see attached Reports of Contacts). Our detailed report and records of agency contacts follow. The LIHI criteria are shown in bold, followed by possible responses (unbolded), L&WA's determination in bold (YES, NO or N/A,) and an explanation supporting this determination.

Low Impact Certification Criteria:

A. Flows [PASS]

- 1) Is the Facility in Compliance with Resource Agency Recommendations issued after December 31, 1986 regarding flow conditions for fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking rate conditions, and seasonal and episodic instream flow variations) for both the reach below the tailrace and all bypassed reaches?**

YES = Pass, Go to B

N/A = Go to A2

NO = Fail

N/A. Agency conditions were issued in 1982 as part of the Project FERC License exemption.

- 2) If there is no flow condition recommended by any Resource Agency for the Facility, or if the recommendation was issued prior to January 1, 1987, is the Facility in Compliance with a flow release schedule, both below the tailrace and in all bypassed reaches, that at a minimum meets Aquatic Base Flow standards or "good" habitat flow standards calculated using the Montana-Tennant method?**

YES = Pass, go to B
NO = Go to A3

YES. The Project is operated as run-of river so that flows from the project meet ABF flows (144 cfs for this project) or inflows as required by USFWS. See letter from USFWS dated November 14, 2001 submitted with the application, and Attachment B to the FWS Letter "Interim Regional Policy for New England Streams Flow Recommendation." L&WA has confirmed that the agency recommendations are still valid, and the most recent, and that the applicant is in compliance with the recommendation (see Record of Contact, Melissa Grader, USFWS, March 1, 2002).

B. Water Quality [PASS with qualification]

1) Is the Facility either:

- a) **In Compliance with all conditions issued pursuant to a Clean Water Act Section 401 water quality certification issued for the Facility after December 31, 1986? Or N/A**
- b) **In Compliance with the quantitative water quality standards established by the state that support designated uses pursuant to the federal Clean Water Act in the Facility area and in the downstream reach?**

YES = Go to B2
NO = Fail

YES. The State of Connecticut Department of Environmental Protection has stated that the Project is in compliance with the water quality standards administered by the Department pursuant to the Clean Water Act. (See August 29,2001 letter from Brian Emerick, Office of Environmental Review, CT DEP included in the application). L&WA has confirmed that the Department's determination is still valid, and the most recent determination (see Record of Contact, Brian Emerick, CT DEP, March 4, 2002).

2) Is the Facility area or the downstream reach currently identified by the state as not meeting water quality standards (including narrative and numeric criteria and designated uses) pursuant to Section 303(d) of the Clean Water Act?

YES = Go to B3
NO = Pass

YES. The CT DEP has stated that the Quinebaug River, both upstream and downstream of the project, is listed as water quality impaired under Section 303(d) of the Clean Water Act. (See August 29,2001 letter from Brian Emerick, Office of Environmental Review, CT DEP included in the application)

3) If the answer to question B.2 is yes, has there been a determination that the Facility is not a cause of that violation?

YES = Pass
NO = Fail

Qualified YES. The State of Connecticut Department of Environmental Protection has stated that the Project does not contribute to this water quality impairment, and that the impairment is due to the regulation of flow above the Putnam Hydropower site by others. (See August 29, 2001 letter from Brian Emerick, Office of Environmental Review, CT DEP included in the application). L&WA has confirmed that the Department's assessment is still valid (see Record of Contact, Brian Emerick, CT DEP, March 4, 2002), and appears to be based on the current official Water Quality Assessment (Section 303(d) report) issued in 1998.

