LOW IMPACT HYDROPOWER INSTITUTE CERTIFICATION APPLICATION FOR THE SKELTON PROJECT (FERC No. 2527)

September 2024

Revised February 2025



LOW IMPACT HYDROPOWER INSTITUTE

**CERTIFICATION APPLICATION FOR THE** 

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Low Impact Hydropower Institute

**Certification Application for the** 

Skelton Project (FERC No. 2527)

#### **1.0 PROJECT DESCRIPTION**

#### 1.1 PROJECT FACILITIES AND HISTORY

The Skelton Project consists of a 1,695-foot-long dam, a powerhouse that is integral to the dam, a 488-acre impoundment, and appurtenant facilities. The nameplate generator capacity of the Project is 21.6 MW. The Skelton Dam forms a riverine impoundment approximately 2.8 miles long and up to 0.2 miles wide. The impoundment includes approximately 2.1 miles of Cook's Brook at its confluence with the Saco River. The Project boundary extends upstream to the Bar Mills Project (FERC No. 2194) tailwater and Project boundary. The Project boundary extends downstream to the impoundment of the Cataract Project (FERC No. 2528).

The Skelton Project is located on the Saco River in York County, Maine, about 11.1 miles upstream of the City of Saco. The Project dam and powerhouse are located in the Towns of Buxton and Dayton, Maine. The impoundment is located in the Towns of Buxton, Dayton, and Hollis. The Project is one of seven hydroelectric projects located on the main stem of the Saco River.

The project is equipped with upstream and downstream fish passage facilities installed in 2001. Upstream fish passage is provided by a fish lift located on the south side of the powerhouse. This equipment consists of an attraction water system, a fish crowder system, hopper/elevator, and truck and trap holding systems. Downstream fish passage is provided by a concrete log sluice centrally located in the dam equipped with a 5-foot by 5-foot slide gate located at the headworks.

The project also has an upstream eel passage that was first operational in 2013. It includes a roughened cement attraction water flow area on the East side of the Skelton spillway leading the juvenile eels to a three-foot long EnkaMat ramp and into an elevator tank with approximately 50-gallon capacity.



#### FIGURE 1-1. SKELTON PROJECT BOUNDARY



#### FIGURE 1-2. SKELTON PROJECT FACILITIES

### FIGURE 1-3. SKELTON PROJECT AREA – AERIAL





# FIGURE 1-4. SKELTON PROJECT INTAKE, POWERHOUSE AND TAILRACE – AERIAL PHOTO



## FIGURE 1-5. SKELTON PROJECT POWERHOUSE AND TAILRACE – AERIAL PHOTO

### **1.2 PROJECT OPERATIONS**

The Skelton Project is operated as a seasonally modified run-of-river facility.

- **April 1 through June 30**, the Project is operated in run-of-river mode with only 1 foot of fluctuation from the normal full pond allowed.
- July 1 through September 30, the minimum flow increases to 400 cfs when inflow is greater than 400 cfs. When inflow to the impoundment falls below 400 cfs the project continues to release 400 cfs by drawing from impoundment storage, with the impoundment drawdown limited to four feet or less from full pond elevation. Once the impoundment elevation drops four feet below full pond elevation outflow is equal to inflow.
- October 1 through November 15<sup>1</sup>, the minimum flow increases to 600 cfs or inflow, whichever is less.
- November 15 through March 31, the minimum flow is 400 cfs when inflow is greater than 400 cfs. When inflow to the impoundment falls below 400 cfs the project continues to release 400 cfs by drawing from impoundment storage, with the impoundment drawdown limited to four feet or less from full pond elevation. Once the impoundment elevation drops four feet below full pond elevation outflow is equal to inflow.

#### 1.3 PROJECT LOCATION

The Project is approximately 11.1 river miles above the head-of-tide at Saco and 16 river miles from the mouth of the river at Camp Ellis/Hills Beach. The river passes through the Project area in a generally north to south direction. The Skelton Project is the second most upstream of seven hydroelectric projects located on the main stem of the Saco River. Six of these projects are owned by the Licensee, Brookfield White Pine Hydro, LLC (BWPH).

<sup>&</sup>lt;sup>1</sup> An alternate six-week period may be used if mutually agreed upon by the licensee, the U.S. Fish and Wildlife Service, the Maine Department of Inland Fisheries and Wildlife, and the Maine Department of Marine Resources. This fall flow period shall be no less and no more than six weeks except upon mutual agreement among the licensee and these fisheries agencies and shall start no sooner than September 1 and no later than October 1.



FIGURE 1-6. OVERVIEW MAP OF THE WATERSHED

#### **1.4 REGULATORY AND OTHER REQUIREMENTS**

#### 1.4.1 FERC LICENSE AND WATER QUALITY CERTIFICATION REQUIREMENTS

Project license requirements and compliance activities are discussed by resource area in Section 3. A summary of the requirements and a general update on compliance is provided below.

#### **Operations**

The Project is operated in a seasonal run-of-river mode per the Project's Section 401 Water Quality Certification (WQC), Article 402 of the February 26, 1998, Federal Energy Regulatory Commission (FERC) license (As amended by Order dated April 15, 1998) and the April 30, 1997, Instream Flow Agreement, which reads as follows: (see Section 6.0).

*Run-of-river operation from April 1 through June 30, with a headpond drawdown limited to one (1) foot or less from full pond elevation during normal operations.* 

A minimum flow of 400 cfs is "guaranteed" from July 1 through September 30, with a headpond drawdown limited to four (4) feet or less from full pond elevation.

"Guaranteed" means that at times when inflow to the Skelton headpond drops below 400 cfs, Brookfield White Pine Hydro will continue to provide 400 cfs below the Skelton Project by drawing from the Skelton headpond. This use of the headpond storage to supplement outflow will be discontinued if the headpond elevation drops four feet below full pond elevation, such as may occur when extended natural low flow conditions are experienced. Under these circumstances, the outflow from the Skelton Project will be equal to the inflow. When inflow to the headpond is greater than 400 cfs, a minimum flow of 400 cfs will be provided.

A minimum flow of 600 cfs, or inflow, whichever is less, from October 1 through November 15, with headpond drawdown limited to four (4) feet or less from full pond elevation.

A minimum flow of 400 cfs "guaranteed" from November 16 through March 31, with headpond drawdown limited to four (4) feet or less from full pond.

Article 403 required the filing of a plan, in consultation with the resource agencies, to monitor compliance with water level and minimum flow requirements. The Monitoring Plan was filed on August 26, 1998, and accepted by the FERC on November 12, 1998 (please see Section 6.0).

Excursions from run-of-river flows and headpond elevations are reported to the resource agencies and to FERC promptly.

On June 30, 2020, a minimum flow disruption occurred at the project, it was not considered a license violation by the FERC.

On August 13, 2016, a headpond deviation occurred due to low inflows and the FERC determined it was not a license violation.

On September 9, 2014, a minimum flow disruption occurred from equipment failure and the FERC determined this event was not a license violation. (See Section 6.6 for FERC and BWPH correspondence)

#### Fish Passage

Fish passage requirements at the Project were originally dictated by the 1994 Saco River Fish Passage Agreement and were incorporated into the 1998 FERC license under Articles 405, 406, and 407, and have been updated pursuant to the 2007 Saco River Fish Passage Agreement and the 2019 Amendment to the Saco River Fish Passage Agreement. Fish passage operations focus on passing and/or transporting diadromous fish species (Atlantic salmon, American shad, river herring and American eel) targeted for restoration on the Saco River.

Article 405 required permanent downstream fish passage and Article 406 required permanent upstream fish passage. The functional design drawings for both the downstream and upstream fish passage facilities as well as fish passage effectiveness monitoring plans were filed with the Federal Energy Regulatory Commission (FERC) on September 28, 1998, and supplemented on February 17, 1999. FERC approved the upstream and downstream fish passage plans on March 26, 1999.

Due to several significant unanticipated setbacks during the upstream fish lift construction process (i.e. logistical difficulties arising from precise rock blasting activities adjacent to the powerhouse, severe winter weather conditions, and delays in the arrival of fishway electrical and mechanical components) the upstream fish lift was not operational until the fall of 2001. Therefore, 2002 marked the first full operational season for the Skelton upstream fish lift. The 2019 Amendment to the Saco River Fish Passage Agreement resolved an upstream fish lift issue with the fish crowder per the USFWS/NMFS Engineering Recommendations. This improvement measure was completed by May 1, 2020.

2023 marks the twenty-first full year of operation of the Skelton Project upstream and downstream fish passage.

The 2007 Saco River Fish Passage Agreement provided a schedule for permanent eel passage measures at the Skelton Project. The Skelton eel lift was first operational in 2013. The Skelton upstream eel lift has passed an average of 5,709 juvenile eels each year since 2013 (a range of 1,286 to 14,129) and downstream measures consisting of nightly shutdowns will begin this fall in September 2024 and will be followed by downstream effectiveness studies in 2025 and 2026

Upstream fish passage effectiveness studies are scheduled to be conducted in 2025 for the Skelton Project simultaneously with the downstream Cataract Project (FERC No. 2528-ME) East Channel development, and the Cataract-Springs development Nature Like Fishway (NLF). Preparation for the studies will begin in 2024, including purchasing radio telemetry tags and finalizing study plans in consultation with the agencies.



Upstream Fish Lift



The upper area of Upstream Fish Lift





Upstream Eel Lift and Eelway Trap

### **Aquatic and Terrestrial Resources**

There are no ongoing measures for aquatic and terrestrial resources other than fish passage measures described above.

#### **Recreation**

Recreation facilities required as part of the 1998 FERC license include the Skelton Boat Launch and Canoe Portage Trail - Tailwater Hand Carry Launch. Recreation monitoring and reporting at the Project are required under Article 413 which requires a recreation monitoring report, in consultation with agencies, to be filed every six years to include annual use figures, a discussion of recreation facility adequacy, a description of monitoring methodology, plans for improvement, and documentation of agency consultation as discussed in Section 3.

#### **Cultural Resources**

The Project has a Programmatic Agreement as discussed in Section 3**Error! Reference source not found.** BWPH is required to file annual reports for activities conducted under the PA by February 15 each year (see Section 7.0). Four archaeological sites in the project boundary are eligible for inclusion in the National Register.

#### **1.4.2 LIHI CERTIFICATION REQUIREMENTS**

As this is an initial application for LIHI Certification, the Skelton Project is not currently subject to LIHI certifications.

# TABLE 1.FACILITY INFORMATION

Item	Information Requested	Response (include references to
		further details)
Name of the	Facility name (use FERC project name or	Skelton Project (FERC No. 2527)
Facility	other legal name)	
Reason for	1. To participate in state RPS program	1. Yes,
applying for	2. To participate in voluntary REC market	State Program: MA RPS for both
LIHI	(e.g., Green-e)	2. Yes, as a secondary channel but
Certification	3. To satisfy a direct energy buyer's	usually trade at a discount to MA RPS
	purchasing requirement	3. No, but potentially in the future
	4. To satisfy the facility's own corporate	4. Possibly, RPS/Voluntary RECs are
	sustainability goals	still the primary reason for
	5. For the facility's corporate marketing	applying
	purposes	5. Possibly, RPS/Voluntary RECs are
	6. Other (describe)	still the primary reason for
		applying
	If applicable, amount of annual generation	Amount of MWh participating:
	(MWh and % of total generation) for which	108,204
	RECs are currently received or are expected	% of total MWh generated: <u>100%</u>
	to be received upon LIHI Certification	
Location	River name (USGS proper name)	Saco River
	Watershed name - Select region, click on the	01060002 - Saco
	area of interest until the 8-digit HUC number	
	appears. Then identify watershed name and	
	HUC-8 number from the map at:	
	https://water.usgs.gov/wsc/map_index.ntml	
	Nearest town(s), <u>county(les)</u> , and state(s) to	Buxton, Dayton and Hollis; York
	dam Biyor mile of dom above mouth	County; Maine
		RIVI 10
	Geographic latitude and longitude of dam	Lat: 43° 34′ 14″
		Long: 70° 33' 30"
Facility Owner	Application contact names	Randall Dorman, Compliance
		Manager, Northeast Region
	Facility owner company and authorized	Brookfield White Pine Hydro, LLC
	owner representative name.	Nathan Stevens, Regional Vice
	For recertifications: If ownership has	President
	changed since last certification, provide the	
	Effective date of the change.	Due altiald White Dine Lludge LLC
	from owner)	BIOOKHEIA WHILE PINE HYARO, LLC
Regulatory	FERC Project Number (e.g., P-xxxxx),	FERC No. 2527
Status	issuance and expiration dates, or date of	Issued February 26, 1998
	exemption	Expires January 31, 2038

Item	Information Requested	Response (include references to further details)
	FERC license type (major, minor, exemption) or special classification (e.g., "qualified conduit", "non-jurisdictional")	Hydropower license for Major Project; Federal Power Act
	Water Quality Certificate identifier, issuance date, and issuing agency name. Include information on amendments.	WQC #L-17483-33-F-N, Issued September 4, 1997, by the Maine Department of Environmental Protection, effective on the date of FERC License (2/26/98). See section 6.2 and section 7.0 for WQC and agency validation letter.
	Hyperlinks to key electronic records on FERC e-Library website or other publicly accessible data repositories <sup>2</sup>	See Sections 6.0 and 7.0 for hyperlinks to or documentation of relevant records including FERC License and Amendment Orders; Section 401 Water Quality Certification; FERC and regulatory filings; and other key documents. Amendments have been primarily associated with specific plans filed pursuant to license requirements and are discussed by resource.
Powerhouse	Date of initial operation (past or future for pre-operational applications)	Built in 1947-1949
	Total installed capacity (MW) For recertifications: Indicate if installed capacity has changed since last certification	21.6 MW
	Average annual generation (MWh) and period of record used For recertifications: Indicate if average annual generation has changed since last certification	108,204 MWh (October 1, 2014- September 30, 2023).
	Mode of operation (run-of-river, peaking, pulsing, seasonal storage, diversion, etc.) For recertifications: Indicate if mode of operation has changed since last certification	Seasonal run-of-river

<sup>&</sup>lt;sup>2</sup> For example, the FERC license or exemption, recent FERC Orders, Water Quality Certificates, Endangered Species Act documents, Special Use Permits from the U.S. Forest Service, 3<sup>rd</sup>-party agreements about water or land management, grants of right-of-way, U.S. Army Corps of Engineers permits, and other regulatory documents. If extensive, the list of hyperlinks can be provided separately in the application.

ltem	Information Requested	Response (include references to
		Jurtner details)
	Number, type, and size of	2 vertical – shaft Kaplan
	turbine/generators, including maximum and	Both units – Max 1,928 cfs
	minimum hydraulic capacity and maximum	Total station capacity: 3,856 cfs
	and minimum output of each turbine and	Total 21.6 MW
	generator unit	Nameplate capacity of each
		approximately 10,890 kW Units
		Hydraulic capacity 1,928 CFS each
	Trashrack clear spacing (inches) for each	All trashracks consist of 5/8 in. bar
	trashrack	steel with 3 in. clear spacing
	Approach water velocity (ft/s) at each intake	Unknown
	if known	
	Dates and types of major equipment	In 2012-2013 both generating units at
	upgrades	the powerhouse were upgraded,
	For recertifications: Indicate only those	replacing both generators and both
	since last certification	turbines with new more efficient
		turbines of similar dimensions. In
		addition, the unit exciters, governors,
		and associated electrical equipment
		were upgraded.
	Dates, purpose, and type of any recent	Intermittent facility since FERC
	operational changes	license issued in 1998, only short-
	For recertifications: Indicate only those	term operational changes for
	since last certification	maintenance and inspections. There
		have been no license modifications
		pertaining to operational changes
		other than the installation of fish
		passage facilities requiring the
		provision of specific flows discussed
		in Section 1.2
	Plans, authorization, and regulatory	None
	activities for any facility upgrades or license	
	or exemption amendments	
Dam or	Date of original dam or diversion	1947-1949
Diversion	construction and description and dates of	
	subsequent dam or diversion structure	
	modifications	

ltem	Information Requested	Response (include references to
		Jurther details)
	Dam or diversion structure length, height	The Project includes a concrete
	including separately the height of any	gravity and earth embankment dam,
	flashboards, inflatable dams, etc. and	about 1,695 feet long, topped with a
	describe seasonal operation of flashboards	roadway, consisting of: (1) an earthen
	and the like	empankment section, 1,200 feet long
		by 59 feet high, with a crest elevation
		or 143.0 reet (USGS); (2) a west
		buikileau allu spillway gate section,
		surmounted with four Tainter gates
		each 32.5 feet wide by 20 feet high
		with a sill elevation of 108.0 feet
		(IISGS): (3) an intake structure 107
		feet long by 146 feet wide, has two
		inflow openings, protected by
		trashracks of 5/8-inch steel bars at 3-
		inch openings; (4) a fishway and
		sluice section, about 30 feet long; (5)
		an east bulkhead and spillway gate
		section, about 188 feet long by 75
		feet high, surmounted with four
		Tainter gates, each 32.5 feet wide by
		20 feet high, with a sill elevation of
		108.0 feet (USGS); and (6) a concrete
		retaining wall, traversing along the
		western embankment about 763 feet
		long, with a crest elevation of 143.0
		feet (USGS).
	Spillway maximum hydraulic capacity	160,000 cts
	Length and type of each penstock and water	N/A
	impoundment and newerbourg	
		Rower
	navigation, flood control, water supply, etc.)	Power
Conduit	Date of conduit construction and primary	N/A
Facilities Only	purpose of conduit	
	Source water	N/A
	Receiving water and location of discharge	N/A
Impoundment	Authorized maximum and minimum	El 123.5 feet to El 127.5 feet.
and Watershed	impoundment water surface elevations	
	For recertifications: Indicate if these values	
	have changed since last certification	

Item	Information Requested	Response (include references to further details)
	Normal operating elevations and normal	El 123.5 feet to El 127.5 feet.
	fluctuation range	
	For recertifications: Indicate if these values	
	have changed since last certification	
	Gross storage volume and surface area at	25,250 acre-feet, 488 acres.
	full pool	
	For recertifications: Indicate if these values	
	have changed since last certification	
	Usable storage volume and surface area	1,720 acre-feet.
	For recertifications: Indicate if these values	
	have changed since last certification	

ltem	Information Requested	Response (include references to
	Describe requirements related to	There is no FERC high level license
	Describe requirements related to	limit at this site, the use the nerveal
	impoundment innow and outflow, elevation	full as a laboration is 51427.5 ft. Snow
	restrictions (e.g., fluctuation limits,	full pool elevation is El 127.5 ft. From
	seasonality) up/down ramping and refill rate	April 1 through June 30, the Project is
	restrictions.	operated in run-of-river mode with
		only 1 foot of fluctuation from the
		normal full pond allowed. From July 1
		through September 30, the minimum
		flow increases to 400 cfs when inflow
		is greater than 400 cfs. From when
		inflow to the impoundment falls
		below 400 cfs the project continues
		to release 400 cfs by drawing from
		impoundment storage, with the
		impoundment drawdown limited to
		El 123.5 Feet (four feet or less from
		full pond elevation). Once the
		impoundment elevation drops four
		feet below full pond elevation
		outflow is equal to inflow. From
		October 1 through November 15, the
		minimum flow increases to 600 cfs or
		inflow, whichever is less. From
		November 15 through March 31, the
		minimum flow is 400 cfs when inflow
		is greater than 400 cfs. When inflow
		to the impoundment falls below 400
		cfs the project continues to release
		400 cfs by drawing from
		impoundment storage, with the
		impoundment drawdown limited to
		El 123.5 feet (four feet or less from
		full pond elevation). Once the
		impoundment elevation drops four
		feet below full pond elevation
		outflow is equal to inflow.

Item	Information Requested	Response (include references to further details)
	Upstream dams by name, ownership	Hiram, River mile 46, Brookfield
	(including if owned by an affiliate of the	White Pine Hydro. LLC: FERC No.
	applicant's company) and river mile. If FERC	2530. No upstream or downstream
	licensed or exempt, please provide FERC	fish passage or eel passage.
	Project number of these dams. Indicate	
	which upstream dams have downstream fish	Bonny Eagle, River mile 26.
	passage.	Brookfield White Pine Hydro. LLC:
		FERC No. 2529: downstream
		anadromous fish passage: no
		upstream fish passage: upstream eel
		passage: no downstream eel passage.
		West Buxton, River mile 24,
		Brookfield White Pine Hydro, LLC;
		FERC No. 2531. Downstream
		anadromous fish passage, no
		upstream fish passage; upstream eel
		passage, no downstream eel passage
		date set for implementation in 2019
		agreement see section 6.2
		0
		Bar Mills, River mile 20, Brookfield
		White Pine Hydro, LLC; FERC No.
		2194, no upstream fish passage,
		downstream anadromous fish
		passage; upstream eel passage on
		spillway of bypass reach, no
		downstream eel passage date set in
		2019 agreement see section 6.2

ltem	Information Requested	Response (include references to further details)
	Downstream dams by name, ownership (including if owned by an affiliate of the applicant's company), river mile and FERC number if FERC licensed or exempt. Indicate which downstream dams have upstream fish passage	Cataract, River mile 6.3 Brookfield White Pine Hydro, LLC; FERC No. 2528 Cataract East- Upstream anadromous passage in the form of elevator and trap (1993), Downstream anadromous passage in the form of a sluice as well as controlled spills. Upstream eel passage present. Downstream eel passage in the form of nightly unit shutdowns from September 1 through November 30
		for 8 hours per night every night Cataract West- (no generation) Upstream anadromous passage in the form of a denil (1993). Downstream anadromous passage in the form of a sluice. Upstream eel passage present. Downstream eel passage in the form of nightly unit shutdowns on east channel from September 1 through November 30 for 8 hours per night every night
	Operating agreements with upstream or downstream facilities that affect water availability and facility operation	Instream Flow Agreement for Hydroelectric Projects on the Saco River
	Area of land (acres) and area of water (acres) inside FERC project boundary or under facility control. Indicate locations and acres of flowage rights versus fee-owned property.	Approximately 630 acres are inside the project boundary, which includes approximately 142 acres of land and 488 acres of water.
Hydrologic Setting	Average annual flow at the dam, and period of record used	3,731 cfs (January 1, 2014-August 24, 2024)

Item	Information Requested	Response (include references to				
		further details)				
	Average monthly flows and period of record	January 1, 2014-August 24, 2024				
	used					
			Flow			
		Month	(cfs)			
		January	4,274			
		February	3,010			
		March	4,722			
		April	8,388			
		May	5,709			
		June	2,436			
		July	2,403			
		August	1,575			
		September	1,231			
		October	2,150			
		November	3,659			
		December	4,897			
	Location and name of closest stream gaging	Upstream: Cornish USGS gauge				
	stations above and below the facility	Downstream: N/A				
	Watershed area at the dam (in square	1,622 square miles not prorated				
	miles). Identify if this value is prorated from					
	gage locations and provide the basis for					
	proration calculation.	None				
	Other facility specific hydrologic information	None.				
Designated	(e.g., average hydrograph)					
Designated Zonos of Effort	Numbers and names of each zone of effect	Zone 1 – Upstream Regulated				
Zones of Effect	(e.g., zone 1. impoundment )	Kiverine Reach				
		Zone 2 – impoundment Zone 3 – Tailrace				
	River mile of upstream and downstream	Zone 1 Upstream Regulated Reach:				
	limits of each zone of effect	RM 19.8 - 18				
	(e.g., "Zone 1 Impoundment: RM 6.3 - 5.1")	Zone 2 Impoundment RM 18 – 16.1				
		Zone 3 Tailrace RM 16 – 15.6				
Pre-Operational H	Facilities Only					
Expected	Date generation is expected to begin	N/A				
operational						
date						
Dam, diversion	Description of modifications made to a pre-	N/A				
structure or	existing conduit, dam or diversion structure					
	needed to accommodate facility generation.					
modification	raising the flashboard height					
	Date the modification is expected to be					
	completed					

ltem	Information Requested	Response (include references to further details)
Change in	Description of any change in impoundment	N/A
water flow	levels, water flows or operations required	
regime	for new generation	

### 2.0 ZONES OF EFFECT

The Skelton Project is delineated into three Zones of Effect: the Upstream Regulated Riverine Reach, the Project Impoundment, and the Project Tailrace as shown in Figure 2-1 and discussed in greater detail below.

The Upstream Regulated Riverine Reach, Zone 1, extends from the impoundment upstream along the Saco River to the tailrace of the Bar Mills Project (FERC No. 2194). The FERC project boundary in this section generally follows El 134 feet. The Project Impoundment, Zone 2, extends from the Project dam upstream to the confluence of the North Branch of Cooks Brook. The FERC project boundary generally follows El 134 feet. The Project Tailrace, Zone 3, begins immediately below the dam, including the Project tailrace, and extends approximately 2,000 feet downstream to the upper extent of the Cataract Project (FERC No. 2528) boundary.

#### FIGURE 2-1. ZONES OF EFFECT



### 2.1 ZONE 1 – UPSTREAM REGULATED RIVERINE REACH

**Zone 1 Upstream Regulated Riverine Reach– River Miles 19.8 - 18:** Zone 1 extends from the impoundment upstream along the Saco River to the tailrace of the Bar Mills Project (FERC No. 2194). The FERC project boundary in this section generally follows El 134 feet.



### FIGURE 2-2. ZONE 1 – UPSTREAM REGULATED RIVER REACH

 TABLE 2.
 ZONE 1 – UPSTREAM REGULATED RIVERINE REACH MATRIX OF ALTERNATIVE STANDARDS

Facility Name: Skelton

oale Eart

Zone of Effect #1: Upstream Regulated River Reach

Criterion		Alternative Standards (check one numbered box and PLUS if applicable)				
		1	2	3	4	Plus
Α	Ecological Flow Regimes	Ø				
В	Water Quality		$\boxtimes$			
С	Upstream Fish Passage	X				
D	Downstream Fish Passage	X				
Ε	Watershed and Shoreline Protection		$\boxtimes$			
F	Threatened and Endangered Species Protection		$\boxtimes$			
G	<b>Cultural and Historic Resources Protection</b>		$\boxtimes$			

H Recreational Resources
--------------------------

Flows into Zone 1 are provided by the mainstem of the Saco river, with backwater influences from the Skelton impoundment. The Skelton impoundment is operated as seasonal run-of-river with stable headpond management with the ability in the license to draw the level 4 ft seasonally. The net or usable storage within the normal 4.5- foot operating range of the Project is approximately 1,720 acrefeet. The water quality of this reach is classified as Class A.

Diadromous fish species potentially occurring in Zone 1 include American Eel, Atlantic Salmon, River Herring, American Shad, Striped Bass, and Sea Lamprey. A State-listed Endangered Species, blanding's turtle, is present within the Skelton Hydroelectric Project area. Terrestrial species of federal concern in the Project vicinity include the tricolor bat (proposed endangered), monarch butterfly (candidate), and Small whorled pogonia, but they are not affected by routine project operations. Limited vegetation removal may occur within project lands surrounding the Saco River for maintenance purposes and such activities are regulated by the Saco River Corridor Commission (SRCC).

Recreation in the impoundment consists of boating, fishing, picnicking, camping, walking, and sight-seeing. No formal recreation sites are located in Zone 1. Phase I and II archaeological field surveys have been completed in the Project area. Four archaeological sites in the project boundary are eligible for inclusion in the National Register.

### 2.2 ZONE 2 – PROJECT IMPOUNDMENT

**Zone 2 Impoundment – River Miles 18 - 16.1:** The Project's 488-acre impoundment is located in the Towns of Buxton, Dayton, and Hollis. The normal impoundment elevation is 127.5 ft, a width up to 0.2 miles, and a length of approximately 2.8 miles.