However, the State of Connecticut is updating its Water Quality Assessment and will have a new draft assessment issued in April of this year (final assessment due in October). The new assessment will reportedly indicate that the reach from the confluence of the French River (less than 2 miles above the project) to the Putnam Sewage Treatment Plant (less than 2 miles below the project) does not meet the standards for swimmable waters (primary contact recreation) due to indicator bacteria and pathogen exceedences. The CT DEP monitoring report on the 3.3 mile river segment including the project area indicates the river is "threatened" by nutrient enrichment from municipal sources, organic enrichment and low dissolved oxygen from agricultural sources, and flow alteration from hydromodification; and that it is "moderately impaired" due to exceedences in indicator bacteria (source unknown), and pathogens, with flow regulation/ modification listed as a contributing factors. Impoundments do modify flows in that flow velocity is diminished and retention time increased. At this time, however, the CT DEP is not suggesting that the Putnam Project is a contributing factor to the impairment. (See Record of Contact, Erik Thomas, CT DEP, March 4, 2002; Record of Contact, Ernie Pizzuto, CT DEP, March 7, 2002; Record of Contact, Lisa Wahle, CT DEP, March 7, 2002 including "General Report of All Waterbody Segment Data" for the segment including the Putnam Project, assessed 03/12/2001). Nevertheless, it would be advisable to review this issue when the final 2002 Water Quality Assessment is issued.

Recommendation: Since flow modification may be a factor in the non-attainment status of the river, it would be advisable to re-evaluate this criteria after the final 2002 Water Quality Assessment Report has been issued (final due in October).

C. Fish Passage and Protection [PASS]

1) Is the Facility in Compliance with *Mandatory Fish Passage Prescriptions* for upstream and downstream passage of anadromous and catadromous fish issued by Resource Agencies after December 31, 1986?

YES = Go to C5
N/A = Go to C2
NO = Fail

N/A. Agency conditions were issued in 1982 as part of the Project FERC License exemption.

2) Are there historic records of anadromous and/or catadromous fish movement through the Facility area, but anadromous and/or catadromous fish do not presently move through the Facility area (e.g., because passage is blocked at a downstream dam or the fish run is extinct)?

YES = Go to C2a
NO = Go to C3

YES. The Connecticut DEP states that Atlantic salmon historically were able to pass through the reach now occupied by the Putnam Project, but are now extinct from this area due to downstream dams (see letter from Brian Emerick, CT DEP, August 29, 2001).

NO. Eels, in very low numbers, are thought to ascend the dam below the project and the Putnam Project dam (see letter from Brian Emerick, CT DEP, August 29, 2001).

L&WA has confirmed that the Department's assessment is the most recent and is still valid (see Record of Contact, Brian Emerick, CT DEP, March 4, 2002).

a) If the fish are extinct or extirpated from the Facility area or downstream reach, has the Applicant demonstrated that the extinction or extirpation was not due in whole or part to the Facility?

YES = Go to C2b

N/A = Go to C2b

NO = Fail

YES. Both the CT DEP and the USFWS agree that construction of dams lower in the watershed and pollution likely extirpated Atlantic salmon from the watershed below the Putnam Project and that the Putnam Project did not contribute to this extirpation. See letter from USFWS dated November 14, 2001, and the letter from Brian Emerick, CT DEP, September 10, 2001 both submitted with the application. L&WA has confirmed that the USFWS's and CT DEP's assessments are the most recent and are still valid (see Record of Contact, Brian Emerick, CT DEP, March 4, 2002 and Record of Contact, Melissa Grader, USFWS, March 1, 2002).

b) If a Resource Agency Recommended adoption of upstream and/or downstream fish passage measures at a specific future date, or when a triggering event occurs (such as completion of passage through a downstream obstruction or the completion of a specified process), has the Facility owner/operator made a legally enforceable commitment to provide such passage?

YES = Go to C5

N/A = Go to C3

NO = Fail

YES. The USFWS issued conditions in 1982 as part of the Project FERC License exemption, which require the exemptee to provide fish passage facilities for anadromous fish when the CT DEP implements a plan to restore anadromous fish through the project area (see letter from USFWS dated November 14, 2001). The CT DEP has no plans to initiate a restoration effort for Atlantic salmon on the Quinebaug River (See August 29, 2001 letter from Brian Emerick, Office of Environmental Review, CT DEP included in the application). However, if the future such an effort is initiated, the exemptee is legally bound to provide any required passage by the terms of the FERC exemption.

3) If, since December 31, 1986: (this question applies only to catadromous species, eels in this case)

a) Resource Agencies have had the opportunity to issue, and considered issuing, a

Mandatory Fish Passage Prescription for upstream and/or downstream passage of anadromous or catadromous fish (including delayed installation as described in C2a above), and

- b) **The Resource Agencies declined to issue a Mandatory Fish Passage Prescription,**
- c) **Was a reason for the Resource Agencies' declining to issue a Mandatory Fish Passage Prescription one of the following: (1) the technological infeasibility of passage, (2) the absence of habitat upstream of the Facility due at least in part to inundation by the Facility impoundment, or (3) the anadromous or catadromous fish are no longer present in the Facility area and/or downstream reach due in whole or part to the presence of the Facility?**

NO = Go to C5
N/A = Go to C4
YES = Fail

NO. As it did for anadromous fish passage, the USFWS could have required eel passage at this facility at some future date, triggered by implementation of a plan to restore or enhance eel passage, when it issued its conditions for the exemption in 1982. Since 1986, the USFWS also could arguably have revised its conditions to include eel passage, if it considered there was a need. It has not, and in fact, it has recently determined that the Putnam Project is in compliance with the flow and fish passage requirements of its exemption (letter dated November 14, 2001). The USFWS recognizes, in its November 14 letter, that the American eel still does inhabit the Quinebaug River in the vicinity of the Project, "albeit in low numbers." It goes on to state that the CT DEP/Inland Fisheries Division has indicated it intends to enhance eel passage on the Quinebaug, but in a staged approach, and that the Putnam Project would be expected to install eel passage facilities for a number of years. The USFWS could amend its conditions when and if necessary in the future to support efforts by the CT DEP to enhance eel passage at this site.

- 4) **Skip.**
- 5) **Is the Facility in Compliance with Mandatory Fish Passage Prescriptions for upstream and/or downstream passage of *Riverine* fish?**

YES = Go to C6
N/A = Go to C6
NO = Fail

N/A. There have been no prescriptions for fish passage for riverine (resident) fish; and the CT DEP states further there is no need for such passage at the Putnam Project (see August 29, 2001 letter from Brian Emerick, Office of Environmental Review, CT DEP). L&WA has confirmed that the Department's assessment is the most recent and is still valid (see Record of Contact, Brian Emerick, CT DEP, March 4, 2002).

- 6) **Is the Facility in Compliance with Resource Agency Recommendations for Riverine, anadromous and catadromous fish entrainment protection, such as tailrace barriers?**

YES = Pass, go to D
N/A = Pass, go to D

NO = Fail

N/A. There have been no such recommendations for this project (see Record of Contact, Brian Emerick, CT DEP, March 6, 2002).

D. Watershed Protection [PASS]

- 1) Is the Facility in Compliance with Resource Agency Recommendations, or, if none, with license conditions, regarding protection, mitigation or enhancement of lands inundated by the Facility or otherwise occupied by the Facility, and regarding other watershed protection, mitigation and enhancement activities?**

YES and N/A= Pass

NO = Fail

N/A: There are no conditions related to watershed protection (e.g., erosion control measures, shoreline buffer zones, off-site wetlands mitigation, etc.) imposed by any Resource Agency on the FERC exemption for this project. Erik Thomas, Thames River Watershed Coordinator for the CT DEP Bureau of Water Management, indicated that the Department was involved in a watershed planning effort for the Quinebaug River which will be primarily aimed at developing TMDL's for the river. There are no other existing watershed protection plans; and the new plan is unlikely to focus on the issues contemplated by this criteria (see Report of Contact, Erik Thomas, CT DEP, March 4, 2002) .