## FIGURE 2-3. ZONE 2 – PROJECT IMPOUNDMENT



 TABLE 3.
 ZONE 2 – PROJECT IMPOUNDMENT MATRIX OF ALTERNATIVE STANDARDS

Facility Name: Skelton

Zone of Effect #2: Project Impoundment

Criterion		Alternative Standards (check one numbered box and PLUS if applicable)				
		1	2	3	4	Plus
Α	Ecological Flow Regimes	X				
В	Water Quality		$\boxtimes$			
С	Upstream Fish Passage	X				
D	Downstream Fish Passage		$\boxtimes$			
Ε	Watershed and Shoreline Protection		$\boxtimes$			
F	Threatened and Endangered Species Protection		$\boxtimes$			
G	Cultural and Historic Resources Protection		$\boxtimes$			
Н	Recreational Resources					

Flows into Zone 2 are provided by the mainstem of the Saco River. The Skelton impoundment is operated as seasonal run-of-river with stable headpond management with the ability in the license to

draw the level 4 ft seasonally. The net or usable storage within the normal 4.5- foot operating range of the Project is approximately 1,720 acre-feet. The water quality of this reach is classified as Class A.

Diadromous fish species potentially occurring in Zone 1 include American Eel, Atlantic Salmon, River Herring, American Shad, Striped Bass, and Sea Lamprey. A State-listed Endangered Species, blanding's turtle, is present within the Skelton Hydroelectric Project area. Terrestrial species of federal concern in the Project vicinity include the tricolor bat (proposed endangered), monarch butterfly (candidate), and Small whorled pogonia, but they are not affected by routine project operations. Limited vegetation removal may occur within project lands surrounding the Saco River for maintenance purposes and such activities are regulated by the Saco River Corridor Commission (SRCC).

Recreation in the impoundment consists of boating, fishing, picnicking, camping, walking, and sight-seeing. Recreation facilities required as part of the 1998 FERC license include the Skelton Boat Launch and Canoe Portage Trail. Phase I and II archaeological field surveys have been completed in the Project area. Four archaeological sites in the project boundary are eligible for inclusion in the National Register.

## 2.3 ZONE 3 – PROJECT TAILRACE

**Zone 3 Project Tailrace (Main River Stem)** – **River Miles 16 - 15.6**: Zone 3 begins immediately below the dam, including the Project tailrace, and extends approximately 2,000 feet downstream to the upper extent of the Cataract Project (FERC No. 2528) boundary.

## FIGURE 2-4. ZONE 3 – PROJECT TAILRACE



## TABLE 4. ZONE 3 – DOWNSTREAM REGULATED RIVER REACH MATRIX OF ALTERNATIVE STANDARDS

Facility Name: Skelton

Zone of Effect: Tailrace

Criterion		Alternative Standards (check one numbered box and PLUS if applicable)					
		1	2	3	4	Plus	
Α	Ecological Flow Regimes		$\boxtimes$				
В	Water Quality		$\boxtimes$				
С	Upstream Fish Passage		$\boxtimes$				
D	Downstream Fish Passage	$\boxtimes$					
Ε	Watershed and Shoreline Protection		$\boxtimes$				
F	Threatened and Endangered Species Protection		$\boxtimes$				
G	Cultural and Historic Resources Protection						
Н	Recreational Resources		$\boxtimes$				

Flows into Zone 3 are provided by the dam or the Project units. The Project license and water quality certification set seasonal minimum flows into Zone 3. The water quality of this reach is classified as Class A.

Diadromous fish species potentially occurring in Zone 1 include American Eel, Atlantic Salmon, River Herring, American Shad, Striped Bass, and Sea Lamprey. A State-listed Endangered Species, blanding's turtle, is present within the Skelton Hydroelectric Project area. Terrestrial species of federal concern in the Project vicinity include the tricolor bat (proposed endangered), monarch butterfly (candidate), and Small whorled pogonia, but they are not affected by routine project operations. Limited vegetation removal may occur within project lands surrounding the Saco River for maintenance purposes and such activities are regulated by the Saco River Corridor Commission (SRCC).

Recreation in the tailrace consists of boating, fishing, picnicking, camping, walking, and sightseeing. Recreation facilities required as part of the 1998 FERC license include the Canoe Portage Trail -Tailwater Hand Carry Launch. Phase I and II archaeological field surveys have been completed in the Project area. Four archaeological sites in the project boundary are eligible for inclusion in the National Register.
## 3.0 LIHI CERTIFICATION CRITERION

The Project is operated as a seasonal run-of-river with agency required minimum flows. Lands within the project boundary are limited to those required for project operations (including flowage rights), project, and project recreation facilities. The Blanding's Turtle is believed to occur in the Project area, but limited impoundment fluctuation and minimum flows would be anticipated to limit Project effects. There are no other documented endangered or threatened aquatic species in this reach of the Saco River. The Tri-Colored Bat, Monarch Butterfly, and Small Whorled Pogonia are identified in the vicinity of the Project, but the Project has no effect on the species as there are no tree-clearing activities or corridor maintenance activities. Cultural sites are present within the project boundary, but project operations have no effect on these resources. The project has a FERC approved recreation monitoring plan in place.

# TABLE 3-1. STANDARDS SUMMARY MATRIX

			CRITERION						
Zone No. Zone	River	Α	В	C	D	E	F	G	Н
Name, and Standard Selected (including PLUS if selected)	Mile at upper and lower extent of Zone	Ecological Flow Regimes	Water Quality	Upstream Fish Passage	Downstream Fish Passage	Watershed and Shoreline Protection	Threatened and Endangered Species Protection	Cultural and Historic Resources Protection	Recreational Resources
1. Upper Regulated River Reach	RM 19.8 - 18	1	2	1	1	2	2	2	1
2. Project Impoundment	RM 18 – 16.1	1	2	1	2	2	2	2	2
3. Project Tailrace	RM 16 – 15.6	2	2	2	1	2	2	1	2

## 3.1 ECOLOGICAL FLOWS

The stated Low Impact Hydropower Institute goal for Criterion A – Ecological Flow Regimes is "The flow regimes in riverine reaches that are affected by the facility support habitat and other conditions suitable for healthy fish and wildlife resources." A discussion of the applicable standards by Zone of Effect is provided in the Sections below.

The Project is subject to impoundment elevation restrictions, with a seasonal run-of-river mode of operation, pursuant to the requirements of Article 401 and Condition 1 of the Project's WQC, as discussed for Zones 1 and 2 below. In addition, there are minimum flow requirements for Zone 3 below the dam as dictated by Article 402 and Condition 3 of the Project's WQC, as discussed for Zone 3 below. Article 403 <sup>3</sup> required the filing of a plan to monitor compliance with water level and minimum flow requirements as follows:

**Article 403.** The licensee shall within 180 days from the date of issuance of this license, file with the Commission, for approval, a plan to monitor the reservoir water levels required in Article 401 and minimum flows required in Article 402 to ensure that the fish resources in the Skelton impoundment and downstream are adequately protected under the required reservoir water level regime and the minimum flow release regime, respectively. The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service (FWS), the Maine Department of Environmental Protection (Maine DEP), and the Maine Department of Inland Fisheries and Wildlife (Maine Fisheries and Wildlife).

The plan shall include: (1) the location and a description of the equipment used for monitoring; (2) a schedule for equipment installation; (3) the method and frequency of data collection; and, (4) a provision for providing the data to FWS, Maine DEP, and Maine Fisheries and Wildlife within 30 days from the date of the request from these agencies.

The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies 1 comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

If the results of the monitoring indicate that changes in project structures or operations, including alternative reservoir water levels or minimum flow releases, are necessary to

<sup>&</sup>lt;sup>3</sup> Article 403 was modified by "Article Modifying and Approving Minimum Flow and Pond Level Monitoring Plan," issued November 12, 1998. The quoted text reflects the revised article.

protect the fish resources, the Commission may direct the licensee to modify project structures or operations.

So that the Commission can monitor the licensee's compliance with its minimum flow and pond level requirements for the project, the licensee shall report any deviations from its minimum flow or pond level requirements. If the minimum flow or pond level, as measured by the approved monitoring system, deviates from the requirements of articles 401 and/or 402 of the license, the licensee shall file a report with the Commission within 30 days of the date that the data becomes available regarding the incident. The report shall, to the extent possible, identify the cause, severity, and duration of the incident, and any observed or reported adverse environmental impacts resulting from the incident. The report shall also include: 1) operational data necessary to determine compliance with articles 401 and 402; 2) a description of any corrective measures implemented at the time of occurrence and the measures implemented or proposed to ensure that similar incidents do not recur; and 3) comments or correspondence, if any, received from the resource agencies regarding the incident. Based on the report and the Commission 1s evaluation of the incident, the Commission reserves the right to require modifications to project facilities and operations to ensure future compliance.

The Plan was filed on August 28, 1998 and approved by FERC on November 12, 1998. (See Section 6.0.)

Criterion	Standard	Supporting Information
Α	1	Not Applicable / De Minimis Effect:
		<ul> <li>For impoundment zones only, explain water management (e.g.,</li> </ul>
		fluctuations, ramping, refill rates) and how fish and wildlife habitat within
		the zone is evaluated and managed. NOTE: this is required information, but
		it will not be used to determine whether the Ecological Flows criterion has
		been satisfied. All impoundment zones can apply Criterion A-1 to pass this
		criterion.

<b>3.1.1 CONEST - OPSTREAM REGULATED RIVERINE REACH AND Z - PROJECT IMPOUND</b>
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BWPH's NSCC monitors operations including impoundment elevations and flows through the Skelton project and as discharged through dam structures continuously to maintain compliance with requirements for operations and minimum flows. Normal full impoundment level is El 127.5 feet. Seasonal minimum flows are required to be passed below the project, and depending on the season may take precedence over impoundment levels, requiring the Project to augment inflow with additional water supplied by storage down to El 123.5 feet, beyond which inflow is equal to outflow. Any deviations for impoundment elevations and minimum flow requirements at the Project are reported to FERC, deviations are attached in section 6.6. Article 401 dictates water level management at the Project; the text of Article 401 is as follows:

Article 401. The licensee shall maintain water levels in the Skeleton impoundment in accordance with the following schedule:

(a) From April 1 through June 30 annually, no more than one foot below normal full pond elevation; and

(b) From July 1 through March 31 annually, no more than four feet below normal full pond elevation.

This water level regime may be temporarily modified by (1) Commission approved maintenance activities; (2) operating emergencies beyond control of the licensee that may include, but are not limited to, the equipment failure or other temporary abnormal operating conditions resulting from extremes in inflows to the project, power supply emergencies, and for public health and safety reasons; or (3) for short periods upon mutual agreement among the licensee, the U.S. Fish and Wildlife Service, Maine Department of Environmental Protection, and the Maine Department of Inland Fisheries and Wildlife. If the water level regime is. so modified, the licensee shall notify the Commission and the resource agencies as soon as possible, but no later than ten days after each such incident.

Condition 1 of the Water Quality Certification likewise dictates water level management and states:

#### 1. WATER LEVELS

A. The applicant shall maintain water levels at the Skelton Project in accordance with the provisions of the "Instream Flow Agreement for Hydroelectric Projects on the Saco River." Specifically, except as temporarily modified by (1) approved maintenance activities, (2) inflows to the project area, (3) flashboard release or maintenance, (4) operating emergencies beyond the applicant's control, as defined below, or (5) agreement between the applicant and appropriate state and/or federal agencies, water levels in the project impoundment shall be maintained as follows:

From April 1 through June 30 annually, no more than one foot below normal full pond elevation; and

From July 1 through March 31 annually, no more than 4.0 feet below normal full pond elevation.

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. The applicant shall, in accordance with the schedule established in a new FERC license for the project, submit plans for providing and monitoring the water levels in the impoundment as required by Part A of this condition. These plans shall be reviewed by and must receive approval of the DEP Bureau of Land and Water Quality.

The fluctuation regime for the Skelton Project was determined in part due to its benefits to the existing wetlands and reservoir wildlife within the project boundary. The following excerpt and further discussion of these benefits can be found in section 4.2.1.2.3 of the Final Environmental Impact Statement for the Saco River (linked in section 6.1):

The CMP reservoir management study (Acres, 1990b) indicated that little wetland vegetation was exposed as a result of a 2.0-foot reservoir drawdown. Of the estimated 12.2 acres of total substrate exposed, less than one acre (0.1) supported any vegetation, which was a mixture of submergent and emergent vegetation. Since proposed operation of the reservoir is about the same with the 400-cfs minimum flow release, little or no effect on the 4.4 acres of submerged aquatic vegetation and a 0.6 acre wet meadow of the reservoir is expected.

The water level management regime is also a function of the Saco River Instream Flow Settlement Agreement, the terms of which, including water levels in the Skelton impoundment, were incorporated into the Project license. Parties to the Settlement Agreement include the US Fish and Wildlife Service (USFWS), Maine Department of Inland Fisheries and Wildlife (MDIFW), Maine Department of Marine Resources (MDMR), Saco River Salmon Club (SRSC), Atlantic Salmon Federation (ASF), Maine Chapter of the Atlantic Salmon Federation (MCASF), Maine Department of Environmental Protection (MDEP), Maine Atlantic Salmon Authority (MASA), Maine State Planning Office (MSPO), Trout Unlimited (TU), Maine Council of Trout Unlimited (MCTU), American Rivers, New Hampshire Department of Fish and Game (NHFGD) and the Cities of Saco and Biddeford.

Criterion	Standard	Supporting Information
A	2 - The flow regime at the facility was developed in accordance with a science-based agency recommendation	<ul> <li>Agency Recommendation (see Appendix A for definitions):</li> <li>Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally protective).</li> <li>Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement.</li> <li>Explain how the recommendation relates to agency management goals and objectives for fish and wildlife.</li> <li>Explain how the recommendation provides fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking rate conditions, and seasonal and episodic instream flow variations).</li> </ul>

**3.1.2 ZONE 3 – PROJECT TAILRACE** 

Flows are passed below the Skelton project through a combination of spill and generation. Seasonal minimum flow requirements are established by License Article 402<sup>4</sup> and Water Quality Certification Condition 3:

**Article 402.** The licensee shall operate the Skelton Project and release minimum flows annually as follows:

<sup>&</sup>lt;sup>4</sup> Article 402 was amended by Order dated April 15, 1998. The modifications are reflected in the quoted text.

(a) From April 1 through June 30, operate run-of-river, with outflow approximately equal to inflow, with up to one foot drawdown of the project impoundment.

(b) From July 1 through September 30, release an instantaneous minimum flow of 400 cubic feet per second (cfs) guaranteed (that is, when inflow to the impoundment falls below 400 cfs, the licensee shall continue to release 400 cfs by drawing from impoundment storage), with the impoundment drawdown limited to four feet or less from full pond elevation. The use of storage to supplement outflow shall be discontinued if the impoundment elevation drops four feet below full pond elevation, that may occur during extended natural low flows. Under this condition, outflow shall be equal to inflow. When inflow is greater than 400 cfs, the minimum flow release shall be 400 cfs.

(c) From October 1 through November 15, or for an alternate six week period mutually agreed upon by the licensee, the U.S. Fish and Wildlife Service, the Maine Department of Inland Fisheries and Wildlife, the Maine Department of Marine Resources, and the Maine Atlantic Salmon Authority, release an instantaneous minimum flow of 600 cfs or inflow, whichever is less. This fall flow period shall be no less and no more than six weeks except upon mutual agreement among the licensee and these fisheries agencies and shall start no sooner than September 1 and no later than October 1.

(d) From November 16 through March 31, release an instantaneous minimum flow of 400 cfs guaranteed. That is, when inflow to the impoundment falls below 400 cfs, the licensee shall continue to release 400 cfs by drawing from the impoundment storage. The use of storage to supplement outflow shall be discontinued if the impoundment elevation drops four feet below full pond elevation. Under this condition, outflow shall be equal to inflow. When inflow is greater than 400 cfs, the minimum flow release shall be 400 cfs.

This flow regime may be temporarily modified by (1) Commission approved maintenance activities; (2) operating emergencies beyond control of the licensee that may include, but are not limited to equipment failure or other temporary abnormal operating conditions resulting from extremes in inflows to the project, power supply emergencies, and for public health and safety reasons; or (3) for short periods upon mutual agreement among the licensee, the U.S. Fish and Wildlife Service, the Maine Department of Inland Fisheries and Wildlife, the Maine Department of Marine Resources, and the Maine Atlantic Salmon Authority. If the minimum flow regime is so modified, the licensee shall notify the Commission and the resource agencies as soon as possible, but no later than ten days after each such incident.

Condition 3 of the Project Water Quality Certification dictates required minimum flows below the dam into Zone 3. Condition 3 states:

#### 3. MINIMUM FLOWS

A. The applicant will provide flow releases from the Skelton Project in accordance with the provisions of the "Instream Flow Agreement for Hydroelectric Projects on the Saco River." Specifically, except as temporarily modified by (1) approved maintenance activities, (2) inflows to the project area, (3) flashboard release or maintenance, (4) operating emergencies beyond the applicant's control, as defined below, or (5) agreement between the applicant and appropriate state and/or federal agencies, the following minimum flows shall be released from the project: • From April 1 through June 3D annually, run-of-river operation; with outflow approximately equal to inflow, while allowing for up to a one foot drawdown of the impoundment;

• From July 1 through September 30 annually, am instantaneous minimum flow of 400 cfs, to be guaranteed by utilizing the top 4.0 feet of headpond storage as required to augment inflow. Whenever the impoundment has been drawn down by 4.0 feet, outflow will be reduced to 400 cfs or inflow, whichever is less;

• From October 1 through November 15 annually, or for such alternate six week period as may be mutually agreed to by the applicant and state and federal fisheries agencies, as described below, an instantaneous minimum flow of 600 cfs or inflow; whichever is less and

• From November 16 through March 31 annually, an instantaneous minimum flow of 400 cfs, to be guaranteed by utilizing the top 4.0 feet of headpond storage as required to augment inflow. Whenever the impoundment has been drawn down by 4.0 feet, outflow will be reduced to 400 cfs or inflow, whichever is less.

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. As provided in the "Instream Flow Agreement for Hydroelectric Projects on the Saco River," the start of the fall flow period may be changed during any year by mutual agreement among the applicant, U.S. Fish and Wildlife Service, Department of Inland Fisheries and Wildlife, the Department of Marine Resources, and the Maine Atlantic Salmon Authority based on the following considerations: (1) expected flow and weather conditions; (2) biological factors such as fish migration or spawning periods; and/or (3) anticipated electrical need for or value of CMP's generation.

The fall flow period shall be no less and no more than six weeks, except upon mutual agreement among the parties listed above, and shall start no sooner than September 1 and no later than October 1. Any changes in the timing of the fall flow period will change the ending date of the summer flow period and the beginning date of the winter flow period accordingly for that year.

D. The applicant shall, in accordance with the schedule established in a new FERC license for the project, submit plans for providing and monitoring the minimum flows required by Part A of this condition. These plans shall be reviewed by and must receive approval of the DEP Bureau of Land and Water Quality.

As with the impoundment, BWPH's NSCC monitors operations including flows at the Skelton Project continuously to maintain compliance with requirements for operations and minimum flows. Any deviations from run-of-river operations or minimum flow requirements at the Project are reported to FERC; deviations are attached in section 6.6.

Minimum flows were dictated by the 1998 Saco River Instream Flow Agreement, the terms of which, including minimum flows required at the Project, were incorporated into the Project license. Parties to

the Settlement Agreement include the USFWS, MDIFW, MDMR, MDEP, and NHFGD, among others. Minimum flows as established by the agreement were determined to have beneficial effects on water quality and aquatic habitat in the reach. Water velocities would increase, and stagnation and retention times would decrease. Macroinvertebrate species, especially those of limited mobility, would benefit from the increased flows and DO levels would be improved.

As reported in the Final Environmental Impact Statement (FERC, 1996), additional minimum flows, particularly during the critical summer months, would enhance water quality and aquatic habitat in the reach.

# 3.2 WATER QUALITY

The stated Low Impact Hydropower Institute goal for Criterion B – Water Quality is "Water quality is protected in waterbodies directly affected by the facility, including downstream reaches, bypassed reaches, and impoundments above dams and diversions." The applicable standard applies to all Zones of Effect and is discussed collectively for all reaches.

Criterion	Standard	Supporting Information
В	2 - The facility is in compliance	Agency Recommendation (see Appendix A for
	with all water quality conditions	definitions):
	contained in a recent Water	<ul> <li>Identify the proceeding and source, date, and</li> </ul>
	Quality Certification or science	specifics of the agency recommendation applied
	based resource agency	(NOTE: there may be more than one; identify and
	recommendation providing	explain which is most environmentally protective).
	reasonable assurance that water	<ul> <li>Explain the scientific or technical basis for the</li> </ul>
	quality standards will be met for	agency recommendation, including methods and data
	all waterbodies that are directly	used. This is required regardless of whether the
	affected by the facility. Such	recommendation is or is not part of a Settlement
	recommendations, whether	Agreement.
	based on a generally applicable	<ul> <li>Explain how the recommendation relates to agency</li> </ul>
	water quality standard or one	management goals and objectives for fish and wildlife.
	that was developed on a site-	<ul> <li>Explain how the recommendation provides fish and</li> </ul>
	specific basis, must include	wildlife protection, mitigation and enhancement
	consideration of all water	(including in-stream flows, ramping and peaking rate
	quality components necessary	conditions, and seasonal and episodic instream flow
	to preserve healthy fish and	variations).
	wildlife populations, human	
	uses and recreation.	

# 3.2.1 ALL ZONES

# **Dissolved Oxygen Monitoring**

There were two sampling locations for the Dissolved Oxygen Monitoring study. The first was in the impoundment upstream from the turbine/gate intake; and the second was in the tailwater downstream from the turbine/gate outlet.

The sampling occurred twice daily during the summer (July through Sept., once before 8:00 a.m., and once in the late morning or afternoon, over a three-day period. The timing was intended to capture an extended warm period and when the station was regularly going to a 400 cfs base flow during either non-peak or non-generation periods.

The results of the dissolved oxygen study were submitted to the Maine DEP. The implications of study could have resulted in a Maine DEP order modifying project facilities and/or operation, such as increasing the minimum flows to meet applicable dissolved oxygen standards.

The Maine DEP concluded that during the summer of 2001 the results showed that even under drought conditions in the project area, dissolved oxygen levels met criteria for Class A water standards. See the April 30, 2002 (Article 408) Dissolved Oxygen Report Maine DEP letter at the following link also in section 6.5.1.

## https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20020507-0239

## Macroinvertebrate Monitoring

The study transect was located within the first 1,000 feet downstream of the powerhouse and was conducted over a one-month period between July and September.

The study implications could have resulted in an order modifying project facilities and/or operation, such as increasing the minimum flows to meet applicable aquatic life standards. The 2000 study results showed that the habitat characteristics and aquatic life criteria were met. See the June 13, 2001 (Article 409) Macroinvertebrate Report FERC Lette at the following link also linked in section 6.5.1

#### https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=19990422-0219

There haven't been any drawdowns near 8.5 feet since Brookfield acquired ownership of the project in 2013. All drawdowns outside of license limits are coordinated in advance with the resource agencies. Public outreach would be essential especially during recreation season. Fish stranding surveys would be conducted for any large drawdown that could potentially have adverse impacts to the environment. A slow drawdown rate, as well as a slow refill would aid in protecting aquatic life. The target drawdown and refill rate generally range between approximately 0.1 and 0.3 feet per hour depending upon Project inflows.

Brookfield personnel would be onsite to ensure minimum flow during a drawdown. A headpond drawdown should not affect the tailrace or downstream reach.

The Project is operated as a run-of-river facility with flow requirements discussed previously in section 3.1 under FERC and agency approved operations and monitoring plans. The Project meets all water quality standards for Class A waters pursuant to the Projects Water Quality Certification attached in section 6. The Project is not within waters that are identified on the MDEP 303(d) list of impaired waters.

# **3.3** UPSTREAM FISH PASSAGE

The stated Low Impact Hydropower Institute goal for Criterion C – Upstream Fish Passage is "The facility allows for the safe, timely, and effective upstream passage of migratory fish. This criterion is intended to ensure that migratory species can successfully complete their 41 life cycles and maintain healthy, sustainable fish and wildlife resources in areas affected by the facility."

Diadromous species found in the Saco River basin include Atlantic salmon, American eel, American shad, alewife, blueback herring, and sea lamprey.

Upstream fish passage requirements at the Project were originally dictated by the 1994 Saco River Fish Passage Agreement and were incorporated into the water quality certification under Condition 4 and under the new FERC license under Articles 406. Condition 4 of the water quality certificate reads as follows:

# 4. FISH PASSAGE

The applicant shall provide fish passage at the Skelton Project in accordance with the provisions of the "Saco River Fish Passage Agreement." Specifically:

# A. Downstream Fish Passage

The applicant shall construct ·permanent downstream fish passage facilities designed to pass Atlantic salmon, American shad, and alewife at the Skelton Project. These facilities shall be operational by May 1, 1998, or within three years of receipt of a new FERC license for the project, whichever occurs later.

# B. Downstream Fish Passage Desian Plans

The applicant shall, at least 60 days prior to the construction of downstream fish passage facilities required in Part A of this condition, submit final design and operational plans for these facilities, prepared in consultation with state and federal fisheries agencies. These plans shall be reviewed by and must receive approval of the fisheries agencies, the Department and FERC prior to construction of the facilities.

# C. Upstream Fish Passage Facilities

The applicant shall construct new permanent upstream fish passage facilities, consisting of a fish lift or other suitable design with trap and truck facilities, designed to pass Atlantic salmon, American shad, and alewife at the Skelton Project. These facilities shall be operational by May 1, 1998, or within three years of receipt of a new FERC license for the project, whichever occurs later, and shall replace the existing pool and weir fishway.

Once the new Skelton fish passage facilities are operational and fish are present at the project in sufficient numbers, and upon the decision of appropriate state and federal fisheries agencies, the applicant shall fund the trapping and trucking of Atlantic salmon, American shad, and alewife at the Skelton Project. This will replace the current trapping and trucking of anadromous fish at the Cataract Project East Channel fish lift. All decisions on the number of fish

to be trucked and the destinations of these fish will be made by the appropriate state and federal fisheries agencies.

## D. Upstream Fish Passage Design Plans

The applicant shall, at least 60 days prior to the construction of the permanent upstream fish passage facilities required in Part C of this condition, submit final design and operational plans for these facilities, prepared in consultation with state and federal fisheries agencies. These plans shall be reviewed by and must receive approval of the fisheries agencies, the Department, and FERC prior to construction of the facilities.

## E. Fish Passage Study

The applicant shall, in consultation with state and federal fisheries agencies, conduct a fish passage study or studies to determine the effectiveness of the upstream and downstream fish passage facilities required pursuant to Parts A & C of this condition.

# F. Fish Passage Study Plan

The applicant shall, at least 60 days prior to the commencement of operation of the upstream and downstream fish passage facilities required by Parts A-& C of this condition, submit a fish passage study plan or plans, prepared in consultation with state and federal fisheries agencies. These plans shall be reviewed by and must receive approval of the fisheries agencies, the Department, and FERC prior to its implementation.

# G. Fish Passage Study Results

The applicant shall submit the results of any fish passage studies and any recommendations for changes in the design and/or operation of fish passage facilities to the consulting agencies and the Department within 6 months following completion of the study. The Department reserves the right, after notice and opportunity for hearing, to require reasonable changes in the design and/or operation of the fish passage facilities as may be deemed necessary to adequately pass anadromous fish (specifically, Atlantic salmon, American shad and river herring) through the project site. Any such changes must be approved by the Department and FERC prior to their implementation.

# H. Salmon Restoration Efforts

In accordance with Paragraph 8 of the "Saco River Fish Passage Agreement," all parties to the Agreement will use their best efforts to expedite such agreements as are necessary for restoring Atlantic salmon to the New Hampshire portion of the Saco River basin.

# License Article 406 reads:

**Article 406.** The licensee shall, within 180 days from the date of issuance of this license, file with the Commission, for approval, functional design drawings of upstream fish passage facilities that consist of a fish lift with trap and truck facilities. The upstream fish passage facilities shall be constructed and operational within three years from the date of issuance of this license. The licensee shall include with the design drawings: (1) site locations; (2) quantification of flows to

operate the facilities; (3) operation and maintenance schedules; and {4} measures to control erosion and sedimentation during construction.