E. Threatened and Endangered Species Protection [PASS]

- 1) Are threatened or endangered species listed under state or federal Endangered Species Acts present in the Facility area and/or downstream reach?**

YES = Go to E2

NO = Pass, go to F

NO. A letter from the CT DEP indicates there are no known threatened or endangered species present in the project area (see letter from Dawn McKay, CT DEP Environmental and Geographic Information Center, July 31,2001). Located in an industrial area of Putnam, between two dams less than a mile apart, with anadromous fish runs extinct, and the project reservoir perimeter well developed, it is not likely that this area would provide habitat to any threatened or endangered species. L&WA has confirmed that the Department's assessment on this issue is the most recent and is still valid (see Report of Contact, Brian Emerick, CT DEP, March 4, 2002).

2) Skip

3) Skip

4) Skip

5) Skip

F. Cultural Resource Protection [PASS]

1) If FERC-regulated, is the Facility in Compliance with all requirements regarding Cultural Resource protection, mitigation or enhancement included in the FERC license or exemption?

YES = Pass, go to G
N/A = Go to F2
NO = Fail

YES. There are no conditions in the FERC exemption related to cultural resources. A letter is included in the application from the CT State Historic Preservation Officer (dated May 17, 1982) which states that the project has no impact on the state's historical, architectural or archaeological resources. The existing Historic Preservation Officer, John W. Shannahan, has recently reviewed the Putnam application for low-impact certification and states that his office "expects that the proposed undertaking will have no effect on historic, architectural, or archaeological resources listed on or eligible for the national Register of Historic Places." (see attached report of contact, David Poirier, CT Historical Commission, and letter from John W. Shannahan).

G. Recreation [PASS]

1) If FERC-regulated, is the Facility in Compliance with the recreational access, accommodation (including recreational flow releases) and facilities conditions in its FERC license or exemption?

YES = Go to G3
N/A = Go to G2
NO = Fail

YES. The US Department of Interior conditions for exemption (May 18, 1982) included the following recommendation by the National Park Service:

"consideration should be given to providing for public recreational use within project boundaries. The possibility for providing public facilities for activities such as canoeing, boating, fishing, picnicking, and other activities that would be compatible with the resource should be investigated in consultation with the State Liaison Officer (SLO) and local agencies and community groups concerned with providing opportunities for public recreation."

It is not known whether there was any such consultation; the Director of the State Parks Division of the CT DEP (Pamela Adams, see Report of Contact) did not know whether there was any contact or discussion about this project back in 1982. However, she indicated that due to the nature of the area, it does not appear to have much possibility for development of public recreational facilities, except possibly angler access. It is developed industrially; the river has impaired water quality; the location of the dam between two other dams in close proximity makes this stretch of the river one which canoe guides, such as the Appalachian Mountain Club River Guide, recommend portaging around, from the dam above the Putnam dam to below the dam downstream of it; and there are apparently no good opportunities to develop a formal public access, although there is some fishing informally at the site (foot

access) according to Mr. Rosenfield (this was confirmed by Melissa Grader of the USFWS). In fact, Ms. Grader (USFWS) suggested that a park at the project immediately downstream of this project (the Hale Project) provided fishing access and was a more desirable location for fishing. A contact at the CT DEP Fisheries Division (Brian Murphy) confirmed that there is fishing use at the Hale Project immediately downstream, and that there may be fishing use at the tailwaters of the Putnam Project, since trout are stocked throughout the Quinebaug drainage. In the future, he expects fishing pressure to increase as the water quality of the river responds to efforts now being identified to reduce nutrient pollution and generally improve conditions in the river (see also Report of Contact for Erik Thomas).

Whether the Project owners ever contacted anyone in response to the National Park Service recommendation in the DOI letter filed at the time of the exemption proceeding remains unknown. However, there did not appear to be any concern by state officials about this. Further, the April 24, 2001 FERC environmental inspection, which reportedly covers all conditions in the license (see Report of Contact, Joseph Enrico at FERC), found no compliance issues of concern. Finally, the Rivers Alliance of Connecticut reviewed the project and commented that, in their opinion, the project meets the goals of the LIH certification program. Consequently, we conclude that even had this consultation taken place, the outcome would likely not have resulted in any action to develop public access facilities due to site constraints, and limited interest and demand for access at this project. This could change in the future, as the river is improved and becomes more of a recreational resource. However, for the term of this certification (5 years) we do not expect conditions to warrant any further evaluation of the Project regarding public access.

2) Skip

3) Does the Facility allow access to the reservoir and downstream reaches without fees or charges?

YES = Pass, go to H
NO = Fail

YES. Mr. Rosenfield has stated that access is allowed (primarily for informal fishing), as safety permits, without fee.

H. Facilities Recommended for Removal [PASS]

1) Is there a Resource Agency Recommendation for removal of the dam associated with the Facility?

NO = Pass, Facility is Low Impact
YES = Fail

NO. There are no agency recommendations in the FERC record calling for the removal of the Putnam dam.

Reports of Contacts

Melissa Grader
US Fish and Wildlife Service

Brian Emerick
Connecticut DEP

Ernie Pizzuto
Supervisor, Monitoring and Assessment Program
CT DEP

Lisa Wahle
Monitoring and Assessment Program
CT DEP

Erik Thomas
CT DEP, Bureau of Water Management
Thames River Watershed Coordinator

Pamela Adams
Director, State Parks Division, CT DEP

Joseph Enrico
FERC
NY Regional Office

Paula Felt
FERC
Washington, D.C. Office

David Poirier
Connecticut Historical Commission
(including letter from John W. Shannahan)

Brian Murphy
CT DEP, Fisheries Division

Report of Contact Putnam Project

Date of Conversation: March 1, 2002

Person Contacted: Melissa Grader
Affiliation: US Fish and Wildlife Service
Telephone Number: 207-781-8364

Reviewer: Kathy Eickenberg, Land & Water Associates

Summary of Discussion:

Melissa confirmed that the conditions for flows and fish passage filed by Interior in 1982 (May 18, 1982 letter) for the FERC exemption proceeding are the most current conditions by Interior; that the project is operated as a run-of-river facility and therefore meets their criteria for ABF or inflow, whichever is less; and that fish passage requirements are tied to development and implementation of a state fish passage plan for this river. It is her understanding that the project is meeting its fish passage obligations, in that there is, to date, no state plan to require passage at the Putnam Project.

I asked her about the statement in her letter that “there have been several FERC-initiated compliance investigations regarding potential violations of the minimum flow requirement.” Apparently FERC had initiated an investigation of the Putnam Project and the Toutant Hydro Project (FERC No. 5679) project immediately upstream due to unusual low flow conditions. Both are run-of-river. The investigation found that the Toutant Hydro Project was responsible for inadvertently ponding water, and the problem has since been corrected. Flows into the Putnam Project are controlled by several upstream projects, including 3 Army Corps of Engineers Flood dams on the Quinebaug, and two hydropower projects.

I asked her about compliance with DOI’s condition that the “Exemptee shall provide access for anglers to project waters where practical, taking into consideration any limitations due to personal safety and liability.” She said the project was in a very urban area, and her understanding was that because the pond was surrounded with industrial buildings and the shoreline was steep, and because the surrounding properties were privately held, there was no opportunity to develop safe access. She thought there were likely a few informal access sites, however. She thought there was a park at the project immediately downstream from this project (the Hale Project) where people were more likely to go for fishing.

Report of Contact Putnam Project

Date of Conversation: March 4, 2002; supplemented on March 6, 2002

Person Contacted: Brian Emerick
Affiliation: Connecticut DEP
Telephone Number: 1-860-424-4109

Reviewer: Kathy Eickenberg, Land & Water Associates

Summary of Discussion:

March 4, 2002

Mr. Emerick confirmed that the statements made in his letters dated August 29, 2001 and September 10, 2001 regarding compliance of the Putnam Project to state water quality standards, fish passage plans and endangered species, remain current. In his view, the Putnam Project meets the certification criteria on these issues.