The licensee shall prepare the drawings and plans after consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Maine Department of Marine Resources, Maine Atlantic Salmon Authority, and the Maine Department of Inland Fisheries and Wildlife. The licensee shall include with the drawings documentation of consultation, copies of comments and recommendations on the drawings and schedule after they have been prepared and provided to the agencies, and specific descriptions of how agencies' comments are accommodated by the licensee's facilities. The licensee shall allow a minimum of 30 days to comment and make recommendations before filing the drawings with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons based on project-specific information.

The Commission reserves the right to require changes to the proposed facilities. Upon Commission approval, the licensee shall implement the proposal, including any changes required by the Commission.

As-built drawings of the upstream fish passage facilities shall be filed in accordance with the requirements of Article 301. At the same time the licensee files as-built drawings with the Commission, as-built drawings shall also be filed with the resource agencies.

In accordance with Article 406 upstream and fish passage facilities were installed in 2001. Upstream fish passage is provided by a fish lift located on the south side of the powerhouse. This equipment consists of an attraction water system, a fish crowder system, hopper/elevator, and truck and trap holding systems. License Article 407 also included a requirement for effectiveness monitoring.

Article 406 was modified by order on July 18, 2007 to incorporate the terms of the 2007 Saco River Fish Passage Settlement Agreement into the Skelton license. The 2007 order added upstream eel passage requirements, to be operational by June 1, 2012.

Due to construction delays the upstream eel passage was first operational in 2013. It includes a roughened cement attraction water flow area on the East side of the Skelton spillway leading the juvenile eels to a three-foot long EnkaMat ramp and into an elevator tank with approximately 50 gallon capacity.

Upstream effectiveness studies were required under Water Quality Certificate Condition 4, above, and by License Article 407:

**Article 407.** The licensee shall, within 180 days from the date of issuance of this license, file for Commission approval, a plan and schedule to monitor the effectiveness of the downstream fish passage facilities required in Article 405 and upstream fish passage facilities required in Article 406.

The licensee shall design the monitoring plan after consultation with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the Maine Department of Marine Resources, Maine Atlantic Salmon Authority, and the Maine Department of Inland Fisheries and Wildlife. The licensee shall include with the plan, documentation of consultation, copies of comments and recommendations on the plan and schedule after they have been prepared and provided to the agencies, and specific descriptions of how agencies' comments are accommodated by the licensee's plan. The licensee shall allow a minimum of 30 days to comment and make recommendations before filing the plan the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project specific information.

The Commission reserves the right to require changes to the proposed plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

The results of the monitoring must be submitted to the Commission according to the approved schedule, along with comments from the consulted agencies on the results. If the monitoring results indicate that further measures are necessary to effectively pass anadromous fish, the licensee shall provide, for Commission approval these measures and an implementation schedule. These measures shall include structural and operational changes necessary to ensure that anadromous fish effectively pass the project.

# 3.3.1 ZONE 1 – UPSTREAM REGULATED RIVERINE REACH

Criterion	Standard	Supporting Information		
С	1 - Not	• Explain why the facility does not impose a barrier to upstream fish passage		
	Applicable	in the designated zone. Typically, impoundment zones will qualify for this		
	/ De	standard since once above a dam and in an impoundment, there is no		
	Minimis	facility barrier to further upstream movement.		
	Effect:	Document available fish distribution data and the lack of migratory fish		
		species in the vicinity.		
		• If migratory fish species have been extirpated from the area, explain why		
		the facility is not or was not the cause of the extirpation.		

Zone 1 is a riverine stretch of the Saco river that ends below the project area of the upstream Bar Mills Project. There are no facility barriers to upstream passage within Zone 1.

# **3.3.2 ZONE 2 – PROJECT IMPOUNDMENT**

Criterion	Standard	Supporting Information
С	1 - Not	• Explain why the facility does not impose a barrier to upstream fish passage
	Applicable	in the designated zone. Typically, impoundment zones will qualify for this
	/ De	standard since once above a dam and in an impoundment, there is no
	Minimis	facility barrier to further upstream movement.
	Effect	• Document available fish distribution data and the lack of migratory fish
		species in the vicinity.
		• If migratory fish species have been extirpated from the area, explain why
		the facility is not or was not the cause of the extirpation.

Zone 2 is the project impoundment. There are no facility barriers to upstream passage within Zone 2.

Criterion	Standard	Supporting Information
С	2 - Agency	<ul> <li>Identify the proceeding and source, date, and specifics of the</li> </ul>
	Recommendation	agency recommendation applied (NOTE: there may be more than
		one; identify and explain which is most environmentally protective).
		<ul> <li>Explain the scientific or technical basis for the agency</li> </ul>
		recommendation, including methods and data used. This is required
		regardless of whether the recommendation is or is not part of a
		Settlement Agreement.
		• Describe any provisions for fish passage monitoring or effectiveness
		determinations that are part of the agency recommendation, and
		how these are being implemented.
		<ul> <li>Provide evidence that required passage facilities are being</li> </ul>
		operated and maintained as mandated (e.g. meets season,
		coordination with agencies)

# **3.3.3 ZONE 3 – PROJECT TAILRACE**

Upstream fish passage measures for the Skelton Project were developed through a series of settlement agreements and updates. The measures and the agency basis for the same are described in the introduction of this section.

Upstream fish passage for anadromous species at the Skelton Project was installed in 2001. Upstream eel passage at the Skelton Project was operational in 2013. Operation of the upstream fish passages are operated in close coordination with the fisheries agencies, with regular reports on passage numbers distributed throughout the passage season. The majority of River Herring and American shad captured at the Skelton fish lift are passed directly into the Skelton headpond. Some river herring and all Atlantic salmon are trucked from the Skelton fish way, via trap and truck, by BWPH environmental staff to upriver spawning locations as requested by State and Federal fisheries agencies as conditions allow.

Upstream effectiveness includes enumerating American shad, river herring, and Atlantic salmon passing at the Cataract fishway, then correlating these counts with the number of these fish captured at the Skelton fish lift. Behavioral issues such as lack of imprinting to upriver locations and spawning below the project must be considered in determining effectiveness. These results are presented annually in the Saco River Diadromous Report which is agency approved and filed with FERC

Upstream alosid (i.e., American shad and river herring [alewife and blueback herring]) effectiveness telemetry studies are scheduled to be conducted in spring of 2025. The draft study plan is out for agency review, comments were due on December 6, 2025. The proposed study will evaluate the upstream and downstream effectiveness of passage measures.

Atlantic salmon have not returned in sufficient numbers to conduct upstream Atlantic salmon studies since Brookfield acquired the project in 2013.

The annual Saco River fish passage reports have details on upstream and downstream passage, including American eels.

# 3.4 DOWNSTREAM FISH PASSAGE

The stated Low Impact Hydropower Institute goal for Criterion D – Downstream Fish Passage is "The facility allows for the safe, timely, and effective downstream passage of migratory fish. For riverine (resident) fish, the facility minimizes loss of fish from reservoirs and upstream river reaches affected by facility operations. All migratory species can successfully complete their life cycles and to maintain healthy, sustainable fish and wildlife resources in the areas affected by the facility."

Downstream fish passage requirements at the Project were originally dictated by the 1994 Saco River Fish Passage Agreement and were incorporated into the water quality certification under Condition 4 and under the new FERC license under Articles 405. Condition 2 of the water quality certificate reads as follows:

4. FISH PASSAGE

The applicant shall provide fish passage at the Skelton Project in accordance with the provisions of the "Saco River Fish Passage Agreement." Specifically:

#### A. Downstream Fish Passage

The applicant shall construct ·permanent downstream fish passage facilities designed to pass Atlantic salmon, American shad, and alewife at the Skelton Project. These facilities shall be operational by May 1, 1998, or within three years of receipt of a new FERC license for the project, whichever occurs later.

B. Downstream Fish Passage Desian Plans

The applicant shall, at least 60 days prior to the construction of downstream fish passage facilities required in Part A of this condition, submit final design and operational plans for these facilities, prepared in consultation with state and federal fisheries agencies. These plans shall be reviewed by and must receive approval of the fisheries agencies, the Department and FERC prior to construction of the facilities.

#### C. Upstream Fish Passage Facilities

The applicant shall construct new permanent upstream fish passage facilities, consisting of a fish lift or other suitable design with trap and truck facilities, designed to pass Atlantic salmon, American shad, and alewife at the Skelton Project. These facilities shall be operational by May 1, 1998, or within three years of receipt of a new FERC license for the project, whichever occurs later, and shall replace the existing pool and weir fishway.

Once the new Skelton fish passage facilities are operational and fish are present at the project in sufficient numbers, and upon the decision of appropriate state and federal fisheries agencies, the applicant shall fund the trapping and trucking of Atlantic salmon, American shad, and alewife at the Skelton Project. This will replace the current trapping and trucking of

anadromous fish at the Cataract Project East Channel fish lift. All decisions on the number of fish to be trucked and the destinations of these fish will be made by the appropriate state and federal fisheries agencies.

#### D. Upstream Fish Passage Design Plans

The applicant shall, at least 60 days prior to the construction of the permanent upstream fish passage facilities required in Part C of this condition, submit final design and operational plans for these facilities, prepared in consultation with state and federal fisheries agencies. These plans shall be reviewed by and must receive approval of the fisheries agencies, the Department, and FERC prior to construction of the facilities.

#### E. Fish Passage Study

The applicant shall, in consultation with state and federal fisheries agencies, conduct a fish passage study or studies to determine the effectiveness of the upstream and downstream fish passage facilities required pursuant to Parts A & C of this condition.

#### F. Fish Passage Study Plan

The applicant shall, at least 60 days prior to the commencement of operation of the upstream and downstream fish passage facilities required by Parts A-& C of this condition, submit a fish passage study plan or plans, prepared in consultation with state and federal fisheries agencies. These plans shall be reviewed by and must receive approval of the fisheries agencies, the Department, and FERC prior to its implementation.

#### G. Fish Passage Study Results

The applicant shall submit the results of any fish passage studies and any recommendations for changes in the design and/or operation of fish passage facilities to the consulting agencies and the Department within 6 months following completion of the study. The Department reserves the right, after notice and opportunity for hearing, to require reasonable changes in the design and/or operation of the fish passage facilities as may be deemed necessary to adequately pass anadromous fish (specifically, Atlantic salmon, American shad and river herring) through the project site. Any such changes must be approved by the Department and FERC prior to their implementation.

#### H. Salmon Restoration Efforts

In accordance with Paragraph 8 of the "Saco River Fish Passage Agreement," all parties to the Agreement will use their best efforts to expedite such agreements as are necessary for restoring Atlantic salmon to the New Hampshire portion of the Saco River basin.

#### Article 405 reads as follows:

Article 405. The licensee shall, within 180 days from the date of issuance of this license, file with the Commission, for approval, functional design drawings of downstream fish passage facilities. The downstream fish passage facilities shall be constructed and operational within three years from the date of issuance of this license.

The licensee shall include with the design drawings: (1) site locations; (2) quantification of flows to operate the facilities; (3) operation and maintenance schedules; and (4) measures to control erosion and sedimentation during construction. The licensee shall prepare the drawings and plans after consultation with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, Maine Department of Marine Resources, the Maine Atlantic Salmon Authority, and the Maine Department of Inland Fisheries and Wildlife. The licensee shall include with the drawings documentation of consultation, copies of comments and recommendations on the drawings and schedule after they have been prepared and provided to the agencies, and specific descriptions of how agencies' comments are accommodated by the licensee's facilities. The licensee shall allow a minimum of 30 days to comment and make recommendations before filing the drawings with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons based on project-specific information.

The Commission reserves the right to require changes to the proposed facilities. Upon Commission approval, the licensee shall implement the proposal, including any changes required by the Commission.

As-built drawings of the downstream fish passage facilities shall be filed in accordance with the requirements of Article 301. At the same time the licensee files as-built drawings with the Commission, as-built drawings shall also be filed with the resource agencies.

Downstream fish passage measures for diadromous fish were installed in 2001. Downstream passage is provided by a concrete log sluice centrally located in the dam equipped with a 5 foot by 5 foot slide gate located at the headworks. Downstream passage measures for eel will consist of nightly shutdowns to begin this fall in September 2024 and will be followed with downstream effectiveness studies in 2025 and 2026.

Downstream effectiveness studies were required under Water Quality Certificate Condition 4, above, and by License Article 407:

**Article 407.** The licensee shall, within 180 days from the date of issuance of this license, file for Commission approval, a plan and schedule to monitor the effectiveness of the downstream fish passage facilities required in Article 405 and upstream fish passage facilities required in Article 406.

The licensee shall design the monitoring plan after consultation with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the Maine Department of Marine Resources, Maine Atlantic Salmon Authority, and the Maine Department of Inland Fisheries and Wildlife. The licensee shall include with the plan, documentation of consultation, copies of comments and recommendations on the plan and schedule after they have been prepared and provided to the agencies, and specific descriptions of how agencies' comments are accommodated by the licensee's plan. The licensee shall allow a minimum of 30 days to comment and make recommendations before filing the plan the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project specific information. The Commission reserves the right to require changes to the proposed plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

The results of the monitoring must be submitted to the Commission according to the approved schedule, along with comments from the consulted agencies on the results. If the monitoring results indicate that further measures are necessary to effectively pass anadromous fish, the licensee shall provide, for Commission approval these measures and an implementation schedule. These measures shall include structural and operational changes necessary to ensure that anadromous fish effectively pass the project.

## 3.4.1 ZONE 1 – UPSTREAM REGULATED RIVERINE REACH

Criterion	Standard	Supporting Information
D	1 - Not	• Explain why the facility does not impose a barrier to downstream fish
	Applicable	passage in the designated ZoE, considering both physical obstruction and
	/ De	increased mortality relative to natural downstream movement (e.g.,
	Minimis	entrainment into hydropower turbines). Typically, tailwater/downstream
	Effect	zones will qualify for this standard since below a dam and powerhouse
	Lincet	there is no additional facility barrier to further downstream movement.
		Bypassed reach zones must demonstrate that flows in the reach are
		adequate to support safe, effective, and timely downstream migration.
		<ul> <li>For riverine fish populations that are known to move downstream,</li> </ul>
		explain why the facility in the designated ZoE does not contribute adversely
		to the species populations or to their access to habitat necessary for
		successful completion of their life cycles; or
		• Document available fish distribution data and the lack of fish species
		requiring passage in the ZoE; or
		• If migratory fish species have been extirpated from the area, explain why
		the facility is not or was not the cause of the extirpation.

The downstream extent of Zone 1 enters Zone 2, the Project Impoundment. There are no downstream facility barriers for fish in Zone 1. Below is a list of all riverine/resident fish species that may occur now at the project in any of the 3 zones of effect.

River Herring (Blueback and alewife) American Eel American Shad Atlantic Salmon Sea Lamprey Striped Bass Banded Killifish Black Crappie Blacknose Dace Bluegill Sunfish Bridle Shiner Brook Trout Brown Bullhead **Brown Trout** Burbot Chain Pickerel Common Shiner Creek Chub Fallfish Gizzard Shad Golden Shiner Lake Chub Largemouth Bass Pearl Dace **Pumpkinseed Sunfish** Smallmouth Bass Spottail Shiner White Perch White Sucker Yellow Perch

## 3.4.2 ZONE 2 – PROJECT IMPOUNDMENT

Criterion	Standard	Supporting Information		
D	2 -	<ul> <li>Identify the proceeding and source, date, and specifics of the</li> </ul>		
	Resource Agency	agency and tribal government recommendation applied in the		
	Recommendations	designated ZoE (NOTE: there may be more than one; identify and explain which is most environmentally stringent).		
		<ul> <li>Explain the scientific, technical, basis for the recommendation, including the methods and data used. This is required</li> </ul>		
		regardless of whether the recommendation is or is not part of a Settlement Agreement.		
		<ul> <li>Describe any provisions for fish passage and/or fish protection monitoring or effectiveness determinations that are part of the recommendation, and how these are being implemented.</li> </ul>		
		<ul> <li>Provide evidence that required passage facilities are being operated and maintained as mandated (e.g., meets seasonal operational requirements, coordination with agencies, meets</li> </ul>		
		effectiveness relative to performance targets).		

Downstream fish passage measures for the Skelton Project were developed through a series of settlement agreements and updates. The measures and the agency basis for the same are described in the introduction of this section.

The Skelton Project has 3-inch trash rack spacing and no visual evidence of impingement or entrainment has been observed of any resident or anadromous fish species during daily observations at the Project since the fish way was first operational in 2001.

The downstream passage can be utilized by all species. A downstream passage study of juvenile clupeids (herring) was conducted in 2010. A downstream smolt study was completed in 1997. Downstream eel telemetry studies are scheduled to be conducted in the fall of 2025.

Due to deep rack intakes and the surface-oriented nature of out-migrating juvenile alosids at the Skelton Project, daily observations, the 2009 study, and comments from the USFWS suggest that, "downstream alosids is good for this site."

Due to the extremely limited numbers of Atlantic salmon returning to the Saco River, no Atlantic salmon kelt or smolt studies are planned at this time.

Tailrace surveys by boat and by foot have been conducted for eel mortalities within the Skelton tailrace weekly for the presence or absence of dead eels every year during the months of September, October, and November since 2008. Very few eels have been observed.

Skelton station was shut down 8 hours per night during the months of September and October 2024 to provide downstream passage for adult silver eels. As mentioned above, downstream telemetry silver eels studies will commence at Skelton during the fall of 2025. See list of all riverine/resident fish species that occur now at the project in section 3.4.1.

Downstream fish passage measures for diadromous fish were installed in 2001. Downstream passage is provided by a concrete log sluice centrally located in the dam equipped with a 5 foot by 5 foot slide gate located at the headworks.

Atlantic salmon smolt telemetry studies conducted at Skelton in 1997 indicates successful passage of smolts. In 2010, the National Marine Fisheries Services noted that for the Skelton Project, "The study suggests that juvenile downstream passage (alosines) is good for this site." Downstream passage of adult Atlantic salmon will be conducted when adequate numbers are passed above Cataract.

Downstream passage measures for eel will consist of nightly shutdowns to begin this fall in September 2024 and will be followed with downstream effectiveness studies in 2025 and 2026.

Daily observations are conducted for all downstream migrants and are reported in the annual Saco River Diadromous report which is agency approved and filed with FERC. Radiotelemetry studies of downstream adult alosid effectiveness will be conducted in 2025 and 2026.

Criterion	Standard	Supporting Information	
D	1	Not Applicable / De Minimis Effect:	
		• Explain why the facility does not impose a barrier to downstream fish	
		passage in the designated ZoE, considering both physical obstruction and	
		increased mortality relative to natural downstream movement (e.g.,	
		entrainment into hydropower turbines). Typically, tailwater/downstream	
		zones will qualify for this standard since below a dam and powerhouse there	
		is no additional facility barrier to further downstream movement. Bypassed	
		reach zones must demonstrate that flows in the reach are adequate to	
		support safe, effective, and timely downstream migration.	
		• For riverine fish populations that are known to move downstream, explain	
		why the facility in the designated ZoE does not contribute adversely to the	
		species populations or to their access to habitat necessary for successful	
		completion of their life cycles; or	
		• Document available fish distribution data and the lack of fish species	
		requiring passage in the ZoE; or	
		• If migratory fish species have been extirpated from the area, explain why	
		the facility is not or was not the cause of the extirpation.	

3.4.3	ZONE 3 – PRO	JECT TAILRACE

Zone 3 extends downstream into the topmost extent of the Cataract Project boundary. There are no downstream facility barriers for fish in Zone 3. See list of all riverine/resident fish species that occur now at the project in section 3.4.1.

# 3.5 SHORELINE AND WATERSHED PROTECTION

The stated Low Impact Hydropower Institute goal for Criterion E – Shoreline and Watershed Protection is "The facility has demonstrated that sufficient action has been taken to protect, mitigate or enhance the condition of soils, vegetation and ecosystem functions on shoreline and watershed lands associated with the facility."

Issuance of the project license included one monitoring requirements for macroinvertebrate communities as follows:

**Article 409.** The licensee shall, within one year from the date of issuance of this license, file for Commission approval, a plan to monitor the macroinvertebrate community in the Saco River downstream of the Skelton Project to determine whether the macroinvertebrate community is meeting applicable aquatic life standards- under the minimum flow regime required by Article 402.

The licensee shall include with the plan: (1) an implementation schedule with duration of monitoring; (2) a description of the sampling sites; (3) sampling methodology and frequency of

sampling; and, (4) a description of how the data will be analyzed. The licensee shall provide a report to the consulting resource agencies listed in the paragraph below, and to the Commission, within 120 days of completion of the monitoring. The report shall include recommendations for any measures necessary to protect and enhance the macroinvertebrate community. The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service, the Maine

Department of Environmental Protection, and the Maine Department of Inland Fisheries and Wildlife. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission. If the results of the monitoring indicate that changes in project structures or operations, including alternative flow releases, are necessary to protect and enhance the macroinvertebrate community, the Commission may direct the licensee to modify project structures or operations.

The licensee filed its macroinvertebrate monitoring plan under article 409 on March 1,1999, and FERC approved the plan on April 21, 1999. A report was filed on May 30, 2001. The licensee's monitoring plan, approved by FERC's April 1999 order, required the licensee to monitor the macroinvertebrate community immediately downstream from the Skelton Project. The summary and conclusions of this report are as follows and the full report is linked in section 6.5.1.

- 1. The Saco River is a sixth order river.
- 2. The Skelton Project is a run-of-river power generation facility. Average daily water flows fluctuated during the study.
- 3. The substrates in the study area were predominantly coarse, eroded rubble and gravel and were covered with filamentous algae.
- 4. The structure and function of the invertebrate community of the Saco River appears healthy. The community is dominated by collector organisms which is to be expected in a river of this size. The primary indicator of enrichment is the large numbers of organisms, particularly filter feeders in the communities.
- 5. Based on the results of this study, the community below Skelton Project has improved since 1991.
- 6. It is ECO-ANALYSTS INC. professional opinion that the Saco River attains Biological Water Quality Standards for Class A based on 38 §464, subsection 11.

Criterion	Standard	Supporting Information
E	1 - Not	There are no lands associated with the facility in the applicable Zone of
	Applicable/De	Effect that are under the direct or indirect ownership or control of the
	Minimis	facility owner and have been identified as having significant ecological
	Effect	value for protecting water quality, sensitive species or habitats,
		aesthetics, or low-impact recreation, and the facility is not subject to any
		Shoreline Management Plan or similar protection plan; or

The current project boundary in Zone 1 generally follows the contour El 134 feet. As shown in Exhibit G the project boundary in Zone 1 is "contained within the banks of the river." There are no significant shoreline lands along Zone 1.

Criterion	Standard	Supporting Information
E	2 - Resource	The facility is in compliance with all local, state and federal
	Agency	resource agency recommendations in a license, exemption, water
	<b>Recommendations:</b>	quality certificate, or other authorization, such as an approved
		Shoreline Management Plan or the equivalent for the protection,

3.5.2 ZONE 2 – PROJECT IMPOUNDMENT

The Skelton impoundment is about 2.8 miles long. In Zone 2 the project boundary generally follows the impoundment shoreline up to El 134 feet (see Exhibit G in Section 6.0). Shoreline lands surrounding the impoundment between the normal full pond elevation of El 127.5 feet and the 134-foot-elevation contour are thus included within the project boundary. In addition, the project boundary along nearly one mile of shoreline at the lower end of the impoundment extends out about 600 feet.

mitigation or enhancement of shoreline surrounding the facility

There are no significant shoreline lands along the impoundment. In Zone 2 BWPH's ownership is limited to those lands within the project boundary. Therefore, BWPH only has the ability to manage limited shoreline and submerged lands within this area. Several state laws and local regulations are designed to manage land development in the vicinity of the project area in accordance with certain objectives. Notably, the Saco River Corridor Commission (SRCC) administers the Saco River Corridor Act, which was established by the state legislature in 1973. Through the Act, the Commission helps oversee land use development within 500 to 1,000 feet of the Saco River.

Any development or ground disturbance on private lands adjacent to the Project requires the appropriate permits and must adhere to the design and development standards of the appropriate town zoning regulations. The Project is not required to have a Shoreline Management Plan, pursuant to FERC licenses and amendments (see Section 6.0).

# **3.5.3 ZONE 3 – PROJECT TAILRACE**

Criterion	Standard	Supporting Information
Ε	1 - Not	There are no lands associated with the facility in the applicable Zone of
	Applicable/De	Effect that are under the direct or indirect ownership or control of the
	Minimis	facility owner and have been identified as having significant ecological
	Effect	value for protecting water quality, sensitive species or habitats,
		aesthetics, or low-impact recreation, and the facility is not subject to any
		Shoreline Management Plan or similar protection plan; or

In Zone 3 the current project boundary encloses the dam and powerhouse and includes small parcels on both river left and right (see Exhibit G in Section 6.0). There are no significant shoreline lands along the tailrace or bypass reach.

In Zone 2 BWPH's ownership is limited to those lands within the project boundary. Therefore, BWPH only has the ability to manage limited shoreline and submerged lands within this area. Several state laws and local regulations are designed to manage land development in the vicinity of the project area in accordance with certain objectives. Notably, the Saco River Corridor Commission (SRCC) administers the Saco River Corridor Act, which was established by the state legislature in 1973. Through the Act, the Commission helps oversee land use development within 500 to 1,000 feet of the Saco River.

Any development or ground disturbance on private lands adjacent to the Project requires the appropriate permits and must adhere to the design and development standards of the appropriate town zoning regulations. The Project is not required to have a Shoreline Management Plan, pursuant to FERC licenses and amendments (see Section 6.0).

# **3.6** THREATENED AND ENDANGERED SPECIES

The stated Low Impact Hydropower Institute goal for Criterion F – Threatened and Endangered Species Protection is "The facility does not negatively impact federal or state listed species."

An Information for Planning and Consultation (IPaC) report and USFWS Official Species List was developed for the Project and is provided in Section 7.0. The following federally-listed Endangered or Threatened species that may be present in the project vicinity: Tri-Colored Bat Tricolored Bat (*Perimyotis subflavus*), which has been proposed as Threatened. Monarch butterfly (*Danaus plexippus*) is currently a candidate for list. Small Whorled Pogonia is also identified as having the potential to occur within the project area and is listed as Endangered.

An inquiry with the Maine Department of Inland Fisheries and Wildlife has identified the Blanding's Turtle as the only state-listed Endangered or Threatened species that may be present in the project vicinity. In addition, several species of bat have the potential to episodically occur in the Project area during the migration and/or breeding season including the state endangered little brown bat and NLEB, and the state threatened eastern small-footed bat.

The discussion of the effects of the Project on listed species, and the applicable standards, are consistent within the Zones of Effect. As such, this resource is discussed by species collectively for all Zones of Effect.

# 3.6.1 ALL ZONES

Criterion	Standard	Supporting Information
F	2 -	Listed species are or may be present in the applicable Zone of Effect, but the
	Finding of	facility has been found by the appropriate resource agencies to have no
	No	negative effect on them; or habitat for the species does not exist within the
	Negative	facility's affected area or is not impacted by facility operations
	Effect	

Routine project operations are not anticipated to affect tri-colored bar or other bat species. Vegetation removal within 250 ft of any waterway is regulated by the Maine Department of Environmental Protection Shoreland Zoning Act. As such, no negative effects are anticipated by this periodic activity.

A report from the Maine Natural Areas Program (MNAP) is contained in Section 7.0, Supporting Information. The report concludes that "there are no rare botanical features documented specifically within the project area."

State listed rare and exemplary botanical species have the potential to be present within the project boundary. However, as stated, routine operations would not be anticipated to affect these species and vegetation removal is regulated by the Maine Department of Environmental Protection Shoreland Zoning Act.

# 3.7 CULTURAL AND HISTORIC RESOURCES

The stated Low Impact Hydropower Institute goal for Criterion G – Cultural and Historic Resource Protection is "The facility does not unnecessarily impact cultural or historic resources that are associated with the facility's lands and waters, including resources important to local indigenous populations, such as Native Americans."

The Project has a Programmatic Agreement pursuant to Article 415, which states

Article 415. The licensee shall implement the provisions of the "Programmatic Agreement Among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, and the Maine State Historic Preservation Officer for the Management of Historic Structures and Eligible Archaeological Sites That May Be Affected By New Licenses Issuing To Central Maine Power Company and Kennebec Water Power Company For Ten Hydroelectric Or Storage Projects In Maine," executed on October 27, 1993, including but not limited to any Cultural Resources Management Plan for the Skelton Project.

In the event that the Programmatic Agreement is terminated, the licensee shall implement the provisions of its approved cultural Resources Management Plan. The Commission reserves the authority to require changes to the Cultural Resources Management Plan at any time during the term of the license. If the Programmatic Agreement is terminated prior to Commission approval of the cultural Resources Management Plan, the licensee shall obtain Commission approval before engaging in any ground disturbing activities or taking any other action that may affect any historic properties within the project's area of potential effect.

The 1993 Programmatic Agreement identifies the following Historic project facilities and Archaeological sites and is linked in section 6.3:

1. Historic Project Facilities: There are no eligible project facilities at the Skelton Project.

2. Archaeological Sites: It has been determined that project operations will have no effect on the four eligible sites (ME 7-26, ME 7-27, ME 7-28, and ME 7-32).

The 1993 Programmatic Agreement requires filing of annual summary reports with FERC and the State Historic Preservation Officer (SHPO) on activities conducted during the previous year and planned for the ensuing year. BWPH is required to file these annual reports by February 15 each year (see Section 7.0). Although four archeological sites are eligible for inclusion on the National Register of Historic Places (NRHP), there are no cultural or historic Project resources on the NRHP.

# 3.7.1 ZONE 1 – UPSTREAM REGULATED RIVERINE REACH & ZONE 2 – PROJECT IMPOUNDMENT

Criterion	Standard	Supporting Information
G	2 -	The facility is in compliance with approved local, state, federal, and
	Approved	recognized tribal historic preservation mandates as well as recognized tribal
	Plan	plans for protection, enhancement, or mitigation of impacts to cultural or
		historic resources affected by the facility.

Phase I and Phase II archaeological surveys designed to locate prehistoric archaeological sites in the project area have been completed. After reviewing the resulting archaeological survey report, the SHPO indicated that four archaeological sites were eligible for inclusion in the National Register. In its Final Environmental Impact Statement FERC concluded that "the [1993] Programmatic Agreement would adequately protect the cultural resources at Skelton. Implementing this agreement would ensure adequate protection of the four archeological sites and any unknown archaeological sites at Skelton."

BWPH continues to file annual reports required by the PA with FERC and the Maine SHPO.

# 3.7.2 ZONE 3 – PROJECT TAILRACE

Criterion	Standard	Supporting Information
G	1 - Not	There are no archaeological sites, historic sites, or other historic
	Applicable/De	properties or cultural or historic resources present on facility lands in
	Minimis	the applicable Zone of Effect that can be potentially threatened by
	Effect	construction or operation of the facility, or facility operations have been
		shown to not adversely affect those that are or were historically present

The 1993 PA and subsequent annual reports and archaeological field surveys have identified no cultural resources in Zone 3. To ensure that any cultural resources potentially present in this Zone are protected, the PA requires that BWPH consult with the SHPO prior to any Project-related land-clearing or ground-disturbing activities in this Zone.

# **3.8** RECREATIONAL RESOURCES

The stated Low Impact Hydropower Institute goal for Criterion H – Recreation Resources is "The facility accommodates recreation activities on lands and waters controlled by the facility and provides recreational access to its associated lands and waters without fee or charge."

Recreation facilities required as part of the 1998 FERC license included a boat launch, and canoe portage trail which includes a hand carry launch to the tailrace of the project (Article 414). Recreation facilities at the Project are operated, inspected, and maintained by BWPH and provide on-water recreation opportunities and access for the public.

Article 413 – Recreation Monitoring

The Licensee, after consultation with the Maine Department of Conservation, the Maine Atlantic Salmon Authority, the Maine Department of Marine Resources , the Maine Department of Inland Fisheries and Wildlife, the National Park Service, and the U.S. Fish and Wildlife Service shall monitor recreation use of the project area to determine whether existing recreation facilities are meeting recreation needs. Monitoring studies shall begin within six years of the issuance of this license and be reported to the Commission in accordance with Section 8 of the Commission's regulations (18 CFR § 8.11), which requires the filing of "FERC Form No. 80." 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, including a discussion regarding the need to enhance recreational opportunities for individuals with disabilities by providing a barrier – free tailrace fishing area;
- (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 consultation and agency comments on the report after it had been prepared and provided to the agencies; and
- (6) Specific descriptions of how the agencies' comments are accommodated by the report.

The Licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing the report with the Commission

Article 414 – Recreation sites

The Licensee, within one year of receiving a license, shall install signs in the project area that identify all project recreation areas open to the public and shall install an interpretive sign near the Skelton Project powerhouse describing its historic features. The installed signs shall include, at a minimum, directional signs off Route 5 and Hollis Road to the Skelton Project recreational

facilities, signs identifying the boat launch facilities upstream and downstream of the Skelton Project dam, and signs identifying the canoe portage around the dam. The licensee shall design the interpretive sign describing the project's historic features in consultations with the Maine Historic Preservation Commission. The final Exhibit F and G Drawings required by Article 301 shall show the location of the installed signs in the project area. In addition, the licensee shall maintain or arrange for the maintenance of the signs during the term of the license.

The latest Recreation Monitoring Report for the project reported that the Skelton Project FERCapproved recreation sites supported 2,993 daytime recreation days and zero night-time recreation days for the 2022 – 2023 reporting year. Shoulder season (spring and fall) use was estimated as a percentage of summer use based on the distribution of recreation use by season reported in the 2009 Recreation Monitoring Report for the Project. There are no winter recreation activities at the Project.

The Report noted that "Recreation sites and facilities are generally used within their site capacities and are adequate to support the existing demand. Use estimates and recreation site capacity utilization estimates indicate the Project and associated recreation sites are not being used at or near their design capacities."

Criterion	Standard	Supporting Information
н	1 - Not	The facility in the applicable Zone of Effect does not occupy lands or
	Applicable/De	waters to which the public can be granted safe access and does not
	Minimis	otherwise impact recreational opportunities in the vicinity
	Effect	

No formal recreation sites are located in Zone 1.

# 3.8.2 ZONE 2 – PROJECT IMPOUNDMENT

Criterion	Standard	Supporting Information
н	2 - Resource	The facility demonstrates compliance with resource agency
	Agency	recommendations for recreational access or accommodation
	Recommendations	(including recreational flow releases), or any enforceable recreation
		plan in place for the facility in the applicable Zone of Effect

Two Project recreation features are in Zone 2. The Skelton boat launch is located on the lower impoundment near the dam on river right. Adjacent to the boat launch is a canoe take-out and a portage trail that leads down to the tailrace canoe put-in located in Zone 3. FERC's latest Environmental Inspection Report, issued on December 9, 2019, found the facility to be in good condition.



Public boat launch and it's the portage takeout on the headpond



Portage takeout signage on the headpond



Station identification sign



Historic interpretive sign

# 3.8.3 ZONE 3 – PROJECT TAILRACE

Criterion	Standard	Supporting Information
Н	2 - Resource	The facility demonstrates compliance with resource agency
	Agency	recommendations for recreational access or accommodation
	Recommendations	(including recreational flow releases), or any enforceable recreation
		plan in place for the facility in the applicable Zone of Effect

The principal recreation features in Zone 3 are the portage trail that connects the canoe takeout in Zone 2 to the canoe put-in, which provides access to the Project tailrace. A set of access stairs provide access along the portage.



# 4.0 ATTESTATION AND WAIVER FORM

All applications for LIHI Certification must include the following statement before they can be reviewed by LIHI:

# ATTESTATION

As an Authorized Representative of BROOKFIELD WHITE PINE HYDRO, LLC

the Undersigned attests that the material presented in the application is true and complete.

The Undersigned acknowledges that the primary goal of the Low Impact Hydropower Institute's certification program is public benefit, and that the LIHI Governing Board and its agents are not responsible for financial or other private consequences of its certification decisions.

The Undersigned further acknowledges that if LIHI Certification of the applying facility is granted, the LIHI Certification Mark License Agreement must be executed prior to the final certification decision and prior to marketing the electricity product as LIHI Certified<sup>®</sup> (which includes selling RECs in a market that requires LIHI Certification).

The Undersigned further agrees to hold the Low Impact Hydropower Institute, the Governing Board, and its agents harmless for any decision rendered on this or other applications, from any consequences of disclosing or publishing any submitted certification application materials to the public, or on any other action pursuant to the Low Impact Hydropower Institute's certification program.

# FOR PRE-OPERATIONAL CERTIFICATIONS:

The Undersigned acknowledges that LIHI may suspend or revoke the LIHI Certification should the impacts of the facility, once operational, fail to comply with the LIHI program requirements.

Authorized Representative:

Name:	NATHAN STEVENS	
Titler		
intie:	VICE PRESIDENT, OPERATIONS	
Authorized Signature:		
Date:	February 28, 2025	

# 5.0 CONTACTS FORM

# 5.1 APPLICANT RELATED CONTACTS

Facility Owner:				
Name and Title	Nathan Stevens, Vice President			
Company	Brookfield White Pine Hydro, LLC			
Phone	207-660-2223			
Email Address	Nathan.stevens@brookfieldrenewable.com			
Mailing Address	150 Main St., Lewiston, Maine 04240			
Facility Operator (if different from Owner):				
Name and Title	Patrick Mcdonough, Senior Operations Manager			
Company	Brookfield White Pine Hydro, LLC			
Phone	207-376-7063			
Email Address	Patrick.Mcdonough@brookfieldrenewable.com			
Mailing Address	150 Main St., Lewiston, Maine 04240			
Consulting Firm /	Agent for LIHI Program (if different from above):			
Name and Title				
Company				
Phone				
Email Address				
Mailing Address				
<b>Compliance Cont</b>	act (responsible for LIHI Program requirements):			
Name and Title	Randall Dorman; Manager, Compliance - Northeast			
Company	Brookfield Renewable			
Phone	(207) 755-5605			
Email Address	Randy.Dorman@brookfieldrenewable.com			
Mailing Address	150 Main Street, Lewiston, Maine 04240			
Party responsible for accounts payable:				
Name and Title	Judith Charette Manger, Accounts Payable, Finance & Accounting			
Company	Brookfield Renewable			
Phone	819-561-8099			
Email Address	Judith.charette@brookfieldrenewable.com			
Mailing Address	41 Victoria, Gatineau, QC, Canada J8X2A1			

# **5.2 CURRENT AND RELEVANT STATE, FEDERAL, AND TRIBAL RESOURCE AGENCY CONTACTS WITH KNOWLEDGE OF THE FACILITY**

Agency Contact		Area of Responsibility (check applicable boxes)
Agency Name	Advisory Council on Historic Preservation	□ Flows
		Water Quality
		□ Fish/Wildlife
		Watershed
		□ T&E Species
		🛛 Cultural/Historic
		Recreation
Name and Title	Reid Nelson, Executive Director	
Phone	202-517-0200	
Email address	rnelson@achp.gov	
Mailing Address	401 F Street N.W. Suite 308 Washington, District of	of Columbia 20001-2637

Agency Contact		Area of Responsibility (check applicable boxes)
Agency Name	Maine Department of Environmental Protection	□ Flows
		🛛 Water Quality
		□ Fish/Wildlife
		Watershed
		□ T&E Species
		Cultural/Historic
		Recreation
Name and Title	Rob Wood, Director of Bureau of Land Resources	
Phone	207-855-8361	
Email address	robert.wood@maine.gov	
Mailing Address	17 State House Station, 32 Blossom Lane, Augusta,	Maine 04333

Agency Contact		Area of Responsibility (check applicable boxes)
Agency Name	National Marine Fisheries Service	□ Flows
		Water Quality
		□ Fish/Wildlife
		Watershed
		T&E Species
		Cultural/Historic
		□ Recreation
Name and Title	Bjorn Lake	
Phone	978-281-9252	
Email address	Bjorn.Lake@noaa.gov	
Mailing Address	15 Carlson Lane, Falmouth, MA 02540	

Agency Contact		Area of Responsibility (check applicable boxes)			
Agency Name	Maine Department of Environmental Protection	□ Flows			
		🛛 Water Quality			
		□ Fish/Wildlife			
		Watershed			
		□ T&E Species			
		Cultural/Historic			
		□ Recreation			
Name and Title	Laura Paye 207-219-9563 Maine DEP Hydropower Coordinator				
Phone	207-446-2642				
Email address	Laura.paye@maine.gov Maine DEP Hydropower Coordinator				
Mailing Address	Central Maine Regional Office, 17 State House Station, Augusta, Maine 04333				
	Agency Contact				
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Agency Name	Maine Department of Inland Fisheries and Wildlife	□ Flows			
		Water Quality			
		🛛 Fish/Wildlife			
		Watershed			
		□ T&E Species			
		Cultural/Historic			
		Recreation			
Name and Title	James Pellerin, Regional Fisheries Biologist				
Phone	207-657-5765				
Email address	James.pellerin@maine.gov				
Mailing Address	15 Game Farm Rd., Gray ME, 04039				

	Agency Contact						
Agency Name	Maine Dept. of Agriculture, Conservation &	□ Flows					
	Forestry	Water Quality					
		Fish/Wildlife					
		🛛 Watershed					
		□ T&E Species					
		Cultural/Historic					
		Recreation					
Name and Title	Kathleen Leyden, Director Maine Coastal Program						
Phone	207-287-5254						
Email address	Kathleen.Leyden@maine.gov						
Mailing Address	93 State House Station, Augusta, Maine 04333-0038	3					

	Agency Contact				
Agency Name	Maine Department of Marine Resources	□ Flows			
		Water Quality			
		🛛 Fish/Wildlife			
		□ Watershed			
		□ T&E Species			
		Cultural/Historic			
		□ Recreation			
Name and Title	Casey Clark, Marine Scientist				
Phone	(207) 350-9791				
Email address	Casey.Clark@maine.gov				
Mailing Address	21 State House Station, Augusta, Maine 04333				

	Agency Contact				
Agency Name	National Marine Fisheries Service	Flows			
		Water Quality			
		🛛 Fish/Wildlife			
		Watershed			
		□ T&E Species			
		Cultural/Historic			
		Recreation			
Name and Title	Bill McDavitt, Environmental Specialist				
Phone	(978) 675-2156				
Email address	William.mcdavitt@noaa.gov				
Mailing Address	55 Great Republic Drive, Gloucester, MA 01930-223	7			

	Agency Contact				
Agency Name	Maine Historic Preservation Commission	□ Flows			
		Water Quality			
		□ Fish/Wildlife			
		Watershed			
		□ T&E Species			
		🛛 Cultural/Historic			
		Recreation			
Name and Title	Kirk Mohney; Director				
Phone	(207) 287-3811				
Email address	Kirk.Mohney@maine.gov				
Mailing Address	55 Capitol Street, 65 State House Station, Augusta,	Maine 04333			

	Agency Contact	Area of Responsibility (check applicable boxes)
Agency Name	U.S. National Park Service	Flows
		Water Quality
		□ Fish/Wildlife
		Watershed
		□ T&E Species
		Cultural/Historic
		Recreation
Name and Title	Kevin Mendik, ESQ. NPS Hydro Program Coordinato	Dr
Phone	617-223-5299	
Email address	kevin_mendik@NPS.gov	
Mailing Address	15 State Street 10th floor, Boston, Massachusetts 0	2109

	Area of Responsibility (check applicable boxes)	
Agency Name	U.S. Fish and Wildlife Service	□ Flows
		Water Quality
		🖾 Fish/Wildlife
		□ Watershed
		□ T&E Species
		Cultural/Historic
		□ Recreation
Name and Title	Kyle Olcott	
Phone	(207) 536-9541	
Email address	dudley_olcott@fws.gov	
Mailing Address	306 Hatchery Road, East Orland, Maine 04431	

#### Area of Responsibility Stakeholder Contact (check applicable boxes) Saco River Corridor Commission Organization □ Flows Name □ Water Quality □ Fish/Wildlife ⊠ Watershed □ T&E Species □ Cultural/Historic □ Recreation Name and Title Cheri Dunning, Executive Director 207-625-8123 Phone Email address cheri@srcc-maine.org 81 Maple Street, Mailing Address P.O. Box 283, Cornish, Maine 04020-0283 Area of Responsibility Stakeholder Contact (check applicable boxes) Organization Saco River Salmon Alliance □ Flows Name □ Water Quality ⊠ Fish/Wildlife □ Watershed □ T&E Species □ Cultural/Historic □ Recreation Name and Title Garry Kasten, Treasurer 207-332-8037 Phone gkasten42@gmail.com Email address Mailing Address PO Box 115, Saco, ME 04072

#### 5.3 CURRENT STAKEHOLDER CONTACTS THAT ARE ACTIVELY ENGAGED WITH THE FACILITY

	Stakeholder Contact				
Organization		□ Flows			
Name		Water Quality			
		□ Fish/Wildlife			
		□ Watershed			
		T&E Species			
		Cultural/Historic			
		□ Recreation			
Name and Title					
Phone					
Email address					
Mailing Address					

	Stakeholder Contact	Area of Responsibility (check applicable boxes)			
Organization		□ Flows			
Name		Water Quality			
		Fish/Wildlife			
		Watershed			
		T&E Species			
		Cultural/Historic			
		□ Recreation			
Name and Title					
Phone					
Email address					
Mailing Address					

#### 6.0 FERC AND REGULATORY INFORMATION

#### 6.1 FERC LICENSE AND AMENDMENT ORDERS

- 19980226 Order Issuing New License <u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_Number=19980227-3142</u>
- 19980415 Order Amending License to clarify an Article 402 omission <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=001551ED-66E2-5005-8110-C31FAFC91712</u>
- 20020614 Order Amending Licenses A filing date for the annual cultural resource reports was established as February 15 of each year. https://elibrary.ferc.gov/eLibrary/filelist?accession\_Number=20020614-2213
- 20120410 Skelton Upgrade FERC Amendment Order <u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_Number=20120410-3015</u>

#### 6.2 WATER QUALITY CERTIFICATION, AMENDMENTS, AND REPORTS

- 19970904 Water Quality Certification attached to the FERC License https://elibrary.ferc.gov/eLibrary/filelist?accession\_Number=19980227-3142
- 2010 Water Quality Monitoring Report for the Skelton Hydro Project: <u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20110104-5017</u>
- 20110111 Maine Department of Environmental Protection letter fling compliance with water quality monitoring requirement of WQC <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=01788984-66E2-5005-8110C31FAFC91712</u>

#### 6.3 SETTLEMENT AND OTHER AGREEMENTS

- 19931209 Programmatic Agreement see Section 7.1
- 19970717 Instream Flow Agreement for the Saco River
   <u>https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8196699</u>
- 20070326 Saco River Fisheries Assessment Agreement <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=01042FD6-66E2-5005-8110-C31FAFC91712</u>
- 20190508 2019 Amendment to 2007 Saco River Fish Passage Assessment Agreement https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20190508-5127

#### 6.4 PERMITS

- 2018 MDEP Maine Pollutant Discharge Elimination System Permit (MEPDES) Permit No. 0001180
- The Proposed Draft for the renewal of MEPDES permit ME0001180 was filed on March 9, 2023 (5-year renewals). The MDEP made available for comment by the public and interested parties beginning on August 17, 2023, for a period of thirty (30) days. The MDEP has since proposed rulemaking changes and no updates have been provided on

our renewal application. Our 2018 MEPDES permit, and associated conditions remain active in the interim per the Department's direction.

#### 6.5 COMPLIANCE PLANS AND MONITORING REPORTS

- 20191209 Environmental Inspection Report inspected on September 18, 2019 <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=02054FE9-66E2-5005-8110-C31FAFC91712</u>
- 19981112 FERC Order Modifying & Approving Min flow & Pond Level Monitoring Plan <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=00157EFF-66E2-5005-8110-</u> <u>C31FAFC91712</u>
- 19990225 Dissolved Oxygen Monitoring Plan Article 408 <u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_Number=19990301-0407</u>
- 20000807 FERC Dissolved Oxygen Monitoring Plan Approval Article 408 <u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20000809-0136</u>
- 20030117 Revised Dissolved Oxygen Monitoring Plan Article 408 https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20030121-0025
- 20030220 FERC Revised Dissolved Oxygen Monitoring Plan Approval -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20030220-3018</u>
- 20020329 To FERC 2001 Water Quality Monitoring Report -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20020402-0298</u>
- 20020430 From FERC 2001 Water Quality Monitoring Report Approval -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20020507-0239</u>
- No sampling in 2002 due MDEP consultation and the monitoring plan being revised in the 20030117 submittal to incorporate tailwater sampling. Approved by FERC on 20030220
- 20040331 To FERC 2003 Water Quality Monitoring Report https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20040402-0080
- 20040413 From FERC 2003 Water Quality Monitoring Report Approval <u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20040414-0042</u>
- 20050318 To FERC 2004 Water Quality Monitoring Report -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20050323-0142</u>
- 20050427 From FERC 2004 Water Quality Monitoring Report Approval https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20050509-0168
- 20060314 To FERC 2005 Water Quality Monitoring Report -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20060321-0145</u>
- 20060515 From FERC 2005 Water Quality Monitoring Report Approval -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20060517-0174</u>
- 20070124 To FERC 2006 Water Quality Monitoring Report https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20070201-0004
- 20070418 From FERC 2006 Water Quality Monitoring Report Approval https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20070424-0037
- 20080725 To FERC 2007 Water Quality Monitoring Report https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20080131-0077

- 20080410 From FERC 2007 Water Quality Monitoring Report Approval https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20080417-0052
- 20081216 To FERC 2008 Water Quality Monitoring Report https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20081230-0201
- 20090113 From FERC 2008 Water Quality Monitoring Report Approval -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20090122-0098</u>
- 20091204 To FERC 2009 Water Quality Monitoring Report https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20091216-0141
- 20100304 From FERC 2009 Water Quality Monitoring Report Approval -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20100315-0425</u>
- 20110102 To FERC 2010 Water Quality Monitoring Report -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20110104-5025</u>
- 20110328 FERC Dissolved Oxygen Monitoring Termination Approval Article 408 https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20110328-3021
- 19990225 Salmonid Habitat Enhancement & Monitoring Plan Articles 410 & 411 https://elibrary.ferc.gov/eLibrary/filelist?accession\_Number=19990301-0406
- 1990421 FERC Order Approving Salmonid Enhancement and Monitoring Plan Articles 410 & 411 <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=0007E5AA-66E2-5005-8110-C31FAFC91712</u>
- 20010330 To FERC Salmonid Habitat Enhancement Monitoring Results <u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20010404-0196</u>
- 20010403 From FERC Salmonid Habitat Enhancement Monitoring Results Approval <u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20010802-0424</u>
- 20070327 Fisheries Assessment Report and Offer of Settlement -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20070327-5007</u>
- 20070718 FERC Order Modifying and Approving Fish Passage Assessment Report and Recommendations for Fish Passage and Fisheries Management
- <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=010D5C79-66E2-5005-8110-C31FAFC91712</u>
- 20090702 Kelt Passage Evaluation Study Plan -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20090707-0091</u>
- 20090818 Kelt Passage Evaluation FERC Approval -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20090818-3009</u>
- 20110726 Phase 2 Kelt Passage Evaluation Study Plan -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20110727-5016</u>
- 20111103 Phase 2 Kelt Passage Study Plan Approval -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20111104-0007</u>

#### 6.5.1 ECOLOGICAL FLOWS AND WATER QUALITY

- 19981112 FERC Order Modifying & Approving Min flow & Pond Level Monitoring Plan <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=00157EFF-66E2-5005-8110-</u> <u>C31FAFC91712</u>
- 19970904 Water Quality Certification attached to the FERC License https://elibrary.ferc.gov/eLibrary/filelist?accession\_Number=19980227-3142
- 19990225 Macroinvertebrate Monitoring Plan Article 409

https://elibrary.ferc.gov/eLibrary/filelist?accession\_Number=19990304-0348

- 19990421 FERC Order Approving Macroinvertebrate Monitoring Plan Article 409 <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=0007E5A7-66E2-5005-8110-C31FAFC91712</u>
- 20010525 To FERC Skelton Macroinvertebrate Monitoring Report Article 409 https://elibrary.ferc.gov/eLibrary/filelist?accession number=20010604-0146
- 20010613 From FERC Accepting Macroinvertebrate Monitoring Report Article 409 https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20010803-0675
- 20020430 (Article 408) Dissolved Oxygen Report Maine DEP Letter <u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20020507-0239</u>

#### 6.5.2 UPSTREAM AND DOWNSTREAM FISH PASSAGE

- 20240326 To FERC 2023 Saco River Diadromous Fish Passage Report re the Cataract Project, et al. under P-2527, et al. <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=1E5E712A-186A-CD11-B320-8E7B66500000</u>
- 20230331 To FERC 2022 Saco River Diadromous Fish Passage Report for the Cataract Project et al. under P-2528 et. al. <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=6C0C6EF7-C717-C040-B3C7-87394CF00000</u>
- 20220331 To FERC 2021 Saco River Diadromous Fish Passage Report for the Cataract Project et. al. under P-2528, et. Al. <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=5EE4BDB0-A87B-C6F8-B224-7FE16C100000</u>
- 20210331 To FERC 2020 Saco River Diadromous Fish Passage Report for the Cataract Project et. al. under P-2528, et. Al. <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=020C731C-66E2-5005-8110-C31FAFC91712</u>
- 20200326 To FERC 2019 Saco Diadromous fisheries report for the Cataract Project et al under P-2528 <u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20200326-5089</u>
- 20190717 FERC Order Approving Revised Fish Passage Assessment and Fish Passage Installation Schedule re Brookfield White Pine Hydro, LLC under P-2527 <u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20190717-3068</u>
- 20190508 2019 Amendment to 2007 Saco River Fish Passage Assessment Agreement of Brookfield White Pine Hydro LLC under P-2527 https://elibrary.ferc.gov/eLibrary/filelist?accession number=20190508-5127
- 20190326 Report of Brookfield Renewable Energy Group under P-2528, et. al..2018 Saco River Diadromous Fish Passage Report <u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20190326-5044</u>
- 20070718 Order modifying and approving Fish Passage Assessment Report and recommendations for Fish Passage and Fisheries Management <u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20070718-3030</u>
- 20070725 Order Modifying and Approving Fish Passage Assessment Report and Recommendations for Fish Passage and Fisheries Management – Errata Notice <u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20070725-3006</u>

#### 6.5.3 SHORELINE AND WATERSHED PROTECTION

- 19990301 Central Maine Power submits Skelton Macroinvertebrate Monitoring Plan pursuant to Article 409 under P-2527 -<u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=0007B018-66E2-5005-8110-C31FAFC91712</u>
- 19990421 Central Maine Power Company. 87 FERC 62,087; Order Approving Macroinvertebrate Plan <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=0018298D-</u>66E2-5005-8110-C31FAFC91712
- 20010525 FPL Energy Maine Hydro LLC submits the 2000 Skelton Macroinvertebrate Monitoring Report under P-2527 <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=0005AA57-66E2-5005-8110-C31FAFC91712</u>
- 20010613 Letter order accepting FPL Energy's May 25, 2001 filing of its Macroinvertebrate Monitoring Report, as required by Article 409 & the Commission's April 12, 2001 Order re Skelton Project under P-2527.

https://elibrary.ferc.gov/eLibrary/filedownload?fileid=000575A2-66E2-5005-8110-C31FAFC91712

#### 6.5.4 THREATENED AND ENDANGERED SPECIES

- IPAC Report (See Section 7)
- MNAP Report (See Section 7)
- MDIFW Report (See Section 7)

#### 6.5.5 CULTURAL AND HISTORIC RESOURCES

- 2024 Annual Cultural Resource Report https://elibrary.ferc.gov/eLibrary/filedownload?fileid=F861778C-7D0D-C46E-84FA-8DAE5D900000
- 2023 Annual Cultural Resource Report <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=61F99DB6-50FE-C875-902C-8656FAD00001</u>
- 2022 Annual Cultural Resource Report <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=2EC21EB1-FFAC-CF70-8E75-7EE9D4100001</u>
- 2021 Annual Cultural Resource Report
   <u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20210216-5113</u>
- 2020 Annual Cultural Resource Report <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=02069098-66E2-5005-8110-C31FAFC91712</u>