March 6, 2002

Mr. Emerick was called again to get clarification on Question #6 (related to entrainment and tailrace protection measures) which was not addressed in his August 29, 2001 or September 10, 2001 letters. He stated that there have been no recommendations for fish protection measures related to entrainment or tailrace protection for this project. The only recommendations filed by the CT DEP for the Putnam Project FERC exemption proceeding related to minimum flows (dated May 19, 1982; a fax copy was provided to L&WA which is being forwarded by fax to LIHI). The State recommended a minimum flow of 58 cfs, less than the 144 cfs required by the US FWS.

Report of Contact Putnam Project

Date of Conversation: March 7, 2002

Person Contacted: Ernie Pizzuto
Affiliation: Supervisor, Monitoring and Assessment Program
CT DEP

Telephone Number: 1-860-424-3715

Reviewer: Kathy Eickenberg, Land & Water Associates

Summary of Discussion:

I contacted Mr. Pizzuto to get clarification on the status of the river segment in which the Putnam Project is located. The letter from Brian Emerick (August 29, 2001) indicated the river in the vicinity of the project did not meet water quality standards due to flow regulation; Erik Thomas (see Report of Contact) indicated it did not meet criteria for primary contact recreation (bacteria). The current Water Quality Assessment (303(d)) Report is dated 1998; there is a new assessment to be issued in draft form in April. I wanted to know: (1) was Brian Emerick's letter based on the 1998 assessment (still officially the current assessment?) (2) what is the status of this section of the river under the new assessment? and (3) does the new assessment identify whether the Putnam Project contributes (indirectly) to the water quality impairment?

Mr. Pizzuto was not consulted by Mr. Emerick in drafting the letter, so he assumes the letter is based on the 1998 report.

Mr. Pizzuto did not know what the status of the river in Putnam was under the new assessment, but he said he would check and have someone get back to me.

Mr. Pizzuto said the assessments do not take flow regulation into account unless there is a dewatered section; hence there is no connection made in the report between flow regulation and the water quality status. There is nothing to indicate that the Putnam Project, a small run-of-river operation, would be affecting the water quality impairment of the river in the vicinity of the project.

Report of Contact Putnam Project

Date of Conversation: March 7, 2002

Person Contacted: Lisa Wahle
Affiliation: Monitoring and Assessment Program
CT DEP

Telephone Number: 1-860-424-3715

Reviewer: Kathy Eickenberg, Land & Water Associates

Summary of Discussion:

Ms. Wahle called, in response to Mr. Pizzuto's request to provide us information on the recent water quality monitoring results which are being used to update the Water Quality Assessment report. She said the reach from just above the Putnam STP to the confluence of the French River, in which the Putnam Project is located, does not support its designated uses due to bacterial exceedences. It also has high nutrient levels from agriculture and sewage treatment plants, which cause algal blooms (which is why the USGS has been studying the river for nutrient enrichment for 2 years). The benthic community in this reach is moderately impaired but not enough to, of itself, cause non-attainment of this reach; rather, the river is characterized as "threatened," by nutrient enrichment as well as flow fluctuations. "Its green with widely fluctuating flows," she said.

General Report of All Waterbody Segment Data

WBIDSEGID: CT3700-00_05

WBNAME: QUINEBAUG RIVER

SEGNAME: QUINEBAUG RIVER_05

WBTYPE: River **SEGSIZE:** 3.3 Miles **Significant** No

Waterbody Comments: Former assessment based on 40 miles. Extensive 2-year study by USGS/DEP in progress: several monitoring stations added, some data available. Entire River affected by nutrients, algal growth & widely fluctuating stream flow, DO & pH.

Segment Comments: Impounded areas along segment.

Location

CU: 01100001

ST 3700

ST Basin: THAMES

NRCS11:

NRCS14:

1. County: WINDHAM CO

2. County:

1. Ecoregion:

2. Ecoregion:

Lat in DD:

Lon in DD:

Location Comments: From just US of Putnum POTW US to confluence with French River.

WBIDSEGID: CT3700-00_05

WBNAME: QUINEBAUG RIVER

SEGNAME: QUINEBAUG RIVER_05

General Assessment Info.