2019 Annual Cultural Resource Report
 <u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20190214-5065</u>

#### 6.5.6 RECREATIONAL RESOURCES

- 20030929 To FERC Recreation Monitoring Report https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20030930-5080
- 20040728 From FERC Recreation Monitoring Report Approval https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20040628-3038
- 20090331 To FERC Skelton Recreation Monitoring Report https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20090401-5028
- 20150413 Skelton Recreation Monitoring Report -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20150415-5075</u>
- 20230601 Recreation Monitoring Report Submittal https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20230601-5182
- 20230601 Recreation Monitoring Report FERC Approval issued August 9, 2023 https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20230809-3025
- 20200930 Recreation Monitoring Report FERC Approval FERC approval issued June 28, 2004 <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=01CDEA66-66E2-5005-8110-C31FAFC91712</u>
- 20200417 Order Granting Extension of Time for Recreation Monitoring and Reporting Pursuant to Article 412 re Brookfield White Pine Hydro, LLC under P-2529 <u>https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20200417-3046</u>
- 20150415 Recreation Report / Form of Brookfield Renewable Energy Group https://elibrary.ferc.gov/eLibrary/filelist?accession\_number=20150415-5075
- 20001101 Order modifying Article 412 https://elibrary.ferc.gov/eLibrary/filedownload?fileid=3204706
- 20040113 Order approving Recreation Monitoring Report & Amending Article 412 https://elibrary.ferc.gov/eLibrary/filedownload?fileid=10039331

#### 6.6 LICENSE AND CERTIFICATION COMPLIANCE

- 20200709 Submittal letter to the FERC Minimum Flow Disruption Report <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=020905E3-66E2-5005-8110-C31FAFC91712</u>
- 20200810 Letter informing BWPH that the minimum flow deviation that occurred on 06/30/2020 will not be considered a violation of Article 402 for the Skelton Hydroelectric Project under P-2527. <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=0209EE83-66E2-5005-8110-C31FAFC91712</u>
- 20160819 Submittal to the FERC Minimum Flow Disruption Report <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=01E2B454-66E2-5005-8110-C31FAFC91712</u>

- 20161130 Letter informing BWPH that the minimum flow deviation that occurred on 08/13/2016 will not be considered a violation of Article 402 for the Skelton Hydroelectric Project under P-2527.
   <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=01E535AA-66E2-5005-8110-C31FAFC91712</u>
- 20140915 Submittal letter to the FERC Minimum Flow Disruption Report <u>https://elibrary.ferc.gov/eLibrary/filedownload?fileid=01C67286-66E2-5005-8110-C31FAFC91712</u>
- 20141229 Letter informing BWPH that the minimum flow deviation that occurred on 09/09/2014 will not be considered a violation of Article 402 for the Skelton Hydroelectric Project under P-2527.
   https://elibrary.ferc.gov/elibrary/filedownload?fileid=01C9BA97-66E2-5005-8110-

https://elibrary.ferc.gov/eLibrary/filedownload?fileid=01C9BA97-66E2-5005-8110-C31FAFC91712

#### 7.0 SUPPORTING DOCUMENTATION

- Instream Flow Agreement for Hydroelectric Projects on the Saco River
- IPAC Report
- MDIFW List of State Listed Threatened and Endangered Species
- MNAP Report

### INSTREAM FLOW AGREEMENT FOR HYDROELECTRIC PROJECTS ON THE SACO RIVER

April 30, 1997

#### **BACKGROUND AND PARTIES**

This is a settlement agreement ("Agreement") regarding instream flows at hydroelectric generating projects on the Saco River that are currently undergoing licensing proceedings before the Federal Energy Regulatory Commission (FERC), including the Skelton (FERC No. 2527), and Bonny Eagle (FERC No. 2529) projects, as well as the proceedings to exempt Swans Falls (FERC No. 11365) from licensing. This Agreement also applies to Central Maine Power Company's (CMP), Cataract (FERC No. 2528), Bar Mills (FERC No. 2194), West Buxton (FERC No. 2531), and Hiram (FERC No. 2530) projects. Figure 1 is a map of the Saco River region showing the locations of the projects.

Following the signing of the Saco River Fish Passage Agreement (dated May 24, 1994) and its addendum entitled Annex 1: Assessment Process and Criteria (dated January 20, 1995), Central Maine Power Company invited the parties to the Saco River Fish Passage Agreement to enter into negotiations to decide instream flow requirements for hydroelectric generating projects owned by CMP on the Saco River. Swans Falls Corporation, owner of the Swans Falls project, also elected to participate in the negotiations. In May 1995, the parties met for the first time, and began a series of meetings that has resulted in this Agreement.

The parties to this agreement are listed below:

Central Maine Power Company (CMP) U.S. Department of Interior, Fish and Wildlife Service (USFWS) Maine Department of Inland Fisheries and Wildlife (MDIFW) Maine Department of Marine Resources (MDMR) Saco River Salmon Club (SRSC) Atlantic Salmon Federation (ASF) Maine Council, Atlantic Salmon Federation (MCASF) Maine Department of Environmental Protection (MDEP) Swans Falls Corporation (Swans Falls) Maine Atlantic Salmon Authority (MASA) Maine State Planning Office (SPO) Trout Unlimited (TU) Maine Council, Trout Unlimited (MCoTU) American Rivers, Inc. New Hampshire Department of Fish & Game City of Saco City of Biddeford

Saco River Instream Flow Agreement April 30, 1997 While not parties to this Agreement, other interested organizations were informed in writing of each negotiation session, were sent copies of minutes of each negotiation session and were sent copies of working drafts of the Agreement. These organizations were the following:

Maine Department of Conservation (MDOC)

- U.S. Department of Commerce, National Marine Fisheries Service
- U.S. Forest Service, White Mountain National Forest
- U.S. Environmental Protection Agency
- Saco River Corridor Commission

The parties met periodically from May 1995 through February 1997. During this period, CMP and other parties collected and presented field data, economic data, and conducted various computer simulations of flow regimes within the Saco River. The parties themselves conducted several field visits. The terms of this Agreement are based on facts, findings and other considerations specific to the Saco River projects.

#### PRINCIPAL OBJECTIVES AND CONSIDERATIONS

- 1. At several points during the settlement discussions that led to this Agreement, the parties established and revised a list of objectives that they were seeking to balance. The parties acknowledge that this Agreement balances the following objectives and considerations to their satisfaction:
  - a. Improve the habitat for Atlantic salmon, American shad and river herring sufficiently to allow self-sustaining populations, and improve habitat for resident fish and aquatic communities, focusing on the Hiram to Bonny Eagle reach which provides the most valuable spawning and rearing habitat for Atlantic salmon in the Saco River downstream of Swans Falls;
  - b. Provide for and improve a zone of passage for anadromous fish and spawning habitat below the Skelton dam;
  - c. Provide for spawning and rearing of clupeids (American shad and river herring) below the Skelton dam;
  - d. Contribute to restoration of the natural hydrology and riverine ecosystems by reducing the difference between the minimum and maximum flows;
  - e. Maintain and improve the habitat for resident aquatic life in the West Buxton to Bar Mills reach;
  - f. Meet the State of Maine's minimum water quality standards below the Bonny

Eagle and Skelton projects;

- g. Ensure continued hydro power generation in the Saco River basin in a costeffective manner for the project owners, and in a manner which provides for flexibility in hydro power operations to meet changing peak and off-peak demands.
- 2. The parties acknowledge that the instream flows at the various projects are interdependent, and that flows established at an upstream project may have an effect on the operations of projects downstream, and on the downstream aquatic communities.
- 3. The parties recognize that the FERC has completed a Final Environmental Impact Statement (FEIS) for the Saco River Projects (FERC-FEIS 0077, August 1996) which recommends that the Commission should relicense the Bonny Eagle and Skelton projects with certain conditions that, when considered in the context of the entire Saco River basin, are not entirely satisfactory to any of the parties. The parties recognize further that certain resource values may be enhanced by altering the current licensed instream flow requirements at the Hiram Project.

#### TERMS AND CONDITIONS

Therefore, the undersigned parties agree to the following terms and conditions:

#### **Swans Falls Project**

4. The parties agree that instream flow and pond level requirements for the Swans Falls project shall be run-of-river<sup>1</sup> operation year-round with head pond levels maintained within one foot of normal pond elevation of 395.9 feet (normal pond level is approximately six inches below the top of the spillway flashboards) during normal operations.

#### Hiram Project

- 5. The parties agree that the instream flow and pond level requirements for the Hiram project shall be:
  - a. A minimum flow of 300 cubic feet per second (cfs), or inflow, whichever is less, from November 16 through September 30, with pond drawdown limited to

<sup>&</sup>lt;sup>1</sup> Run-of-river operation is defined as outflow equal to inflow, with pond level variation limited to one foot or less during normal operation.

two (2) feet or less from full pond elevation during normal operation or from spillway crest when the flashboards are down;

b. Run-of-river operation from October 1 through November 15, with pond drawdown limited to one (1) foot or less from full pond elevation or from the spillway crest when the flashboards are down. The timing of this six week fall flow period may be varied as described in paragraph 11 below.

#### **Bonny Eagle Project**

- 6. The parties agree that the instream flow and pond level requirements for the Bonny Eagle project shall be:
  - a. Run-of-river operation from April 1 through June 30, with head pond drawdown limited to one (1) foot or less from full pond elevation or from the spillway crest when the flashboards are down;
  - b. A minimum flow of 400 cfs, or inflow, whichever is less, from July 1 through September 30, with head pond drawdown limited to four and one-half (4.5) feet or less from full pond elevation, or one foot or less from the spillway crest when the flashboards are down;
  - c. A minimum flow of 600 cfs, or inflow, whichever is less, from October 1 through November 15, with head pond drawdown limited to four and one-half (4.5) feet or less from full pond elevation, or one foot or less from the spillway crest when the flashboards are down. The timing of this six week fall flow period may be varied as described in paragraph 11 below;
  - d. A minimum flow of 250 cfs, or inflow, whichever is less, from November 16 through March 31, with head pond drawdown limited to four and one-half (4.5) feet or less from full pond elevation, or one foot or less from the spillway crest when the flashboards are down;
  - e. A minimum flow of 25 cfs year-round in the New River Channel. The minimum flow in the New River Channel is inclusive in the total minimum flows listed in 6a through 6d above for this project (*not in addition to* those flows).

#### West Buxton Project

7. The parties agree that the FERC and MDEP current license and water quality certification conditions at West Buxton will not change, and that the instream flows

from the West Buxton project will be determined by the instream flows required at the Bonny Eagle project as described in paragraph 6 above.

#### Bar Mills Project

8. The parties agree that the FERC current license conditions at Bar Mills will not change, and that the instream flows from the Bar Mills project will be determined by the instream flows required at the Bonny Eagle project described in paragraph 6 above.

#### Skelton Project

- 9. The parties agree that the instream flow and pond level requirements for the Skelton project shall be as follows:
  - a. Run-of-river operation from April 1 through June 30, with head pond drawdown limited to one (1) foot or less from full pond elevation during normal operations;
  - b. A minimum flow of 400 cfs "guaranteed" from July 1 through September 30, with head pond drawdown limited to four (4) feet or less from full pond elevation.

"Guaranteed" means that at times when inflow to the Skelton headpond drops below 400 cfs, CMP will continue to provide 400 cfs below the Skelton project by drawing from the Skelton headpond. This use of the headpond storage to supplement outflow will be discontinued if the headpond elevation drops four feet below full pond elevation, such as may occur when extended natural low flow conditions are experienced. Under these circumstances, the outflow from the Skelton Project will be equal to the inflow. When inflow to the headpond is greater than 400 cfs, a minimum flow of 400 cfs will be provided.

- c. A minimum flow of 600 cfs, or inflow, whichever is less, from October 1 through November 15, with head pond drawdown limited to four (4) feet or less from full pond elevation. The timing of this six week flow period may be varied as described in paragraph 11 below.
- d. A minimum flow of 400 cfs "guaranteed" (defined as in 9b above) from November 16 through March 31, with head pond drawdown limited to four (4) feet or less from full pond.
- e. CMP agrees to complete instream habitat improvements to provide boulder clusters in the area below the Skelton dam as previously proposed by CMP in

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the application for new license submitted to FERC, December 1991, at page E.3.1-118 and 119.

f. CMP and MDEP agree to discuss the timing and extent of scheduled maintenance draw downs of the Skelton headpond in the Skelton 401 water quality certification process.

#### **Cataract Project**

10. The parties agree that the current FERC and MDEP license and water quality certification conditions at Cataract will not change, and that the instream flows at Cataract will be determined by the instream flows required at the Skelton Project as described in paragraph 9 above.

#### ADDITIONAL TERMS

- 11. The start of the fall period for required instream flows (see 5b, 6c and 9c above) may be changed in any year by mutual agreement among CMP and the U.S. Fish and Wildlife Service, Maine Department of Inland Fisheries and Wildlife, Maine Department of Marine Resources, and Maine Atlantic Salmon Authority based on:
  - a) expected flow and weather conditions,
  - b) biological factors such as fish migration or spawning periods, and/or
  - c) anticipated electrical need for or value of CMP's generation (e.g. plant outages).
  - The fall flow period shall be no less and no more than six weeks except upon mutual agreement among the parties listed in this section, and shall start no sooner than September 1 and no later than October 1. Any changes in the timing of the fall flow period will accordingly change the ending date of the summer period and the beginning date of the winter period. If the parties do not reach an agreement in a given year, then the start of the fall period for that year shall be October 1 as established in paragraphs 5b, 6c, and 9c herein.
- 12. The MDEP has determined that the flows in this Agreement are expected to meet water quality standards for flowing/riverine aquatic habitat below the Bonny Eagle (specifically the reach below West Buxton) and Skelton projects, and for dissolved oxygen below the Skelton Project. CMP agrees to conduct follow-up studies of aquatic communities and dissolved oxygen as required by the MDEP in the Bonny Eagle and Skelton Section 401 water quality certifications (PL. 92-500, as amended). CMP

Saco River Instream Flow Agreement April 30, 1997 acknowledges that, if instream flows required by this Agreement do not allow State water quality standards to be met in the reaches below the Bonny Eagle (or West Buxton) or Skelton dams, then the MDEP may require CMP to increase minimum instream flows from the Bonny Eagle and/or Skelton projects as MDEP deems necessary, based on the results of the follow-up studies, to meet applicable water quality standards below these projects. The parties to this Agreement hereby agree that, should increased minimum flows at Bonny Eagle or Skelton be required by the MDEP, the parties will meet and in good faith attempt to renegotiate the terms of this Agreement using a consensus process. If the parties are unable to come to mutual agreement on new or altered terms and conditions for minimum flows within the scope of this Agreement, then CMP may give notice to the other parties that it no longer intends to be bound by the terms of this Agreement. If CMP gives such notice pursuant to this paragraph only, then the parties agree that such notice makes this Agreement null and void as it pertains to CMP projects. The parties will then be free to petition the FERC, pursuant to the regulations of the FERC as appropriate, to amend the licenses.

MDEP agrees to incorporate the pertinent terms and conditions of this Agreement, as they pertain to the Bonny Eagle and Skelton Projects, into the water quality certifications for those projects. The MDEP reserves the right to require the appropriate studies and to increase minimum flows as it deems necessary to meet applicable water quality standards for aquatic habitat below the Hiram project and in the bypass reach at the Bar Mills project at the time of relicensing for these projects.

The parties acknowledge that the Assessment process described in Annex 1 to the Saco 13. River Fish Passage Agreement (dated January 20, 1995) provides a forum (i.e. the Saco River Coordinating Committee, or SRCC) and an opportunity to evaluate the overall success of the anadromous fish restoration effort for American shad, river herring, and Atlantic salmon in the Saco River, and to determine what the limiting factors are in that restoration program. While this Instream Flow Agreement prescribes no specific studies related to flows, the SRCC may include evaluation of minimum flows in its Assessment studies. The parties agree that if, after thoroughly evaluating and addressing all other limiting factors, the Assessment process yields substantial evidence that the minimum flows established in this Agreement are a significant limiting factor to the restoration program for American shad, river herring or Atlantic Salmon, then the parties will meet and in good faith attempt to renegotiate the terms of this Agreement using a consensus process. If the parties are unable to come to mutual agreement on new or altered minimum flows within the scope of this Agreement, then the current terms and conditions of this Agreement shall continue to apply. Similarly, if a project owner develops substantial evidence that the minimum flows established in this Agreement are in excess of those flows that are necessary to support the restoration of American shad, river herring or Atlantic salmon, then the parties

Saco River Instream Flow Agreement April 30, 1997

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agree to meet and in good faith attempt to renegotiate the terms of this Agreement using a consensus process. If the parties are unable to come to mutual agreement on new or altered minimum flow terms and conditions within the scope of this Agreement, then the current terms and conditions of this Agreement shall continue to apply.

Implementation of any renegotiated terms is contingent upon approval of those terms by the FERC and MDEP as necessary.

14. The instream flows and pond level requirements in this Agreement may be temporarily modified by operating emergencies beyond the Licensee's or Exemptee's control, as defined herein; by maintenance activities approved by the Maine Department of Environmental Protection and/or FERC; by inflows to the project area; by flashboard release or maintenance; or by agreement among Licensee or Exemptee and, as appropriate, the Maine Department of Environmental Protection, U.S. Fish and Wildlife Service, Maine Department of Inland Fisheries and Wildlife, Maine Atlantic Salmon Authority and Maine Department of Marine Resources.

Operating emergencies beyond the Licensee's or Exemptee'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.

- 15. The parties agree that in low water or drought periods, or in the event of equipment failure, the project owner may not be able to maintain the flows or pond levels in this Agreement at all times. The project owner will notify the agencies listed in paragraph 14 whenever it anticipates or experiences drought or hydrologic conditions that may prohibit its ability to meet the instream flows or pond levels agreed upon herein.
- 16. This Agreement shall be effective upon execution by the appropriate authorities representing the following parties:

Central Maine Power Company, the Maine Department of Inland Fisheries and Wildlife, the Maine Department of Marine Resources, the Maine Atlantic Salmon Authority, the Maine State Planning Office, the U.S. Fish and Wildlife Service, Saco River Salmon Club, Trout Unlimited, Maine Council of Trout Unlimited, Atlantic Salmon Federation, Maine Council of the Atlantic Salmon Federation, American Rivers, Inc., the City of Saco, the City of the Biddeford, Swans Falls Corporation, the New Hampshire Department of Fish and Game, and the Maine Department of Environmental Protection.

17. The participants agree to provide written comments to FERC recommending inclusion of the applicable terms of this Agreement into the Hiram, Bonny Eagle and Skelton

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FERC licenses, and into the Swans Falls exemption from license, and to revoke all prior recommendations and/or terms and conditions with regard to instream flows and pond level requirements for the Bonny Eagle, Skelton and Swans Falls projects.

18. The implementation of the provisions of this Agreement that pertain to CMP projects is contingent upon the incorporation by FERC of all of the applicable instream flow and pond level conditions of this Agreement into the Bonny Eagle and Skelton project licenses. Implementation of these provisions will take place according to the schedule established in the new FERC licenses.

The implementation of the provisions of this Agreement that pertain to Swans Falls is contingent upon the incorporation by FERC of all of the applicable instream flow and pond level conditions of this Agreement into the Swans Falls project license exemption. Implementation of these provisions will take place according to the schedule established in the FERC license exemption.

- 19. CMP will petition the FERC, within six (6) months of the issuance of new FERC licenses for the Bonny Eagle and Skelton projects which include the applicable terms and conditions of this Agreement, to amend the existing license for the Hiram Project to incorporate the applicable terms of this Agreement. Implementation of the provisions of this Agreement that apply to Hiram will take place according to the schedule established in the amended FERC license. The parties agree that the licenses for Cataract, Bar Mills, and West Buxton do not need to be amended, as these projects are expected to meet the agreed instream flows due to the flows required herein from the Bonny Eagle and Skelton projects. The applicable state and federal fish and wildlife agencies will incorporate the terms and conditions of this Agreement into the license exemption for the Swans Falls Project. Implementation of the provisions of this Agreement that apply to Swans Falls will take place according to the schedule established in the license exemption.
- 20. This Agreement supersedes all prior agreements and recommendations, whether written or oral, made by parties with regard to instream flows and pond levels in the Saco River. However, this Agreement shall not supersede nor amend the October 25, 1991 Water Release Agreement among CMP and the cities of Saco and Biddeford.
- 21. This Agreement applies only to the facts and circumstances regarding specific projects on the Saco River, and shall have no precedential effect in other regulatory cases under the jurisdiction of the Maine DEP or FERC. This Agreement shall not establish any legally binding principles for other cases regarding determination of instream or minimum flows; project operation to protect or restore aquatic habitat or fish populations; water quality standards for aquatic habitat; the legal jurisdiction of any regulatory agency affected by this agreement; the type of proceedings or format chosen

for regulatory approvals or settlement negotiations; or, the support or non-objections by any party to any other federal or state regulatory approvals.

- 22. This Agreement shall terminate, unless extended by the parties, upon the expiration of the new licenses, or subsequent annual licenses, of the Skelton and Bonny Eagle projects.
- 23. This Agreement shall bind and inure to the benefit of the successors and assigns of the signing parties.
- The parties will endeavor to resolve in good faith any dispute that may arise in carrying 24. out this Agreement, using a consensus process which shall include meetings between the parties with a facilitator if appropriate. The intent of the parties is to maintain the spirit of cooperation and understanding that led to this Agreement.
- 25. Nothing in this Agreement shall be construed as obligating the U.S. government or the State of Maine, their officers, agents or employees, to expend any funds in excess of appropriations or other amounts authorized by law.

#### SIGNATURES

We, the undersigned, having the authority to bind our respective parties, agree to the terms of this Agreement, and will represent and support this Agreement in applicable proceedings before the Federal Energy Regulatory Commission and other regulatory bodies:

Central Maine Power Company

Protection Its

Maine Atlantic Salmon Authority

Date

Maine Department of Environmental

Maine Department of Inland Fisheries and Wildlife

Saco River Instream Flow Agreement April 30, 1997

Maine Department of Marine Resources

ommissioner Its

Saco-River Salmon Club

Swans Falls Corporation

-anen Date

City of Saco VISTON Date Its all

Atlantic Salmon Federation 62597 Ìts REALON

American Rivers, Inc.

cer Wodden 7/8/97 Date

New Hampshire Department of Fish and Game

2/9/97 tta 11 mal 5/ To Its

Saco River Instream Flow Agreement April 30, 1997

U.S. Fish and Wildlife Service

6/15/57 Its

Maine Council, Trout Unlimited

<u>6/20/97</u> Date

Maine Council, Atlantic Salmon Federation

not 6/26/97

City of Biddeford Its City

197

Maine State Planning Office

(120/97 Date

Trout Unlimited

Trules Flannin Date

Page 11 of 11



# IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.



### Local office

Maine Ecological Services Field Office

<a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><a></a><

MAILING ADDRESS

P. O. Box A East Orland, ME 04431

PHYSICAL ADDRESS 306 Hatchery Road East Orland, ME 04431

OTFORCONSULTATIO

## Endangered species

## This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

- 1. Draw the project location and click CONTINUE.
- 2. Click DEFINE PROJECT.
- 3. Log in (if directed to do so).
- 4. Provide a name and description for your project.
- 5. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the <u>Ecological Services Program</u> of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact <u>NOAA Fisheries</u> for <u>species under their jurisdiction</u>.

1. Species listed under the <u>Endangered Species Act</u> are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the <u>listing status page</u> for more information. IPaC only shows species that are regulated by USFWS (see FAQ). 2. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

### Mammals

NAME	STATUS
Tricolored Bat Perimyotis subflavus Wherever found No critical habitat has been designated for this species. <u>https://ecos.fws.gov/ecp/species/10515</u>	Proposed Endangered
Insects	101
NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. <u>https://ecos.fws.gov/ecp/species/9743</u>	Candidate
Flowering Plants	
NAME	STATUS
Small Whorled Pogonia Isotria medeoloides No critical habitat has been designated for this species. <u>https://ecos.fws.gov/ecp/species/1890</u>	Threatened

### Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

## Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act<sup>1</sup> and the Migratory Bird Treaty Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats<sup>3</sup>, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the <u>"Supplemental Information on Migratory Birds and Eagles"</u>.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds <u>https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds</u>
- Nationwide conservation measures for birds <u>https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf</u>
- Supplemental Information for Migratory Birds and Eagles in IPaC <u>https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action</u>

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to <u>Bald Eagle Nesting and Sensitivity to Human Activity</u>

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
<ul> <li>Bald Eagle Haliaeetus leucocephalus</li> <li>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</li> <li><a href="https://ecos.fws.gov/ecp/species/1626">https://ecos.fws.gov/ecp/species/1626</a></li> </ul>	Breeds Oct 15 to Aug 31

### Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read <u>"Supplemental Information on Migratory Birds and Eagles"</u>, specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

#### Probability of Presence (

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

- 1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
- 2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
- 3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

#### Breeding Season (

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

#### Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

#### No Data (–)

A week is marked as having no data if there were no survey events for that week.

#### Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

			🔳 pr	obabilit	y of pre	sence	breec	ling sea	son ls	survey et	ffort –	- no data
SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Bald Eagle Non-BCC Vulnerable	+]+י	<mark>1</mark> +		++++	1+++	++	• • • • •		++++	• • • • •	· · · · ·	+

### What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the <u>Avian Knowledge Network (AKN)</u>. The AKN data is based on a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply). To see a list of all birds potentially present in your project area, please visit the <u>Rapid Avian Information Locator (RAIL) Tool</u>.

### What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS <u>Birds of Conservation Concern (BCC)</u> and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the <u>Avian Knowledge</u> <u>Network (AKN)</u>. The AKN data is based on a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science</u> <u>datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the <u>Rapid Avian Information Locator (RAIL) Tool</u>.

#### What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the <u>Eagle Act</u> should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

### Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats<sup>3</sup> should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the <u>"Supplemental Information on Migratory Birds and Eagles"</u>.

1. The Migratory Birds Treaty Act of 1918.

2. The <u>Bald and Golden Eagle Protection Act</u> of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds <u>https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds</u>
- Nationwide conservation measures for birds <u>https://www.fws.gov/sites/default/files/</u> <u>documents/nationwide-standard-conservation-measures.pdf</u>
- Supplemental Information for Migratory Birds and Eagles in IPaC <u>https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action</u>

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the <u>E-bird data mapping tool</u> (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found <u>below</u>.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON

Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. <u>https://ecos.fws.gov/ecp/species/1626</u>	Breeds Oct 15 to Aug 31
Bay-breasted Warbler Setophaga castanea This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 25 to Aug 1
Black-billed Cuckoo Coccyzus erythropthalmus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/9399</u>	Breeds May 15 to Oct 10
Blue-winged Warbler Vermivora cyanoptera This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 1 to Jun 30
<b>Bobolink</b> Dolichonyx oryzivorus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Canada Warbler Cardellina canadensis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
<b>Chimney Swift</b> Chaetura pelagica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Eastern Whip-poor-will Antrostomus vociferus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
<b>Evening Grosbeak</b> Coccothraustes vespertinus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 15 to Aug 10

Olive-sided Flycatcher Contopus cooperi This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/3914</u>	Breeds May 20 to Aug 31
<b>Pectoral Sandpiper</b> Calidris melanotos This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
<b>Prairie Warbler</b> Setophaga discolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Rose-breasted Grosbeak Pheucticus ludovicianus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 15 to Jul 31
Rusty Blackbird Euphagus carolinus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Scarlet Tanager Piranga olivacea This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 10 to Aug 10
Veery Catharus fuscescens fuscescens This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 15 to Jul 15
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

### **Probability of Presence Summary**

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read <u>"Supplemental Information on Migratory Birds and Eagles"</u>, specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

#### Probability of Presence (
#### IPaC: Explore Location resources

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

- 1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
- 2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
- 3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

## Breeding Season (=)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

## Survey Effort ()

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

## No Data (–)

A week is marked as having no data if there were no survey events for that week.

## Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

probability of presence breeding season survey effort - no data

9/2/24,	9/2/24, 10:10 AM IPaC: Explore Location resources												
S	PECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
B N V	ald Eagle Ion-BCC ulnerable	+   + י	<mark> </mark> +	• <del>•</del> • •	++++	<b>I</b> +++	++-+	• • • • +	++++	++++	<b></b>		··· I
B W B	ay-breasted Varbler CC - BCR	++++	++++	++++	++++	+∎+ <mark>+</mark>	++++	++++	++++	++ <b>-</b> +	+++	++-+	++
B C B ((	lack-billed uckoo CC Rangewide CON)	++++	++	*+**	++++	+	++-+	• • • •	+ + + -	++++	***+		+
B W B	lue-winged /arbler CC - BCR	++++	++	****	++++	111	+1+	++++	****	++++	++++		~
В В (С	obolink CC Rangewide CON)	++++	++	* + * *	++++	+	11	• • • • •	+++	++++	~	97	
С В (С	anada Warbler CC Rangewide CON)	++++	++	++++	++++	++11	++-•	•+•1	•••••			+	+
C B ((	himney Swift CC Rangewide CON)	++++	++	++++	++++	+1+1		9)	J.	++++	****		+
E. P B ((	astern Whip- oor-will CC Rangewide CON)	++++	++++	++++	++++	+Ht	}++++	++++	∎+++	++-+	+++	++-+	++
E` G B ((	vening irosbeak CC Rangewide CON)	•••••	<(	))	++++	<b>∎</b> +++	++-+	• • • • +	• • • • •	++++	***+		+
O Fl B (C	live-sided lycatcher CC Rangewide CON)	++++	++++	++++	++++	++ <mark>+</mark>	++++	++++	++++	++ <b>-</b> +	+++	****	++
P S B ((	ectoral andpiper ICC Rangewide CON)	++++	++++	++++	++++	+++#	++++	++++	++++	++-+	+-++	++-+	++
P B ((	rairie Warbler CC Rangewide CON)	++++	++	++++	++++	111	11+	+++ <b> </b>	+++	++++	+++	+	+
S	PECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
R G B	ose-breasted irosbeak CC - BCR	++++	++	++++	++++	1111	+1-1	+ 1 + 1	+++	++++	++++	+	+

Rusty Blackbird BCC - BCR	++	++	++++	+++-	+++++	∎+++	++++	++++	++++	++-+	+++	++-+	++
Scarlet Tanager BCC - BCR	++	+ +	++	+++-	- ++++	+	1++•	+ [ + ]	· + +	+++ I	++++		+
Veery BCC - BCR	++	+ +	++	+++-	- ++++	<u>1+1</u> 1	1   ++	• + • ]	+++	<b>* + + +</b>	++++		+
Wood Thrush BCC Rangewide (CON)	++	+ +	++	+++-	- ++++	++1+	1+++	+++ <b> </b>	• • • •	++++	++++		+

## Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

## What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS <u>Birds of Conservation Concern (BCC)</u> and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the <u>Avian Knowledge</u> <u>Network (AKN)</u>. The AKN data is based on a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science</u> <u>datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the <u>Rapid Avian Information Locator (RAIL) Tool</u>.

## What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the <u>Avian Knowledge Network (AKN)</u>. This data is derived from a growing collection of <u>survey</u>, <u>banding</u>, <u>and</u> <u>citizen science datasets</u>.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

## How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the <u>RAIL Tool</u> and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

## What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

- 1. "BCC Rangewide" birds are <u>Birds of Conservation Concern</u> (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
- 2. "BCC BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
- 3. "Non-BCC Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the <u>Eagle Act</u> requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

## Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the <u>Northeast Ocean Data</u> <u>Portal</u>. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the <u>NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird</u> <u>Distributions and Abundance on the Atlantic Outer Continental Shelf</u> project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the <u>Diving Bird Study</u> and the <u>nanotag studies</u> or contact <u>Caleb Spiegel</u> or <u>Pam Loring</u>.

## What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to <u>obtain a permit</u> to avoid violating the Eagle Act should such impacts occur.

## Proper Interpretation and Use of Your Migratory Bird Report

#### IPaC: Explore Location resources

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

## Facilities

# 311 National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

## Fish hatcheries

There are no fish hatcheries at this location.

## Wetlands in the National Wetlands Inventory (NWI)

Impacts to <u>NWI wetlands</u> and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local <u>U.S. Army Corps of</u> <u>Engineers District</u>.

## Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the <u>NWI map</u> to view wetlands at this location.

## Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

## Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

## Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

From:	Frechette, Allison
То:	Dorman, Randy
Subject:	FW: Skelton Hydropower Project listed species data inquiry
Date:	Monday, August 26, 2024 8:05:11 AM
Attachments:	image001.png
	Project Map ERid7554 ERVerID9258.pdf

From: Robinson, Emily <Emily.Robinson@maine.gov>
Sent: Friday, March 29, 2024 2:47 PM
To: Frechette, Allison <Allison.Frechette@brookfieldrenewable.com>
Cc: Perry, John <John.Perry@maine.gov>; Wentworth, Ciara <Ciara.Wentworth@maine.gov>
Subject: RE: Skelton Hydropower Project listed species data inquiry

Hi Allison,

MDIFW databases indicate the presence of a State-listed Endangered Species, blanding's turtle, within the Skelton Hydroelectric Project area. It is possible that several rare State-listed Endangered, Threatened, or Special Concern Species may also be resident or transient at the Skelton Hydroelectric Project area based on location, habitats present, and life history requirements including one or more species of bats (all eight species of bats in Maine are listed as Endangered, Threatened, or Special Concern); great blue heron (Special Concern); as well as spotted (Threatened) and wood (Special Concern) turtles. It is also possible that one or more rare species of migratory birds may be found in the area during spring and fall migrations. Please feel free to reach out with any questions.

Best, Emily

## **Emily Robinson**

Resource Biologist Environmental Review Program Maine Department of Inland Fisheries and Wildlife 353 Water Street, 41 SHS Augusta, Maine 04333-0041 Cell (207) 592-2484 www.mefishwildlife.com



Correspondence to and from this office is considered a public record and may be subject to a request under the Maine Freedom of Access Act. Information that you wish to keep confidential should not be included in email correspondence.

## ERID 7554

From: Frechette, Allison <<u>Allison.Frechette@brookfieldrenewable.com</u>>
Sent: Wednesday, March 20, 2024 3:20 PM
To: Perry, John <<u>John.Perry@maine.gov</u>>
Subject: Skelton Hydropower Project listed species data inquiry

# EXTERNAL: This email originated from outside of the State of Maine Mail System. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon John,

Brookfield White Pine Hydro LLC is applying for LIHI certification for its Skelton Hydroelectric Project in the towns of Buxton, Dayton, and Hollis, Maine. Attached are google maps that depict the project boundary. Could you assist us in gathering data of any listed species within the project boundary, if you require anything further for this information request, please let me know?

Kind regards,

Allison Frechette

Compliance Specialist

T 207.755.5602 C 207.320.1440

allison.frechette@brookfieldrenewable.com

www.brookfieldrenewableUS.com



View Important disclosures and information about our e-mail policies here.



## Maine Department of Inland Fisheries and Wildlife Environmental Review of Fish and Wildlife Observations and Priority Habitats

## Skelton Hydropower Project, Brookfield, Buxton, Dayton,

Project ID 7554 9258





STATE OF MAINE DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY

> 177 STATE HOUSE STATION AUGUSTA, MAINE 04333

Amanda E. Beal Commissioner

JANET T. MILLS GOVERNOR

December 18, 2024

Allison Frechettte Brookfield White Pine Hydro, LLC Brookfield Place 200 Liberty Street, 14<sup>th</sup> Floor New York, New York 10281

Via email: allison.freshette@brookfieldrenewable.com

Re: Rare and exemplary botanical features in proximity to: Skelton Hydroelectric Project LIHI Certification, Buxton, Dayton, and Hollis, Maine

Dear Allison Frechette:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received November 15, 2024 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Buxton, Dayton, and Hollis, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. Please note that there are several rare plant species that occur near the Skelton Hydroelectric project boundary. MNAP understands that with the LIHI certification there are operational changes planned for the site. Therefore, MNAP finds that the proposed LIHI certification for the Skelton Hydroelectric project is Not Likely to Adversely Affect these nearby rare plant populations. Please see the table below and attached map for more information.

Feature	State	State	Global	Occurrence	Site
	Status	Rank	Rank	Rank	
Hollow Joe-pye Weed	Special Concern	S2	G5	H Historical	Salmon Falls
Spotted Wintergreen		<b>C2</b>	05	D	
Chimaphila maculata	Ihreatened	<b>S</b> 2	GS	Poor	Salmon Falls

MOLLY DOCHERTY, DIRECTOR MAINE NATURAL AREAS PROGRAM 90 BLOSSOM LANE, DEERING BUILDING



PHONE: (207) 287-8044 WWW.MAINE.GOV/DACF/MNAP Letter to Brookfield White Pine Hydro, LLC Comments RE: Skelton Hydroelectric Project, Maine December 18, 2024 Page 2 of 2

Hairy Wood Brome-grass Bromus pubescens	Special Concern	S2	G5	H Historical	Salmon Falls
American Chestnut Castanea dentata	Special Concern	S4	G3	E Exant	Pleasant Point Park

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

The Maine Natural Areas Program (MNAP) is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. MNAP welcomes coordination with individuals or organizations proposing environmental alteration or conducting environmental assessments. If, however, data provided by MNAP are to be published in any form, the Program should be informed at the outset and credited as the source.

The Maine Natural Areas Program has instituted a fee structure of \$75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for \$150.00 for two hours of our services.

Thank you for using MNAP in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

## Lisa St. Hilaire

Lisa St. Hilaire | Information Manager | Maine Natural Areas Program 207-287-8044 | <u>lisa.st.hilaire@maine.gov</u>



## **Brookfield White Pine Hydro, LLC - Skelton Hydroelectric Project Buxton, Dayton, and Hollis, Maine**

Approximate Project Area
Rare Plant
Town

0	0.25	0.5 I		1 Miles	N ▲

Maine Natural Areas Program, December 2024

## **Conservation Status Ranks**

**State and Global Ranks**: This ranking system facilitates a quick assessment of a species' or habitat type's rarity and is the primary tool used to develop conservation, protection, and restoration priorities for individual species and natural habitat types. Each species or habitat is assigned both a state (S) and global (G) rank on a scale of critically imperiled (1) to secure (5). Factors such as range extent, the number of occurrences, intensity of threats, etc., contribute to the assignment of state and global ranks. The definitions for state and global ranks are comparable but applied at different geographic scales; something that is state imperiled may be globally secure.

Rank Definition **S1 Critically Imperiled** – At very high risk of extinction or elimination due to very restricted G1 range, very few populations or occurrences, very steep declines, very severe threats, or other factors. **S2** Imperiled – At high risk of extinction or elimination due to restricted range, few G2 populations or occurrences, steep declines, severe threats, or other factors. **S3 Vulnerable** – At moderate risk of extinction or elimination due to a fairly restricted range, G3 relatively few populations or occurrences, recent and widespread declines, threats, or other factors. **S4** Apparently Secure – At fairly low risk of extinction or elimination due to an extensive G4 range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors. **S5 Secure** – At very low risk of extinction or elimination due to a very extensive range, G5 abundant populations or occurrences, and little to no concern from declines or threats. SX **Presumed Extinct** – Not located despite intensive searches and virtually no likelihood of GX rediscovery. SH Possibly Extinct - Known from only historical occurrences but still some hope of GH rediscovery. S#S# **Range Rank** – A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of G#G# uncertainty about the status of the species or ecosystem. SU **Unrankable** – Currently unrankable due to lack of information or due to substantially GU conflicting information about status or trends. **GNR** Unranked - Global or subnational conservation status not yet assessed. SNR **SNA Not Applicable** – A conservation status rank is not applicable because the species or **GNA** ecosystem is not a suitable target for conservation activities (e.g., non-native species or ecosystems. Qualifier Definition S#? Inexact Numeric Rank – Denotes inexact numeric rank. G#? Q Questionable taxonomy that may reduce conservation priority – Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable. The "Q" modifier is only used at a global level. T# **Infraspecific Taxon (trinomial)** – The status of infraspecific taxa (subspecies or varieties)

are indicated by a "T-rank" following the species' global rank.

The information supporting these ranks is developed and maintained by the Maine Natural Areas Program (state ranks) and NatureServe (global ranks).

**State Status**: Endangered and Threatened are legal status designations authorized by statute. Please refer to MRSA Title 12, §544 and §544-B.

Status	Definition
E	Endangered – Any native plant species in danger of extinction throughout all or a
	significant portion of its range within the State or Federally listed as Endangered.
Т	Threatened – Any native plant species likely to become endangered within the
	foreseeable future throughout all or a significant portion of its range in the State or
	Federally listed as Threatened.
SC	Special Concern – A native plant species that is rare in the State, but not rare enough to
	be considered Threatened or Endangered.
PE	Potentially Extirpated – A native plant species that has not been documented in the State
	in over 20 years, or loss of the last known occurrence.

**Element Occurrence (EO) Ranks**: Quality assessments that designate viability of a population or integrity of habitat. These ranks are based on size, condition, and landscape context. Range ranks (e.g., AB, BC) and uncertainty ranks (e.g., B?) are allowed. The Maine Natural Areas Program tracks all occurrences of rare plants and natural communities/ecosystems (S1-S3) as well as exemplary common natural community types (S4-S5 with EO ranks A/B).

Rank	Definition
Α	Excellent – Excellent estimated viability/ecological integrity.
В	Good – Good estimated viability/ecological integrity.
С	Fair – Fair estimated viability/ecological integrity.
D	Poor – Poor estimated viability/ecological integrity.
E	Extant – Verified extant, but viability/ecological integrity not assessed.
н	Historical – Lack of field information within past 20 years verifying continued existence of
	the occurrence, but not enough to document extirpation.
Х	Extirpated – Documented loss of population/destruction of habitat.
U	Unrankable – Occurrence unable to be ranked due to lack of sufficient information (e.g.,
	possible mistaken identification).
NR	Not Ranked – An occurrence rank has not been assigned.

Visit the Maine Natural Areas Program website for more information <u>http://www.maine.gov/dacf/mnap</u>



## 7.1 SUPPORTING DOCUMENTATION CONFIDENTIAL – PROVIDED UNDER SEPARATE COVER

• Programmatic Agreement

12/9/93-cc: DRD, RGL, SAV, WCB E&L ROUTING: GJM, RCR, WEH, FHD E&L FILES: BON-ARC; FTH-ARC: GUL-ARC; MES-ARC; MOO-ARC; MOX-ARC; NGO-ARC; SKE-ARC; WES-ARC, WYM-ARC ENGINEERING FILES: 488-8.3.1.2; 269-8.3.1.2; 170-8.3.1.2; 827-8.3.1.2; 96-8.3.1.2; 609-8.3.1.2; 372-8.3.1.2; 317-8.3.1.2; 160-8.3.1.2; 198-8.3.1.2

## PROGRAMMATIC AGREEMENT <u>AMONG</u> <u>THE FEDERAL ENERGY REGULATORY COMMISSION,</u> <u>THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, AND</u> <u>THE MAINE STATE HISTORIC PRESERVATION OFFICER</u> <u>FOR THE MANAGEMENT OF HISTORIC STRUCTURES AND ELIGIBLE</u> <u>ARCHAEOLOGICAL SITES THAT MAY BE AFFECTED BY NEW</u> <u>LICENSES ISSUING TO CENTRAL MAINE POWER COMPANY AND</u> <u>KENNEBEC WATER POWER COMPANY</u> <u>FOR TEN HYDROELECTRIC OR STORAGE PROJECTS</u> <u>IN MAINE</u>

- WHEREAS, the Federal Energy Regulatory Commission (Commission)
   proposes to issue new licenses to the Central Maine Power
   Company and Kennebec Water Power Company (hereinafter, "CMP"
   and "Kennebec" respectively, or "Licensees"), to continue
   operating the following ten hydroelectric and storage
   projects
  - » Bonny Eagle, Project No. 2529,
  - » Fort Halifax, Project No. 2552,
  - » Gulf Island-Deer Rips, Project No. 2283,
  - » Messalonskee, Project Nos. 2555, 2556, 2557, and 2559,
  - » Moosehead, Project No. 2671,
  - » Moxie, Project No. 2613,
  - » North Gorham, Project No. 2519,
  - » Skelton, Project No. 2527,
  - » Weston, Project No. 2325, and
  - » Wyman, Project No. 2329,

(hereinafter, collectively "projects" or individually by project name) as authorized by Part 1 of the Federal Power Act, 16 U.S.C. 791(a)-825(r); and

- WHEREAS, the Commission has determined that the projects may affect structures and eligible archaeological sites, included in or eligible for inclusion in the National Register of Historic Places (hereinafter, "historic structures" and "eligible archeological sites", respectively); and,
- WHEREAS, the projects, historic structures and eligible archeological sites, and anticipated effects, constituting the factual basis of this Programmatic Agreement, are as described in the attached Appendix; and
- WHEREAS, the Commission has consulted with the Advisory Council on Historic Preservation (hereinafter, "Council") and the

> Maine State Historic Preservation Officer (hereinafter, "SHPO") pursuant to 36 CFR Part 800, at § 800.13 of the Council's regulations implementing Section 106 of the National Historic Preservation Act, <u>as amended</u>, (16 U.S.C. 470f); and

- WHEREAS, the Licensees have participated in consultations and are invited to concur in this Programmatic Agreement; and
- WHEREAS, the Commission will require the Licensees to implement the provisions of this Programmatic Agreement as conditions of the new licenses for the projects;
- NOW THEREFORE, the Commission, the Council, and the SHPO (hereinafter, "Parties") agree that, during the period beginning on the date on which the first new license for any one of the projects is issued and ending on the date on which the last new license issued expires (hereinafter, "duration"), the projects will be administered in accordance with the following stipulations to satisfy the Commission's Section 106 responsibilities.

Stipulations.

The Commission will ensure that the following measures are carried out. All stipulations that apply to the Licensees similarly will apply to any and all of their successors insofar as operation of the projects are concerned. Compliance with any stipulation or stipulations codified herein does not relieve a Licensee of any other obligations it has under the Federal Power Act, the Commission's regulations, or its license.

#### I. MAXIMUM EXPENDITURE FOR PREHISTORIC ARCHAEOLOGY

<u>A. Maximum Expenditure</u>: The Licensees will be required by the stipulations in this Programmatic Agreement to spend no more than §3,022,000 dollars for the duration for the following purposes:

 completing Phase 2 archaeological investigations for the Fort Halifax and Moosehead Projects,

2. additional archaeological investigations extending up the Sandy River for the Weston Project,

3. avoiding or minimizing disturbances to eligible archeological sites through data recovery, erosion control

Page 2

techniques, or some combination of data recovery and erosion control techniques,

4. educating the public on the archaeology of the State of Maine; and

5. curation fees.

## B. Further Expenditures

1. In addition to the maximum expenditure specified in § I.A. above, CMP will spend up to 100,000 dollars to excavate or otherwise protect the historic property designated ME 69-11 (hereinafter, "ME 69-11") at the Weston Project,

a. if erosion control measures are not effective in preserving the site, or

b. if CMP is unable to obtain landowner consent to install erosion control measures, or

c. if CMP is unable to obtain needed federal, state or local permits to install erosion control measures, or

d. if the cost of implementing erosion control measures exceeds 56,000 dollars.

2. In addition to the maximum expenditure specified in § I.A. above, CMP will spend an unspecified annual amount for monitoring.

#### C. Expending the Monies

1. In each year of the duration beginning on the first year, the Licensees will consult with the SHPO to determine the following:

a. the amount of monies to be spent for the ensuing year, and

b. the specific objectives to be achieved in the ensuing year using those monies.

2. Within 45 days of consulting with the SHPO pursuant to this section, the Licensees will file an annual report with the Commission detailing the amount of monies to be spent for the ensuing year, and the specific objectives to be achieved in the ensuing year using those monies.

Programmatic Agreement Project Nos. 2529, 2552, 2283, 2555, 2556, 2557, 2559, 2671, 2613, 2519, 2527, 2325, and 2329

a. If the Licensees and the SHPO agree on the sum of money and the specific activities to be conducted during the ensuing year, the Licensees will file their reports with the Commission for information only.

b. If the Licensees and the SHPO disagree on the sum of money or the specific activities to be conducted during the ensuing year, the Licensees will file their reports with the Commission, pursuant to § III.G. of this Programmatic Agreement, Dispute Resolution, requesting that the Commission resolve the disputed matter.

3. Licensees' annual expenditures, as specified in § I.A only, in any one year will not exceed 375,000 dollars.

4. The specific objectives to be achieved in each ensuing year will be demonstrably and substantially related to the purposes enumerated in §§ I.A. and I.B., above.

5. The Licensees will not be required to spend monies for any purpose specified in this Programmatic Agreement, at any particular project, except during the term of that particular project's license.

6. Monies spent by the Licensees for any purpose enumerated in § I.A., above, after January 1, 1993, but prior to any license issuing, will be spent in consultation with the SHPO and will commensurately reduce the amount of the maximum expenditure specified above.

7. The additional archaeological investigations for the Weston Project, not including monies set aside for ME 69-11, are expected to account for as much as 100,000 dollars of the maximum expenditure specified above. If the amount actually and eventually required for this purpose is less than 100,000 dollars, the maximum expenditure specified above shall be reduced by the amount of the unused balance.

## II. CULTURAL RESOURCES MANAGEMENT PLAN

The Licensees will, in consultation with the SHPO implement the following Cultural Resources Management Plan (hereinafter, "CRMP") at each of the projects to avoid or mitigate adverse effects to historic structures and eligible archaeological sites.

<u>A. Historic Project Structures</u>: To avoid or mitigate adverse effects that could inadvertently occur during non-routine daily activities (i.e., the repair or replacement of significant

structural fabric and mechanical systems) at the **W**eston, **G**ulf Islands, **A**utomatic, **U**nion Gas, **B**Oakland, **W**yman, **B**Onny Eagle, and **B** Fort Halifax Projects, the Licensee will conduct non-routine maintenance, repair and upkeep of the historic structures employed as hydroelectric generating facilities (hereinafter, "historic project structures"), according to the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 <u>Federal Register</u> 444716 et seg.; hereinafter, "Secretary's Standards").

1. Replacement will be in kind to the extent this approach is consistent with the continued use of the historic project structures as hydroelectric generating facilities.

2. Alteration of the historic project structures, including major repair or replacement of any elements or components of any of the historic project structures, or demolition, or project redevelopment exceeding the scope of the Secretary's Standards, will be undertaken only after consultation with the SHPO to insure that potential effects are avoided, or that appropriate plans to mitigate effects are incorporated into design, location, and construction techniques and materials.

3. If any historic project structures, or any components thereof, that contribute to the overall eligibility of any historic project structures, must be replaced or demolished, and feasible alternatives are not identified in consultation with the SHPO, the Licensee(s) will consult with the SHPO to identify a strategy for mitigating the loss of the historic project structure or component, including, but not limited to, recording the structure or component to be replaced or demolished according to Historic American Engineering Record (hereinafter, "HAER") standards.

a. If the Licensee and the SHPO agree upon a strategy for mitigating the loss of the historic project structure or component, the Licensee will implement the agreedupon strategy.

b. If the SHPO fails to respond within 45 days of receiving the Licensee's request for consultation, the Licensee's strategy for mitigating the loss of the historic project structure or component will be deemed adequate for purposes of this Programmatic Agreement.

c. If they disagree, the Licensee will submit the disputed matter to the Commission, pursuant to § III.G. of this Programmatic Agreement, for dispute resolution.

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4. If the Licensee and the SHPO agree upon HAER recordation, or if the Commission directs a Licensee as a result of dispute resolution, pursuant to § III.G, to implement HAER recordation to mitigate the loss of an historic project structure or component, the Licensee will implement the HAER recordation strategy before replacing or demolishing, or otherwise adversely affecting any of the characteristics of the historic project structure or component that contributes to the eligibility of the historic project structure.

<u>B.</u> Archaeological Site Monitoring and Data Recovery Plans: Within one year of the date a license issues, the Licensee will, for each of the ten projects subject to the stipulations of this Programmatic Agreement, consult with the SHPO to design and implement a monitoring and data recovery plan appropriate to each project.

1. The monitoring and data recovery plans will include specific provisions for monitoring historic structures and eligible archaeological sites for vandalism and the effects of on-going project operation, and for recovering data pursuant to §§ III.B.1 through III.B.2.

2. The Licenses will comply with this section by consulting with the SHPO in the following manner.

a. If a Licensee and the SHPO agree upon a monitoring and data recovery plan, the Licensee will implement the agreed-upon plan.

b. If, with respect to any particular project, the SHPO fails to respond within 45 days of receiving a Licensee's request for consultation, the Licensee's proposed plan will be deemed adequate at that project for purposes of complying with this section.

c. If, with respect to any particular project, a Licensee and the SHPO disagree, the Licensee will submit the disputed matter to the Commission, pursuant to § III.G. of this Programmatic Agreement, for dispute resolution.

3. With respect to monitoring methodology and the criteria to be used to determine whether any discovered alteration of the attributes that contribute to a structure or archaeological site's eligibility constitutes are pmergenere the monitoring and data recovery plans will be clearly consistent with the procedures in "Policy on Hydro Relicensing and Archaeological Site Management", July, 1992 (hereinafter,

"Policy"). Revisions to this policy will not be used to comply with this section except as provided for in § III.H.1. of this Programmatic Agreement.

4. For purposes of designing and implementing monitoring and data recovery plans, the term eligible archaeological sites includes all sites that have been identified in archaeological studies completed by the Licensees preparatory to receiving new licenses but which have not been determined not to be eligible, or sites to which the National Register Criteria of Evaluation has not yet been applied pursuant to § III.A.3. of this Programmatic Agreement. These terms specifically include, without being limited to, the following archaeological sites of particular concern:

a. <u>Bonny Eagle</u>: archaeological sites ME 7-4, ME 7-7, ME 7-12, ME 7-6, ME 7-9, ME 7-11, ME 7-13, ME 7-16, ME 7-19, and ME 7-21.

b. Fort Halifax: archaeological sites ME 53-15, ME 53-16, ME 53-29, ME 53-30, ME 53-59, ME 53-64, ME 53-66, ME 53-69, ME 53-75, ME 53-5, ME 53-6, ME 53-11, ME 53-19, ME 53-21, ME 53-22, ME 53-23, ME 53-31, ME 53-55, ME 53-56, ME 53-57, ME 53-58, ME 53-60, ME 53-61, ME 53-62, ME 53-63, ME 53-65, ME 53-67, ME 53-68, and ME 53-70.

c. <u>Gulf Island-Deer Rips</u>: archaeological sites ME 36-29, ME 36-30, ME 24-32, ME 24-33, ME 36-27, ME 36-28, ME 36-32, and ME 36-37.

d. <u>Messalonskee</u>: archaeological sites ME 37-1, ME 37-16, ME 37-18, ME 37-19, ME 52-26, ME 52-30, ME 53-41, ME 53-42, and ME 53-48.

e. <u>Moosehead</u>: A phase I archaeological survey and subsequent investigations resulted in the identification of over 270 potentially eligible sites. Subsequent', an on-going phase II investigation has significantly reduced the number of potentially eligible sites.

f. Skelton: archaeological sites ME 7-26, ME 7-27, ME 7-28, ME 7-32.

g. <u>Weston</u>: archaeological sites ME 52-10, ME 52-16, ME 69-11, ME 52-9, ME 69-2, ME 69-8, ME 69-24 ME 69-27, ME 69-31, and ME 69-40, and 69-34.

h. Wyman: archaeological sites ME 86-12,

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ME 86-3A, ME 86-3B, ME 86-11, and ME 86-13.

C. Archaeological Sites: Scientifically-controlled studies designed to identify, evaluate, and assess effects on archaeological sites in the several project areas may be needed after a license has issued to take into account effects disclosed through monitoring plans implemented pursuant to § II.C.1 of this Programmatic Agreement, ■ currently-unknown but on-going effects to archaeological sites, but for lack of access or opportunity, have not yet been evaluated, I effects to currently unknown archaeological sites that may be identified during the term of the licenses (hereinafter, "accidental discoveries"), or **E** effects of any currently-unscheduled disturbance at the projects that the Licensees may elect to engage in after this Programmatic Agreement has been executed (hereinafter, "unscheduled disturbance"). Monies to be expended for activities under §§ II.C.1 through 3 are included in the monies enumerated under § I.A. Monies spent for activities under § II.C.4 are not enumerated under § I.A.

1. Effects Disclosed Through Monitoring: If implementing monitoring plans, pursuant to § II.C. of this Programmatic Agreement, discloses alteration of attributes that contribute to an archaeological site's eligibility, whether as a result of on-going project operation or vandalism, the Licensee(s) will consult with the SHPO to design and implement an appropriate strategy for avoiding or mitigating adverse effects.

a. If a Licensee and the SHPO agree on such a strategy and on a schedule for implementing such a strategy, the Licensee will proceed to implement the agreed-upon strategy according to the agreed-upon schedule.

b. If the SHPO fails to respond within 45 days of receiving a Licensee's request for consultation, the Licensee's strategy will be deemed adequate for the particular historic property involved for purposes of this Programmatic Agreement.

c. If a Licensee and the SHPO disagree, the Licensee will submit the disputed matter to the Commission, pursuant to § III.G. of this Programmatic Agreement, for dispute resolution.

2. Currently Unevaluated Archaeological Sites: The Licensees will consult with the SHPO to design and implement, pursuant to § III.A of this Programmatic Agreement, such further studies that, for lack of access or opportunity, were not implemented prior to the execution of this Programmatic Agreement

but are needed to identify eligible archaeological sites in the projects' area of potential effects, and to schedule the implementation of such studies.

3. Accidental Discoveries: In the event of an accidental discovery, the Licensee will immediately alert the Commission and the SHPO to every accidental discovery at any of the ten projects subject to the stipulations of this Programmatic Agreement, and adhere to the following procedures.

a. The Licensee will halt all work that may affect the accidental discovery until the requirements of this section have been fully met.

b. The Licensee will consult with the SHPO to
■ record, document, and evaluate the National Register
eligibility of the accidental discovery, ■ assess the effect, and
■ design a plan for avoiding or mitigating effects to the accidental discovery through erosion control treatment, data recovery or some combination thereof.

(1) If a Licensee and the SHPO agree on the means for complying with § II.C.3.b, above, the Licensee will proceed to implement the agreed-upon means.

(2) If the SHPO fails to respond within 45 days of receiving a Licensee's request for consultation, the Licensee's proposed means for complying with § II.C.3.b, above, will be deemed adequate for the particular emergency discovery involved for purposes of this Programmatic Agreement.

(3) If a Licensee and the SHPO disagree, the Licensee will submit the disputed matter to the Commission, pursuant to § III.G. of this Programmatic Agreement, for dispute resolution.

c. The Licensee and the SHPO will schedule implementation of the plan in accordance with the provisions of § I.C.1, above.

d. The Licensees will ensure work crews are informed of the requirement to identify, report and protect all accidental discoveries.

4. Unscheduled Ground Disturbance: Before a located starts any project-related land-clearing or ground-disturbing activities in an area at the project which has not been subjected to an archaeological survey, including, but not limited to

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recreation developments and any project enhancements that may be required by state or federal agencies (e.g., fish passage facilities, canoe portage, etc.), the Licensee will consult with the SHPO concerning the proposed activities.

a. If a Licensee and the SHPO agree on a strategy for taking into account the potential for affecting structures and archaeological sites, the Licensee will implement the agreedupon strategy.

b. If the SHPO fails to respond within 45 days of receiving a Licensee's request for consultation, the Licensee's strategy will be deemed adequate for purposes of this Programmatic Agreement.

c. If a Licensee and the SHPO disagree, the Licensee will submit the disputed matter to the Commission for dispute resolution pursuant to § III.G, of this Programmatic Agreement.

D. Implementation of the CRMP: While implementing the CRMP, the Licensees and the SHPO will schedule avoidance and mitigation for disturbances to historic structures and eligible archaeological sites on the basis of objectives agreed upon annually pursuant to § I.C.1, above.

### III. GENERAL PROVISIONS

The following general provisions will apply in administering this Programmatic Agreement throughout the terms of the licenses.

<u>A.</u> Identification and Evaluation Studies: In conducting all identification and evaluation studies, the Licensees will consult with the SHPO to design and implement any and all identification and evaluation studies.

1. The Licensees must ensure that all studies are conducted in accordance with the Secretary's Standards.

a. If a Licensee and the SHPO agree on a design for identification and evaluation studies, the Licensee will implement the agreed-upon design.

b. If the SHPO fails to respond within 45 days of receiving a Licensee's request for consultation, the see's design will be deemed adequate for purposes of this Programmatic Agreement.

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c. If a Licensee and the SHPO disagree, the Licensee will submit the disputed matter to the Commission for dispute resolution pursuant to § III.G. of this Programmatic Agreement.

2. The Licensees will provide the SHPO draft reports based on the results of studies for the SHPO's concurrence.

a. If a Licensee and the SHPO agree upon the contents of the report, the Licensee will finalize the report and file a copy with the Commission.

b. If the SHPO fails to respond within 45 days of receiving a Licensee's request for consultation, the Licensee's report will be deemed adequate for purposes of this Programmatic Agreement, whereupon the Licensee will finalize the report and file a copy with the Commission.

c. If a Licensee and the SHPO disagree, the Licensee will submit the disputed matter to the Commission for dispute resolution pursuant to § III.G. of this Programmatic Agreement.

3. In consultation with the SHPO, the Licensees will, as needed, apply the National Register Criteria to structures and archaeological sites.

a. If a Licensee and the SHPO agree upon a determination of eligibility, such concurrence will be deemed conclusive for purposes of this Programmatic Agreement.

b. If the SHPO fails to respond within 45 days of receiving a Licensee's request for consultation, the Licensee's determination will be deemed conclusive for purposes of this Programmatic Agreement.

c. If the SHPO, within 45 days of being asked to comment, disagrees, or if the Council or the Secretary of the Interior so request, the Commission will request a determination of eligibility from the Keeper of the National Register in accordance with 36 CFR, Part 63.

4. If studies result in the identification of historic structures and eligible archaeological sites, the Licensee(s) will consult with the SHPO to develop a treatment that for the historic structures and eligible archaeological sites.

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a. If a Licensee and the SHPO agree on such a plan, the Licensee will implement the agreed-upon plan.

b. If the SHPO fails to respond within 45 days of receiving a Licensee's request for consultation, the Licensee's plan will be deemed adequate for purposes of this Programmatic Agreement.

c. If a Licensee and the SHPO disagree, the Licensee will submit the disputed matter to the Commission for dispute resolution pursuant to § III.G. of this Programmatic Agreement.

5. The Licensees, in conducting studies, will take into consideration the National Park Service publication, "The Archeological Survey: Methods and Uses" (1978: GPO stock # 024-016-00091).

<u>B.</u> Archaeological Data Recovery: In all instances where archeological data recovery is deemed appropriate, the Licensee(s) will develop and implement any data recovery plans in consultation with the SHPO and in accordance with the Secretary's Standards.

1. At a minimum, data recovery plans will specify
I the identities of properties where data recovery is to be conducted, I the research questions to be addressed through data recovery and an explanation of their relevance, importance, and data requirements, I the methods to be used, with an explanation of their relevance and relationship to the research questions,
I the methods to be used in data analysis, management, and dissemination, I the proposed costs for data recovery, data analysis, and report preparation, I the proposed schedule for implementing and completing field work, data analysis, and report preparation of the Licensee(s)'s method for making the final report available to the professional archeological community and the public.

2. The Licensees, in developing and implementing data recovery plans, will take into consideration the Council's publication, "Treatment of Archeological Properties" (Advisory Council on Historic Preservation, 1980).

<u>C. Report Dissemination</u>: The Licensee(s) will ensure that an appropriate number of copies of all archaeological and other cultural resource reports and documents promulgated pursuant to this Programmatic Agreement are provided to the SHPO and the Commission.

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 The Licensee(s) will ensure that all such reports are responsive to contemporary professional standards, and in accordance with the Secretary's Standards and the SHPO's guidelines.

2. The Licensee(s) and the SHPO will agree upon the specific number of copies of a report to be printed and distributed before the report is printed.

3. Upon request, the Licensee(s) will provide copies of the reports to other interested parties, but will withhold precise locational data if it appears that its release could jeopardize the integrity of historic structures and eligible archaeological sites.

D. Disposition of Cultural and Human Remains

1. The Licensees will ensure that all materials and records resulting from actions taken pursuant to this Programmatic Agreement are curated within the State of Maine, in accordance with 36 CFR Part 79.

2. If human remains are discovered while carrying out activities pursuant to this Programmatic Agreement, the Licensee(s) will immediately notify the appropriate authorities, as prescribed by Maine Statute and the SHPO to determine an appropriate course of action.

3. The Licensee(s) will ensure that any human remains and grave-associated artifacts encountered during any action pursuant to this Programmatic Agreement are treated in accordance with the Council's "Policy Statement Regarding Treatment of Human Remains and Grave Goods," adopted by the Council September 27, 1988, at Gallup, New Mexico.

4. At the request of the SHPO, the Licensees will consult with other interested parties where appropriate and in an appropriate manner concerning the disposition of cultural and human remains.

<u>E. Professional Qualifications</u>: The Licensees will ensure that all historic preservation work carried out pursuant to this Programmatic Agreement is carried out by or under the direct supervision of a person or persons meeting 36 CFR Part 61, Appendix A and the Maine Approved List of Archaeological Contractors.

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### <u>F. Review</u>

1. Beginning in the second year of the duration and in every year thereafter, the Licensees will file with the SHPO and the Commission for their review and comment, summary reports of the activities conducted during the previous year and to be conducted in the ensuing year pursuant to this Programmatic Agreement.

2. The SHPO may at any time review activities carried out pursuant to this Programmatic Agreement and may request assistance from the Licensees in completing such a review. The Licensees will cooperate with the SHPO in reviewing activities that are carried out pursuant to this Programmatic Agreement.

<u>G.</u> Dispute Resolution: If the SHPO, a Licensee, or the Council objects to any action or any failure to act on the part of any party to this Programmatic Agreement, CMP, or Kennebec, within 45 days of such action or failure to act, the objecting party, CMP, or Kennebec will file written objections with the Commission.

1. The Commission will consult with any interested parties, CMP, and Kennebec to resolve the objection. The Commission may <u>sua sponte</u> initiate such consultation to resolve any of its objections to actions or to failure to act on the part of any party, CMP, or Kennebec.

2. If the Commission determines that the matter cannot be resolved by consultation, the Commission shall request further comments of the Council pursuant to 36 CFR 800.6(b).

3. Any Council comment provided in response to such a request will be taken into account by the Commission in accordance with 36 CFR 800.6(c)(2) with reference to the subject of dispute. After consultation and review of written responses the Commission will issue a decision on the matter.

4. The Commission's responsibility to carry out all actions under this Programmatic Agreement that are not the subject of dispute will remain unchanged.

## H. Amending and Terminating this Programmatic Agreement

1. The Commission, the Council, the SHPO, CMP, and Kennebec may request that this Programmatic Agreement be amended, whereupon the Commission will initiate consultation with the parties, CMP, or Kennebec in accordance with 36 CFR 800.13 to consider such amendment.

2. The Commission, the Council, and the SHPO may terminate the Programmatic Agreement by providing 30 days written notice to the parties, CMP, or Kennebec, provided that the parties, CMP, or Kennebec consult during the 30-day notice period in order to seek agreement on amendments or other actions that would avoid termination.

3. In the event of a termination, the Commission will comply with 36 CFR Part 800, at §§ 800.4 through 800.6 with regard to individual actions covered by this Programmatic Agreement.

## IV. EXECUTION OF THIS PROGRAMMATIC AGREEMENT

Execution and implementation of this Programmatic Agreement evidences that the Commission has satisfied its responsibilities pursuant to section 106, National Historic Preservation Act, as amended, responsibilities for all individual actions of the Projects.

## FEDERAL ENERGY REGULATORY COMMISSION

By:

9/28/93

Fred E. Springer, Director, Office of Hydropower Licensing

ADVISORY COUNCIL ON HISTORIC PRESERVATION

10/07/93 By:

Robert D. Bush, Director

MAINE STATE HISTORIC PRESERVATION OFFICER

Jr., State Historic Preservation Officer By: \_\_\_\_\_ J. \_\_\_\_\_ Earle G. Shettleworth

### CONCUR: CENTRAL MAINE POWER COMPANY

By: ice President, Engineering Gerald P.E., С.

CONCUR: KENNEBEC WATER POWER COMPANY

61 By: Gerald C. Poulin, P.E., President

#### Appendix to:

PROGRAMMATIC AGREEMENT AMONG THE FEDERAL ENERGY REGULATORY COMMISSION, THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, AND THE MAINE STATE HISTORIC PRESERVATION OFFICER FOR THE MANAGEMENT OF HISTORIC STRUCTURES AND ELIGIBLE ARCHAEOLOGICAL SITES THAT MAY BE AFFECTED BY NEW LICENSES ISSUING TO CENTRAL MAINE POWER COMPANY AND KENNEBEC WATER POWER COMPANY FOR TEN HYDROELECTRIC OR STORAGE PROJECTS IN MAINE

#### PROJECTS, HISTORIC STRUCTURES AND ELIGIBLE ARCHAEOLOGICAL SITES, AND ANTICIPATED EFFECTS

The purpose of this appendix is to specify the factual basis of the Programmatic Agreement. Here, relevant facts concerning the projects and modifications to the projects proposed by the Licensees under the Commission's relicensing procedures are reviewed; historic structures and eligible archaeological sites subject to the Programmatic Agreement's stipulations are, in part, identified; and the anticipated effects of the new licenses issuing are disclosed.

#### I. THE PROJECTS

Each of the proposed projects subject to the stipulations of the Programmatic Agreement consists of the following project facilities, project operation, proposed modifications to the project facilities, and proposed enhancements.

#### A. Bonny Eagle

#### 1. Project Facilities

a. The existing New River Channel diversion dam is a concrete dam with a total length of 350 feet and consists of:  $\blacksquare$  4.3-foot-high pin supported flashboards  $\blacksquare$  a three-foot wide concrete pier that separates the spillway section from the stop log section  $\blacksquare$  eight-foot-long stoplog opening and  $\blacksquare$  two concrete abutments at elevation 217 feet.

b. The main river dam is an intake structure and sluice flanked by earth embankments. The intake section is a concrete structure 164-feet-long and the sluice is 7-feet-long. The earth embankments--east shore, 370-feet-long; west shore, 250 feet-long--are stone riprap; water conveyed through eight steel penstocks; six, 13-feet-wide and two, 4.5-feet-wide.

c. An existing steel and brick powerhouse-measuring 158 feet 8 inches long by 50 feet 10 inches wide--spans the river channel about 35 feet downstream of the intake. The substructure is of concrete pier and arch construction. The

powerhouse contains six horizontal-shaft double-runner Francis type generators with a combined nameplate capacity of 7200 kilowatts (hereinafter, "kW").

d. A tailrace is formed by the arched substructure of the powerhouse and extends down the natural river channel.

e. A reservoir with a surface area of about 347 acres--extending upstream about 6.6 miles--with a storage capacity of about 1,150 acre-feet, and useable storage capacity of 1,150 acre-fee; a normal water surface elevation of 215.5 feet National Geodetic Vertical Datum (hereinafter, "NGVD"); a substation; and appurtenant facilities.

2. Project Operation: The Bonny Eagle Project operates in a peaking mode, with flows released from Bonny Eagle on a variable discharge schedule depending on the electric system demand, available storage capacity and total available river flow.

<u>3. Proposed Modifications</u>: CMP proposes to construct a permanent downstream fish passage facility.

<u>4. Proposed Enhancements</u>: CMP has proposed specific measures to enhance water and fisheries resources, recreational opportunities, and structures and archaeological sites.

a. For water and fisheries resources, CMP proposes to ■ construct a permanent downstream fish passage facility ■ release a minimum zone-of-passage flow of 400 cubic feet per second (cfs) or inflow from April through November, which includes 50 cfs in the New River Channel from April through September and ■ limit impoundment fluctuations to so the impoundment water level does not drop below 212.0 feet during normal project operation.

b. For recreation resources, CMP proposes to investigate potential sites for an impoundment hard-surface boat ramp when needed based on consultation with the Maine Department of Conservation I investigate the need to modify the existing canoe portage trail when required based on increased use of existing facilities I investigate the need to install two picnic tables at powerhouse picnic site I investigate need to develop primitive campsites on the shores and islands in the Bonny Eagle impoundment and I consult with the local historical society to develop and install an interpretive sign.

c. For historic structures and archaeological sites, CMP proposes to implement the terms of a programmatic agreement that it has drafted and requested that the Commission execute with the Maine Historic Preservation Commission (hereinafter "MHPC") and the Council. CMP's draft includes stipulations for all 10 of its projects in Maine.

B. Fort Halifax

#### <u>1. Project Facilities</u>

a. The existing dam is a concrete Ambursen design with a total length of 351 feet and a maximum height of about 29 feet and consists of  $\blacksquare$  4-foot-high pin supported flashboards  $\blacksquare$  a 30-foot-long concrete retaining wall and  $\blacksquare$  a concrete intake and waterwheel flume measuring 74-feet, six-inches-long by 88-feetwide.

b. An existing concrete substructure integral with the dam and intake structure measuring 46-feet-long by 53-feet, six-inches-wide, and a brick superstructure measuring 45-feet, 9-inches-long by 52-feet, 9-inches-wide. The powerhouse contains two horizontal-shaft Hercules turbines with double Francis runners with a combined nameplate capacity of 1,500 kW.

c. A tailrace extends from the turbine draft tubes to the river.

d. A reservoir with a surface area of about 417 acres--extending upstream about 5.2 miles--with a storage capacity of about 5,000 acre-feet, and a useable storage capacity of about 1,000 acre-feet within a drawdown of 2.5 feet; a normal water surface elevation of 54.2 feet (NGVD); substation; and appurtenant facilities.

2. Project Operation: The Fort Halifax Project operates in a peaking mode and is dependent on inflow from the upstream lakes and generating facilities. During a typical weekday cycling operation, the impoundment is cycled about twice daily during peak electrical demand periods. During the cycles, the impoundment is drawn down by as much as 2.5 feet. During the weekends, the generating units are typically shut down.

<u>3. Proposed Modifications</u>: CMP doesn't propose to modify generating facilities.

<u>4. Proposed Enhancements</u>: CMP proposes specific measures to enhance water and fisheries resources, and recreational opportunities.

a. For water and fisheries resources, CMP proposes to ■ provide upstream and downstream fish passage facilities according to its KHDG <sup>1</sup> agreement ■ release a minimum zone-of-passage flow of 150 cfs or inflow from April through November ■ limit impoundment fluctuations to no more than 2.5 feet during normal project operations and ■ conduct yearly summer water quality monitoring and institute impoundment flushing and/or drawdowns when the dissolved oxygen (hereinafter, "DO") level falls below state standards.

b. For recreation resources, CMP proposes to ■ construct a hard surface boat ramp at a new location on the impoundment and ■ improve the existing canoe portage trail/carryin access site and associated parking area and access road at the south end of the dam.

c. For historic structures and archaeological sites, CMP proposes to implement the terms of a programmatic agreement that it has drafted and requested that the Commission execute with the MHPC and the Council. CMP's draft includes stipulations for all 10 of its projects in Maine.

5. Gulf Island-Deer Rips: The project is located on the Androscoggin River in Androscoggin County, Maine. It consists of the Gulf Island and Deer Rips Dams and their impoundments; the Gulf Island, Deer Rips, and Androscoggin No. 3 powerhouses; and appurtenant facilities. The latter two powerhouses are located at the Deer Rips Dam, at the west and east abutments respectively. The Deer Rips Dam is located at river mile 33.7 as measured from Brick Island. Its impoundment extends about 1.3 miles upstream to the tailwater of the Gulf Island dam, developing all the available head between the dams. The Gulf Island Dam is located at river mile 35.0 and creates an impoundment about 14.7 miles long. The project boundary extends another 3.5 miles upstream to include flowage rights.

<sup>1</sup> The Kennebec Hydro Developers Group

#### 6. Project Facilities

### a. Gulf Island

(1) This facility was constructed between 1925 and 1926 and consists of a dam with integral powerhouse, headworks, tailrace, and transformers. The dam consists of about 1,280 feet of earth embankment and a concrete gravity structure about 1,208 feet long. The embankments are built to elevation 270 feet and are constructed of earthen fill with concrete core walls extending from ledge to elevation 267 feet. The concrete gravity structure includes a flashboard spillway section, a regulated spillway section, a 149 foot wide intake-powerhouse section and 349 feet of concrete bulkhead. The flashboard spillway section, with 370 feet of seven-foot-high hinged steel flashboards, reaches a maximum height of 92 feet. The regulated spillway contains two Stoney gates 8.5 feet wide by 16 feet high, seven Taintor gates 30 feet wide by 15 feet high, a stanchion section 49.5 feet wide by 13 feet high, and a 16-foot-wide sluice.

(2) The headworks, or intake section is 121 feet long and integral with the dam and powerhouse. Constructed of concrete, it contains stoplog slots, three separate sets of trashracks, and three butterfly valves. The powerhouse substructure is incorporated in the dam and contains the intake The superstructure is 32 feet wide by 146 feet long structure. and has structural steel framing, brick walls, and a concrete roof deck. An inside overhead traveling crane is used to move Three generators give the powerhouse a total equipment. installed nameplate capacity of 22.2 megawatts (hereinafter, The tailrace is formed primarily by the natural river "MW". channel that has had additional excavation at the draft tube discharge area. Discharge is at the dam-powerhouse, with no bypassed reach of the river. Project facilities include three maintenance buildings.

b. Deer Rips: The Deer Rips facilities were originally constructed between 1902 and 1904 and consist of a dam, forebay canal with headworks, a powerhouse and appurtenant facilities. The original construction included two generating units and spaces for three future units. These the counts were added in 1906, 1911, and 1913. The powerhouse was enlarged between 1919 and 1924 and an additional unit installed. The seventh and final unit was installed in 1924 within the original powerhouse structure.
c. Androscoggin No. 3: Consisting of a forebay and powerhouse integral with a concrete intake structure at the east end of the Deer Rips Dam, this development was constructed between 1927 and 1928.

7. Project Operation: The Gulf Island powerhouse is an intermittent peaking facility that re-regulates the river to some degree through fluctuation of its impoundment level. The Deer Rips and Androscoggin No. 3 stations operate run-of-river in that they only use inflows from Gulf Island. Thus, they generate on about the same schedule as Gulf Island. Typical drawdowns at Gulf Island pond range between two and four feet. Some of these impoundment drawdowns extend to about five feet in anticipation of high spring inflow, maintenance and other events outside normal operation.

8. Proposed Modifications: CMP proposes to rewind its Gulf Island powerhouse's generator no. 2 in order to increase its nameplate rating from 6.4 to 9.4 MW, and replace existing turbine runners nos. 2 and 3 to increase their output. No modifications are proposed for the Deer Rips or the Androscoggin No. 3 powerhouses. CMP proposes continuing its present operating mode at all three developments.

<u>9. Proposed Enhancements</u>: CMP has proposed specific measures to enhance water and fisheries resources, recreational opportunities, and structures and archaeological sites.

a. For water and fisheries resources, CMP proposes to provide a minimum flow of 1,100 cfs or inflow, whichever is less, on a year-round basis; maintain the Gulf Island impoundment water level within one foot of full pond (el. 262') from May 1 to June 15 each year to protect bass spawning habitat; and restrict downramping at Deer Rips to minimize fish stranding.

b. For recreational resources, CMP proposes to investigate the feasibility of developing new carry-in boat launch facilities on Gulf Island impoundment in the vicinity of Waterman Road and on the Androscoggin River below Deer Rips; continue maintaining recently constructed hard-surface boat launch on Gulf Island Pond at the Turner-Greene bridge; continue maintaining three recently developed island day-use/pichic areas, and two other informal day-use areas (Googins Island, Greene) located on Gulf Island Pond; expand roadside parking area at Deer Rips impoundment informal carry-in access site on Switzerland Road; submit the Federal Energy Regulatory Commission (FERC) Form 80 recreational assessment to appropriate agencies every four

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years to facilitate review of adequacy of Project area recreational facilities.

c. For historic structures and archaeological sites, CMP proposes to implement the terms of a programmatic agreement that it has drafted and requested that the Commission execute with the MHPC and the Council. CMP's draft includes stipulations for all 10 of its projects in Maine.

C. Messalonskee: The Messalonskee Project is composed of four discrete but hydraulically-related hydroelectric generating facilities and one storage facility, located on Messalonskee Stream in Kennebec County, Maine. Beginning at the Messalonskee Lake dam, 10.2 miles upstream of the Kennebec River confluence, the four developments are I the Messalonskee Lake Development, I the Oakland Development, I the Rice Rips Development, I the Automatic Development, and I the Union Gas Development. These developments are currently licensed as individual projects, with the Messalonskee Lake Dam, the storage facility, included in the existing Oakland Project. Under the Commission's relicensing procedures, CMP now proposes to combine all four developments as one project under one license.

1. Project Facilities

a. Messalonskee Lake: The Messalonskee Lake Dam is operated to maintain the lake levels and store water for downstream generating stations. The lake covers about 3,600 acres and is the most downstream of the Belgrade Lake system of lakes.

(1) The dam is an L-shaped gravity structure, constructed of concrete and granite block masonry, about 150 feet long. The spillway, measuring about 108 feet in length, has a crest elevation of 233.9 feet and is topped with 2foot-high flashboards. Water levels are controlled by two Taintor gates, each 10 feet one inch high by 12 feet wide. One is motor driven and remotely operated from a CMP project on the Kennebec River, the other is locally operated.

**b.** Oakland: The Oakland Development receives its inflow directly from water released at the Messalonskee Lake Dam. Its structures consist of a dam, intake structure, pensterk, powerhouse, and tailrace.

(1) The dam is a concrete gravity sucture, consisting of a Taintor gate section, an overflow spillway section, and a penstock intake section. The Taintor gate section, located adjacent to an abandoned foundation wall at the

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eastern edge of the dam, contains two concrete piers and a Taintor gate measuring 12 feet wide by five feet six inches high.

(2) The intake structure is integral, abutting a former mill foundation wall on the northern shore. It is constructed of concrete and measures 35 feet four inches wide by 50 feet five finches long, with a deck elevation at 213.3 feet. Flow to the 10-foot-diameter, fiberglass penstock is controlled by two 14-foot-wide downward acting Taintor gates.

(3) The powerhouse, 38 feet 10 inches square in plan, has a concrete substructure, and a steel frame and stone masonry superstructure. The lowermost floor, at elevation 154.8 feet, grants access to the development's single vertical-shaft turbine-generator unit, located on the generator floor at elevation 166.9 feet. A mezzanine, at elevation 178.8 feet, is accessed from a stairway on the generator floor. A second stairway leads to the top floor, at elevation 199.3 feet.

c. Rice Rips: This development receives inflow from the Oakland Development, 1.9 miles upstream. It consists of a concrete Ambursen dam, intake structure, penstock, surge pond, powerhouse with appurtenances, and tailrace.