Lake?:

Assess Date: 03/14/2001

Start Sample: 01/01/1973

Key Sample:

End Sample: 08/23/2000

YEAR303d: 1996

Eval/Mon: M

Cycle: 2001

Watershed: Trophic

Bio Level:

Bio Sites:

Assessor:

Assessment DEP p/c, benthic site 32A - mod impaired, but borderline, good no. of
Comments: EPT. USGS station 1125500 @ Putnum. Trout stocked.

Assessment Level Information

Level Category	1-4
Biological	4
Physical/Chemical	4
Habitat	3

Assessment Method

CODEMETHODNAME

125 Waterbody segment is trout stocked, assumed to support cw fish
231 Highest quality fixed-station P/C (conventional plus toxicants)
321 RBP III or equivalent benthos surveys
420 Water column surveys (e.g. fecal coliform)

WBIDSEGID: CT3700-00_05

WBNAME: QUINEBAUG RIVER

SEGNAME: QUINEBAUG RIVER_05

Use Support	USECODE	USENAME	SUPDESC
	1	Overall Use Support	Not supporting
	20	Aquatic Life Support	Threatened
	21	Fish Consumption	Fully
	22	Cold Water Fishery - Trout	Fully
	24	Warm Water Fishery	Not assessed
	42	Primary Contact (Recr)	Not supporting

Causes

Sources

CAUSECODE	MAGCODE	SRCNAME	MAGCODE	CAUSENAME	SRCCODE
900	T	Nutrients	200	T	Municipal Point Sources
1200	T	Organic enrichment/Low DO	1000	T	Agriculture
1500	T	Flow alteration	7000	T	Hydromodification
1700	M	Pathogens	7400	T	Flow regulation/Modification
1750	M	Indicator bacteria	9000	M	Source Unknown

T = threat

Report of Contact Putnam Project

Date of Conversation: March 4, 2002

Person Contacted: Erik Thomas
Affiliation: CT DEP, Bureau of Water Management
Thames River Watershed Coordinator

Telephone Number: 1-860-424-3548

Reviewer: Kathy Eickenberg, Land & Water Associates

Summary of Discussion:

I contacted Mr. Thomas to determine whether there were any watershed plans affecting the project. There are no watershed management plans for the Quinebaug River at this time. However, there is an ongoing effort to develop a watershed management strategy, expected to be completed sometime this year. It will be based on a new water quality assessment report, and several other studies being conducted in the watershed.

A new Water Quality Assessment (pursuant to Section 303(d) of the Clean Water Act) is being developed to update the previous assessment issued in 1998, and is expected to be completed in April. It will include a more detailed listing of water quality impaired segments on the Quinebaug and a discussion of factors contributing to the impairments. Mr. Thomas indicated that the river from the sewage treatment plant downstream of Putnam to the confluence of the French River above Putnam near Mechanicsville does not meet water quality criteria supporting primary contact recreational use, a designated use. He indicated that the Putnam Project is not likely to be identified as a concern in this report, although he could not speak to its status definitively until the report was completed.

There has been a major effort to study the Quinebaug over the last 10+ years. Among these, most recently, the USGS is just completing a two year study on nutrient issues on the mainstem of the Quinebaug. In addition, studies have been prompted by new developments in the upper watershed related to consumptive water withdrawals. A new gas-fired power station in Charlton, Massachusetts, called the Millennium Power Project, went on line last April, and has received permits to divert water from the Quinebaug for cooling its turbines¹ (which removes water from the river and converts it to a steam discharged in cooling towers). A major study of potential impacts to low flow condition, and possible mitigation strategies is being conducted, called the Quinebaug Restoration and Mitigation Project.

These various studies will be drawn together at a symposium in April, and will form the basis for development (by the CT DEP) of a focused management strategy for the Quinebaug River. The major factors affecting the river and contributing to the current non-attainment status of the river in Putnam (i.e. its failure to meet water quality standards and support designated uses) include flow alterations (from upstream flow regulation), water withdrawals, and point and non-point pollution.

¹ It is apparently using treated effluent from a local sewage treatment plant as a primary source, and will draw from the Quinebaug as needed.

Other contacts suggested included:

Ernie Pizzuto
Supervisor of the Monitoring and Assessment Program
CT DEP Water Management Bureau
Tel. 860-424-3715

Michael Columbo
USGS
Connecticut District Office
Tel. 860-291-6751

Ralph Abele
EPA Region I
Tel. 617-918-1629

Report of Contact Putnam Project

Date of Conversation: March 7, 2002

Person Contacted: Pamela Adams
Affiliation: Director, State Parks Division, CT DEP

Telephone Number: 1-860-424-3013

Reviewer: Kathy Eickenberg, Land & Water Associates

Summary of Discussion:

Ms. Adams stated she did not know whether any consultation had ever occurred in response to the National Park Service recommendation in the 1982 letter from DOI during the exemption proceeding. She indicated that due to the site constraints, angler access would be the only area of likely interest, and suggested contacting the Director of the CT DEP Fisheries Division, William Hyatt (1-860-424-3487).

Report of Contact Putnam Project

Date of Conversation: March 7, 2002

Person Contacted: Joseph Enrico
Affiliation: FERC
NY Regional Office

Telephone Number: 1-212-273-5917

Reviewer: Kathy Eickenberg, Land & Water Associates

Summary of Discussion:

I contacted Mr. Enrico to understand what sorts of issues the environmental inspection covers. He stated that on a 5+ year cycle they review exemptions for any conditions that are in effect, and inspect the project for compliance with those conditions. In this case that includes fisheries flows, fish passage, and recreational access. He would not discuss the specifics of the case as he was not sure if it was public record and referred me to the Washington Office (Paula Felt, at 202-208-0544).

Report of Contact Putnam Project

Date of Conversation: March 7, 2002

Person Contacted: Paula Felt
Affiliation: FERC
Washington, D.C. Office

Telephone Number: 1-202-208-0544

Reviewer: Kathy Eickenberg, Land & Water Associates

Summary of Discussion:

I contacted Ms. Felt to obtain a copy of the inspection report filed by Joseph Enrico for an inspection of the Putnam Project conducted on April 24, 2001. She did not know why it would not be public record and agreed to contact the FERC project specialist assigned this project to have a copy of the inspection report faxed to me. Later she called back to say that because of security reasons prompted by September 11, no environmental inspection reports would be posted on the FERC website, and a FOIA request must be filed to obtain a copy.

**Report of Contact
Putnam Project**

Date of Conversation: March 7, 2002

Person Contacted: David Poirier
Affiliation: Connecticut Historical Commission
Hartford, CT

Telephone Number: 1-860-566-5078

Reviewer: Kathy Eickenberg, Land & Water Associates

Summary of Discussion:

Mr. Poirier offered to review the materials in the Putnam application and get back to us about any new issues that might have arisen since their review of the project during the exemption proceeding in 1982. I subsequently received a letter from John W. Shannahan, Director and State Historic Preservation Officer, stating no new issues (see attached).

Report of Contact Putnam Project

Date of Conversation: March 11, 2002

Person Contacted: Brian Murphy
Affiliation: Connecticut DEP
Fisheries Division

Telephone Number: 1-860-295-9523

Reviewer: Kathy Eickenberg, Land & Water Associates

Summary of Discussion:

Mr. Murphy is a fisheries biologist who is familiar with the Putnam area in general, but not of the Putnam Project in specific. He confirmed that there is fishing use in the Hale Project below the Putnam Project, and assumed the area around the Putnam Project also is fished. The tailraces of these dams are popular fishing spots, and this river is stocked with trout throughout the drainage. He mentioned that although fishing pressure may be light now, given all the studies and efforts to improve the river as a recreational resource, he expects interest and fishing pressure to increase in the future, as the river is improved. His Department has no specific plans for access improvements in this area.