(1) The dam is a concrete structure measuring 219 feet nine inches long and containing an intake section, a hinged flashboard section, an overflow spillway section, and two earthen embankments. The eastern embankment consists of a 51-foot-long, non-overflow section with a concrete core wall extending to elevation 145.2 feet. Adjacent to the eastern embankment section is a gated intake structure. Two sections of hinged steel flashboards measuring about 15 feet five inches long are located on the opposite side of the intake structure. The sill of the flashboard section is at elevation 135.2 feet; its crest is at elevation 140.2 feet. A two-footwide concrete pier rising to elevation 145.2 feet separates the gate section from the spillway, which is about 73 feet four inches long and has a crest elevation of 139.1 feet. The western non-overflow earthen section, topping at elevation 147.2 feet, abuts the spillway and extends about 50 feet to the western bank. A concrete core wall with a top that steps from elevation 147.2 feet to 145.2 feet is located within the earthen section

**d.** Automatic: The Automatic Development structures consist of a dam with integral powerbouse, appurtenances, and tailrace.

(1) The dam is a concrete gravity structure consisting of a gate section measuring 20 feet 6 in. in length, a spillway section measuring 30 feet in length, and a non-overflow section measuring 30 feet in length. The gate section abuts the granite foundation of a razed mill located on the east side of the river. This abutment is 2 feet wide and has a top elevation of 102.7 feet. The gate section contains a Taintor gate measuring 16 feet 3 in. wide by 14 feet high, with the gate sill at elevation 83.2 feet. The spillway abuts the gate section to the west.

(2) The spillway consists of two 14 footwide sections at elevation 92.4 feet, separated by a 2 foot pier with a top elevation of 102.7 feet. Flashboards to elevation 94.3 feet top the spillway crest. The intake for the turbine is located beneath the spillway. An earthen section containing an upstream concrete retaining wall with top at elevation 102.7 feet extends from the spillway section approximately 30 feet to the west bank of the river.

(3) The powerhouse is located at the western side of the dam and is located downstream of the western earthen embankment. The powerhouse is 19 feet wide by 30 feet 6 in. long and has a concrete substructure and a brick superstructure. The horizontal turbine is located under the spillway crest, and is direct-connected to a horizontal-shaft generator located on the lower level of the powerhouse.

(4) The tailrace discharges directly to Messalonskee Stream, and has a normal water surface elevation of 71.3 feet.

e. Union Gas: The Union Gas Development is the furthest downstream of the Messalonskee Stream generating facilities. The dam is located 0.9 mile upstream of the confluence of Messalonskee Stream with the Kennebec River. The development's structures consist of the dam and adjacent powerhouse, appurtenances, and the tailrace.

(1) The dam is a stone masonry gravity structure consisting of a non-overflow section, a deep gate section, a spillway section, the powerhouse intake section, and a second concrete faced non-overflow section. A non-overflow section extends 122 feet from ledge on the east bank to an angle point, then approximately 15 feet to the gate section. From the angle point a stone masonry retaining wall extends downstream 54 feet. The 32 foot-long gate section contains three deep gates. The gate openings each measure 6 feet wide by 8 feet high and

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have their sills at elevation 43.1 feet. A wooden gatehouse structure measuring 32 feet by 10 feet 6 in. houses the hoists for the deep gates. The adjacent spillway section is approximately 32 feet 3 in. long, has a crest elevation of 67.6 feet, and is topped with 18 in.-high pin-supported flashboards (Elevation 69.1 feet).

(2) The masonry intake structure is adjacent to the spillway, and directs flow to the single turbine through two intakes, each 8 feet in diameter. Two wooden headgates located downstream of the trashracks control flow into the Project turbine. A stone masonry non-overflow section is adjacent to the intake and extends approximately 73 feet to the western bank.

(3) There is a 12-in.-wide concrete parapet wall with a top elevation of 75.4 feet located on top of the intake and western concrete faced stone masonry section. The parapet wall extends approximately 142 feet from the end of the spillway section to the west bank.

(4) The powerhouse consists of a concrete substructure and a stone masonry superstructure, approximately 60 feet 4 in. long by 45 feet 6 in. wide and contains a single vertical turbine-generator unit. The generator floor is at elevation 50.3 feet, beneath which is an intake flume and scroll case containing the waterwheel and concrete draft tube.

(5) The tailrace discharges directly into Messalonskee Stream, 0.9 mile above the confluence with the Kennebec River. The tailrace has a normal water surface elevation of 31.3 feet.

2. Project Operation: In general, the Messalonskee Developments are operated in tandem, and generate only when inflows to or storage at Messalonskee Lake permit. During these periods, a flow of approximately 570 cfs is passed to the downstream generating stations by means of opening one of the Taintor gates in Messalonskee Lake dam. Flow is released from the Messalonskee Lake dam to the downstream generating developments when conditions provide sufficient flows to operate for four to eight hours. This flow is maintained until no more than a 0.5 foot drawdown in Messalonskee Lake is reached at which point discharge from the Lake is terminated and a leakage flow of approximately 12 to 15 cfs occurs. Shortly after the gate at Messalonskee Lake dam is closed, each downstream station is manually taken off-line by a travelling operator.

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<u>3. Proposed Modifications</u>: CMP proposes to replace and maintain the existing fish screen at the outlet of Messalonskee Lake, pending agreement with fishery agencies on an appropriate alternate bar spacing.

<u>4. Proposed Enhancements</u>: CMP has proposed specific measures to enhance water and fisheries resources, recreational opportunities, and structures and archaeological sites.

a. For water and fisheries resources, CMP proposes to provide a minimum flow of 15 cfs through all project developments and in the Rice Rips bypass; implement a new downramping sequence at the Union Gas Development which will reduce fish stranding; maintain water levels in Messalonskee Lake within 0.5 foot of full pond during the summer and within 1.0 foot of full pond the remainder of the year during normal operation; maintenance of Union Gas Development impoundment water levels within 1.3 foot of full pond during normal operation; and maintenance of Oakland, Rice Rips, and Automatic Developments impoundments within 1.0 foot of full pond year-round during normal operation.

b. For recreational resources, CMP proposes to improve an existing day use area near Messalonskee Lake dam, pending resolution of an ownership dispute; add interpretive signage at the Oakland Development, identifying it as the Licensee's first hydroelectric project; investigate the need for green belt/multi-use area at the Oakland Development; improve the parking area at Rice Rips bypass; investigate the need for green belt/multi-use area at the Rice Rips Development; investigate the feasibility of carry-in access site to the Rice Rips impoundment; investigate the need for additional parking at carry-in site at the North Street Park on Automatic impoundment; develop Couture Field boat launch (completed) on Kennebec River; investigate the need for additional parking and tailrace walk-in access at Union Gas; and submit the FERC Form 80 recreational assessment to the appropriate agencies every four years to facilitate a review of the adequacy of project area facilities to meet recreational demand.

c. For historic structures and archaeological sites, CMP proposes to implement the terms of a programmatic agreement that it has drafted and requested that the Commission execute with the MHPC and Council. CMP's draft includes stipulations for all 10 of its projects in Maine.

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# D. Moosehead

# 1. Project Facilities

a. The East Outlet dam, constructed of earth and concrete, spans 1,004 feet and consists of  $\blacksquare$  29 wooden flood gates,  $\blacksquare$  two larger wood and steel sluice gates,  $\blacksquare$  two Taintor gates,  $\blacksquare$  a fishway, and  $\blacksquare$  concrete wingwalls.

b. The West Outlet dam, also constructed of earth and concrete, spans 830 feet and consists of  $\blacksquare$  50 feet of gate structure and  $\blacksquare$  780 feet of earth embankment.

c. The reservoir has a surface area of 74,200 acres--extending upstream about 35 miles--and has a useable storage capacity of 544,880 acre-feet at 7.5 foot drawdown and 325,000 acre-feet at a 4.5 foot drawdown. The normal water surface elevation is 1,029.0 feet (United States Geological Service; hereinafter, "USGS").

2.Project Operation: The Moosehead Project is a storage project only. The operator manually sets the spillway gate(s) openings at each dam. KWP River Engineer determines the regulation or operation of the basin storage system, including the Project's facilities, to best meet the flow and energy needs of downstream users.

<u>3. Proposed Modifications</u>: KWP does not propose any changes to the above project facilities.

<u>4. Proposed Enhancements</u>: KWP has proposed specific measures to enhance water and fisheries resources, wildlife, recreational opportunities.

a. For water and fisheries resources, KWP proposes to m comply with class A and AA aquatic life standards minimum flow of 500 cfs for East Outlet minimum flow of 80 cfs for West Outlet m continue to maintain East Outlet fishway
a. develop a spawning channel along the side of East Outlet for salmonids.

b. For wildlife resources, KWP proposes to formalize a lake level agreement which will minimize fluctuations to 4.5 feet below normal full pond and, ■ target lake levels at 1 foot below full pond at spring ice-out to minimize shoreline erosion.

c. For recreation resources, KWP proposes to

■ improve existing parking and access to the East Outlet ■ install a flow phone to notify users of river flows ■ increase flows to approximately 120 cfs on West Outlet from May to September to improve conditions for canoeing ■ provide a public boat launch on the western shore of Moosehead.

d. For historic structures and archaeological sites, CMP proposes to implement the terms of a programmatic agreement that it has drafted and requested that the Commission execute with the MHPC and the Council. CMP's draft includes stipulations for all 10 of its projects in Maine.

# E. Moxie Project<sup>2</sup>

#### 1. Project Facilities

a. The existing main concrete dam spans 570 feet and has a maximum height of 19 feet and consists of  $\blacksquare$  a nonoverflow section,  $\blacksquare$  concrete spillway,  $\blacksquare$  one six foot steel gate and  $\blacksquare$  two eight foot timber gates.

b. The three concrete closure dams are located to the east of the main dam. Closure dam "A" measures 169 feet in length, "B" measures 201 feet and "C" measures 82 feet.

c. The reservoir has a surface area of 2,231 acres--extends upstream about 7.5 miles--and a storage capacity of about 35,000 acre-feet, a usable storage capacity of 14,700 acre-feet and a normal water surface elevation of 970.3 feet.

2. Project Operation: The Moxie Project is an unmanned facility--with an operator available 24-hours a day-operated as an annual storage facility to assist in regulating flows to the Kennebec River for downstream hydroelectric power generation and flood control.

<u>3. Proposed Modifications</u>: KWP does not propose any changes to the above project facilities.

<u>4. Proposed Enhancements</u>: KWP has proposed specific measures to enhance fisheries resources and wildlife, recreational opportunities.

<sup>2</sup> Since the application was filed in 1991, the owners of Moxie Dam have filed for a surrender of license with the Commission. The Commission decision on the surrender is pending.

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a. For fisheries resources, KWP proposes to ■ limit the drawdown of Moxie Pond to three feet prior to November 15 ■ limit outflow during fall drawdown to 145 cfs or inflow ■ and release a minimum flow from the project of 25 cfs or inflow.

b. For wildlife resources, KWP proposes to extend the fall drawdown to enhance existing wildlife resources.

c. For recreational purposes, KWP proposes to notify the Moxie Pond Association of expected drawdown dates.

d. For historic structures and archaeological sites, CMP proposes to implement the terms of a programmatic agreement that it has drafted and requested that the Commission execute with the MHPC and the Council. CMP's draft includes stipulations for all 10 of its projects in Maine.

F. North Gorham

## 1. Project Facilities

a. The North Gorham Project consists of a 24 foot high stone masonry and concrete dam, powerhouse, transformer house, switch house and an impoundment extending approximately 1.1 miles upstream. The powerhouse contains two horizontal shaft turbines and generators which were installed in 1925-1926. The two generators have an aggregate nameplate rating of 2,250 kW. The powerhouse has a gross head of 34.4 feet available at normal pond level, elevation 221.8 feet.

b. The impoundment has a surface area of 98 acres, a gross storage capacity of 1,300 acre-feet, and negligible usable storage. The dam is 970 feet 6 in. long between abutments, and is comprised of a 600 foot 6 in. nonoverflow masonry wall, a 51 foot 3 in. intake section, a 47 foot gate section, a 256 foot 6 in. spillway section, and a 15 foot sluice section. Four, 8 foot diameter steel penstocks lead from the intake section to the turbines.

2. Project Operation: The North Gorham Project is operated in a run-of-river mode using flows released from the upstream Sebago Lake at the Eel Weir Project. North Gorham Project is completely dependent on flows from Sebago Lake.

<u>3. Project Modification</u>: CMP proposes to provide downstream fish bypass facilities, contingent on extension of a

State of Maine river management plan to include project waters, full implementation of Plan including stocking in the Presumpscot River between the upstream Eel Weir dam and the project dam, and the establishment of a minimum flow for the Eel Weir bypass reach.

<u>4. Proposed Enhancements</u>: CMP has proposed specific measures to enhance water and fisheries resources, recreational opportunities, and historic structures and archaeological sites.

a. For water and fisheries resources, CMP proposes to provide a minimum flow of 222 cfs or inflow, whichever is less; and maintain impoundment water levels within 1 foot of full pond during normal operation.

b. For recreational resources, CMP proposes to relocate/redevelop a parking area and trail used to access a boat carry-in site downstream of the project; and to submit FERC Form 80 recreational assessments to appropriate agencies every four years to facilitate review of adequacy of project area recreational facilities.

c. For historic structures and archaeological sites, CMP proposes to implement the terms of a programmatic agreement that it has drafted and requested that the Commission execute with the MHPC and the Council. CMP's draft includes stipulations for all 10 of its projects in Maine.

<u>G. Skelton</u>: The Skelton Project is located on the Saco River in York County, Maine about 11.1 miles upstream of head-oftide and the City of Saco, and 17.1 miles from the mouth of the river at Camp Ellis-Hills Beach.

## 1. Project Facilities

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a. Project facilities include a 1,695-foot long dam with integral powerhouse, a 488 acre impoundment, and appurtenant facilities. The powerhouse contains two equallysized turbine-generator units with vertical-shaft Kaplan units. Flow to the units is controlled by adjustable wicket gates or can be shut off at the project headgates. Each of the turbines is directly connected to a vertical-shaft generator manufactured by General Electric. The project's nameplate generator capacity is 16.8 MW.

b. Project-related transmission facilities include the generator leads, the substation located on the powerhouse roof, and the transmission circuit connecting the

substation to the non-project switching station. The existing fishway at the project is a pool and weir fishway located east of and immediately adjacent to the powerhouse.

2. Project Operation: Flow in the lower Saco River is regulated by the operation of CMP's Bonny Eagle Project, 10 miles upstream from Skelton. Flows from Bonny Eagle are released on a variable discharge schedule depending on system energy demand and total available stream flow. During high flow periods, which typically occur at spring and sometimes fall runoff, Skelton's units run 24-hours a day. During summer and winter low flows, the units are run on a variable schedule. Generally, the stations below Bonny Eagle, including Skelton, are started concurrent with Bonny Eagle's units. The Bonny Eagle units are run until its impoundment is drawn down to an elevation from which it can be refilled overnight. Thus, each station normally passes close to the same total volume of water on a 24-hour basis.

<u>3. Proposed Modification</u>: CMP proposes to replace the existing fishway.

<u>4. Proposed Enhancements</u>: CMP has proposed specific measures to enhance water and fisheries resources, recreational opportunities, and historic structures and archaeological sites.

a. For water and fisheries resources, CMP proposes to release a minimum flow of 800 cfs or inflow June to September and 250 cfs or inflow October to May; provide habitat enhancement in the Skelton tailrace in the form of boulder clusters and escape channels; and maintain the impoundment at no less than 125.0 feet (2.5 feet below normal full pond elevation) except during maintenance activities or in cases of unusual conditions beyond CMP's control.

b. For recreational resources, CMP proposes to relocate the existing canoe portage trail (completed in 1991); improve the existing downstream and impoundment boat ramps, parking facilities, and access roads (completed in 1990); install an interpretive sign; and investigate the feasibility of constructing island campsites.

c. For historic structures and archaeological sites, CMP proposes to implement the terms of a programmatic agreement that it has drafted and requested that the Commission execute with the MHPC and the Council. CMP's draft includes stipulations for all 10 of its projects in Maine.

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## H. Weston

<u>1. Project Facilities</u>: The project consists of a powerhouse containing four generating units, two dams separated by an island, a reservoir, and appurtenant facilities.

a. The existing north channel dam, which, with a length of 529.5 feet and a maximum height of 38 feet, consists of  $\blacksquare$  a 244.2-foot-long stanchion section containing five bays with a sill elevation of 145.5 feet (NGVD<sup>3</sup>),  $\blacksquare$  a 169.9-foot-long hinged flashboard section containing 7-foot-high flashboards mounted on a sill with an elevation of 149.0 feet,  $\blacksquare$  a 92.9-footlong gated section containing two Taintor gates, each measuring 28 feet wide by 16 feet high, with a sill elevation of 140 feet, and  $\blacksquare$  a 22.5-foot-long non-overflow section with a crest elevation of 167 feet.

b. The existing south channel dam, which, with a length of 391.6 feet and a maximum height of 51 feet, consists of  $\blacksquare$  a 125-foot-long powerhouse/intake section,  $\blacksquare$  a 33-foot-long concrete spillway section with a crest elevation of 154 feet and with 2-foot-high stop logs mounted on its crest,  $\blacksquare$  a 24-foot-long sluice section with a crest elevation of 142 feet and a Taintor gate measuring 16 feet wide by 14 feet high,  $\blacksquare$  a 188.1-foot-long stanchion section containing five bays with a sill elevation of 145.0 feet, and  $\blacksquare$  a 21.5-foot-long non-overflow section with a crest elevation of 166.0 feet.

c. A reservoir with a surface area of about 1,008 acres, a gross storage capacity of about 18,600 acre-feet negligible useable storage capacity, and a normal water surface elevation of 156 feet.

d. An existing concrete, brick, and steel powerhouse measuring 188.2 feet by 41 feet in plan, containing four vertical-shaft, Francis turbines directly connected to four generating units with a combined nameplate capacity of 14,750 kW, and a tailrace excavated in the riverbed, and a substation. <sup>4</sup>

<sup>3</sup> All elevations for the Weston Project are NVGD.

<sup>4</sup> Although no primary transmission line is included in the project boundary, there are about 800 feet of 7,200-volt generator leads included with the project facilities. Project-related transmission facilities include the generator leads and 7,200 kV buses located inside the powerhouse, and one step-up transformer located in a CMP substation outside the project. The transmis-

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<u>2. Project Operation</u>: The Weston Project normally operates run-of-river, passing inflow as it is received.

3. Proposed Modifications: CMP proposes to modify the project to improve output. Under the existing configuration, the generators' output is limited by the turbines' capacity. proposes to replace the existing turbine runners with new, CMP equally-sized runners having greater hydraulic capacity, increasing the project's overall hydraulic capacity by about 1,180 cfs. After the proposed replacement, the powerhouse would contain three turbines rated at 5,800 hp each and one turbine rated at 6,600 hp for a combined rating of 24,000 hp or 18,000 kW (24,000 hp X 0.75 kW/hp). Of the four generators, two are rated at 4,000 kW each, one is rated at 3,750 kW, and one is rated at 3,000 kW for a combined rating of 14,750 kW. The generators are rated at a power factor of 0.8. Since the generator nameplate ratings are smaller than the turbine ratings, the overall project installed capacity should be based on the generator ratings which total 14,750 kW.

<u>4. Proposed Enhancements</u>: CMP has proposed specific measures to enhance water and fisheries resources, recreational opportunities, and historic structures and archaeological sites.

a. For water and fisheries, CMP proposes to
■ continue operating the project in a run-of-river mode,
■ provide a minimum flow of 1,947 cfs or inflow, whichever is less, ■ install upstream and downstream fish passage facilities by May 1, 2001, ■ maintain impoundment water levels within 1 foot of full pond elevation during normal operations, and ■ minimize scheduled maintenance drawdowns from June 1 to August 1 of each year to protect fishery and wildlife resources.

b. For recreation enhancements, CMP proposes
adding park benches and informative signs near the <u>newerhouse</u>,
developing a cance portage around the dam, 
lowering logging piers in the impoundment to improve boating safety, and
expanding the parking area at Oosoola Park.

c. For historic structures and archaeological sites, CMP proposes to implement the terms of a programmatic agreement that it has drafted and requested that the Contraction execute with the MHPC and the Council. CMP's draft includes stipulations for all 10 of its projects in Maine.

sion and distribution system beyond the step-up transformer is not part of the Weston Project.

#### I. Wyman

# 1. Project Facilities

a. The facilities include an existing concrete and earth dam, with a total length of 3,246 feet and a maximum height of 84 feet and consists of ■ a 23-foot-long Broome gate ■ three Taintor gates ■ six stanchion stoplog bays measuring 285feet-long and a 22-foot-long sluiceway and ■ a 168-foot-long concrete intake structure.

b. An existing reinforced concrete powerhouse with a control room measuring 33 feet by 125 feet and a 33 feet by 150 feet generator room, containing three vertical-shaft umbrella type generators with a combined nameplate capacity of 72,000 kW, and a tailrace excavated in the riverbed.

c. The reservoir has a surface area of about 3,240 acres--extending upstream about 14.4 miles--with a storage capacity of about 208,910 acre-feet and useable storage capacity of 6,300 acre-feet; a normal water surface elevation of 485.0 (USGS); a substation; and appurtenant facilities.

2. Project Operation: The Wyman Project operates in a peaking mode with flows up to a maximum of 8,500 cfs.

<u>3. Proposed Modifications</u>: CMP proposes no changes to its project facilities.

<u>4. Proposed Enhancements</u>: CMP has proposed specific measures to enhance water and fisheries resources, wildlife, recreational opportunities, and historic structures and archaeological sites.

a. For water and fisheries resources, CMP proposes to **a** release a minimum flow of 1200 cfs or *introw*, whichever is less and **a** limit impoundment fluctuations to within two feet of full pond elevation.

b. For wildlife resources, CMP proposes to implement a loon management program on the Wyman impoundment.

c. For recreation resources, CMP propose: ... ■ improve an existing cance portage trail, including signs, rest stations, and trail maintenance ■ install a hard curface boat ramp at the Moscow Public Landing ■ redevelop Call Cold Cold Cold Area including public restrooms and two sheltered picnic areas

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add new primitive camp sites on the shoreline near Houston Brook Falls I continue maintenance and improvements on all existing recreational facilities and I monitor public recreational needs at the project and consult periodically with the agencies on the need for additional facilities.

d. For historic structures and archaeological sites, CMP proposes to implement the terms of a programmatic agreement that it has drafted and requested that the Commission execute with the MHPC and the Council. CMP's draft includes stipulations for all 10 of its projects in Maine.

# II. HISTORIC STRUCTURES AND ELIGIBLE ARCHAEOLOGICAL SITES

<u>A. Bonny Eagle</u>: Historic Properties at the Bonny Eagle Project include the project structures and 10 archaeological sites.

1. Historic Project Facilities: The Bonny Eagle Project--the powerhouse and dam structures--is eligible for listing on the NRHP. The Bonny Eagle facility is a long eightbay brick structure featuring a narrow metal truss gable roof over the generator equipment and a shed roof over the controls. The plant's notable features are its multi-pane wooden tilt-out sash in openings except for the new windows on the lower level of the downstream side; decorative brick corbelled cornice; roundarched brick openings framing the penstocks; and an unaltered interior containing a significant collection of early twentieth century hydro power generating machinery.

2. Archaeological Sites: Phase I and phase II testing, and subsequent field visits by MHPC staff have resulted in the identification of 10 aboriginal sites eligible for inclusion on NRHP. The 10 eligible sites are ME 7-4, ME 7-7, ME 7-12, ME 7-6, ME 7-9, ME 7-11, ME 7-13, ME 7-16, ME 7-19, and ME 7-21.

<u>B.</u> Fort Halifax: Historic properties at the Fort Halifax Project include the existing project structures and a currently undetermined number of 29 archaeological sites recommended for further study.

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<sup>&</sup>lt;sup>5</sup>Per letter from Kirk Mohney, Architectural Historian, Maine Historic Preservation Commission, Augusta, Maine, February 5, 1991.

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<u>1. Historic Project Facilities</u>: The Fort Halifax Project powerhouse is eligible for listing on the NRHP. A twostory brick building covered by a gable roof, its significant features include its parapet wall at the gable peak; original multi-pane steel frame windows with tilt-out sash; pronounced, elongated voussoirs above the first story openings; and granite window sills and concrete copings on pilasters and parapet. <sup>6</sup>

2. Archaeological Sites: A phase I archaeological survey, and subsequent field visits by MHPC staff have resulted in the identification of 29 potentially eligible sites. The 29 eligible sites are ME 53-15, ME 53-16, ME 53-29, ME 53-30, ME 53-59, ME 53-64, ME 53-66, ME 53-69, ME 53-75, ME 53-5, ME 53-6, ME 53-11, ME 53-19, ME 53-21, ME 53-22, ME 53-23, ME 53-31, ME 53-55, ME 53-56, ME 53-57, ME 53-58, ME 53-60, ME 53-61, ME 53-62, ME 53-63, ME 53-65, ME 53-67, ME 53-68, and ME 53-70.

<u>C. Gulf Island-Deer Rips</u>: Historic properties at the Gulf Island - Deer Rips Project include the Gulf Island powerhouse and eight archaeological sites.

<u>1. Historic Project Facilities</u>: The neo-classical powerhouse is characterized by an ornate entry whose round arched doorway is framed by columns; an enablature, and a broad stone surround; two flights of concreted steps bordered by brick walls leading to the entrance; stone trim used around window and door openings on the first story, base cornice, and as decorative panels in the parapet; original multi-pane windows with tilt-out sash, a bulls-eye window above the entrance, operator's booth, sidewall lamps and multi-pane windows on the interior. <sup>7</sup>

2. Archaeological Sites: Phase I and phase II archaeological investigations, and subsequent field visits by MHPC staff have resulted in the identification of eight sites eligible for inclusion in the NRHP. The eligible sites are ME 36-29, ME 36-30, ME 24-32, ME 24-33, ME 36-27, ME 36-28, ME 36-32, and ME 36-37.

<u>D. Messalonskee</u>: Historic properties include the Automatic, Union Gas, and Oakland powerhouse facilities and nine archaeological sites.

<sup>6</sup>Per letter from Kirk Mohney, Architectural Historien, Maine Historic Preservation Commission, Augusta, Maine, July 10, 1990

<sup>7</sup>Ibid.

## 1. Historic Project Facilities

a. Automatic: The Automatic powerhouse is eligible for listing on the NRHP. The significant historic features include its one story hipped roof, neoclassical building with exterior veneer of tan brick; decorative stone trimmings at the base, water table, corner quoins, windows, doorway, and the cornice; green tile roof; and original multi-pane windows with tilt-out sash, and front doors. <sup>8</sup>

**b.** Oakland: The Oakland powerhouse is eligible for listing on the NRHP. The significant historic features of the Oakland powerhouse include its a fortress-like stone structure with Gothic style arched window, projecting course of granite blocks, and crenelated roof; random ashlar masonry walls over a steel frame; granite voussoirs above the window and door openings; original multi-pane tilt-out and double hung windows; and original two-leaf front doors with cross-bracing over the vertical board construction. <sup>9</sup>

c. Union Gas: The Union Gas powerhouse is eligible for listing on the NRHP. The significant historic features of the Union Gas powerhouse include its rectangular building constructed of random ashlar masonry with broad gable roof and a centrally placed narrower cross gable; round arched covered windows and board-and-batten doors on the facade; granite quoins and trim around door and window openings; and a chimney at one end. <sup>10</sup>

2. Archaeological sites: Phase I and phase II archaeological investigations, and subsequent field visits by MHPC staff have resulted in the identification of nine sites eligible for inclusion in the NRHP. The eligible sites are ME 37-1, ME 37-16, ME 37-18, ME 37-19, ME 52-26, ME 52-30, ME 53-41, ME 53-42, and ME 53-48.

<u>E.Moosehead</u>: Historic properties at the Mooseheas project include a currently undetermined number of potentially eligible archaeology sites.

<sup>8</sup>Ibid.

<sup>9</sup>Ibid.

<sup>10</sup>Ibid.

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<u>1. Historic Project Facilities</u>: There are no project facilities that qualify as historic properties.

2. Archaeological Sites: A phase I archaeological survey and subsequent investigations resulted in the identification of over 270 potentially eligible sites. Subsequently, an on-going phase II investigation has significantly reduced the number of potentially eligible sites.

<u>F. Moxie</u>: There are no historic project facilities or archaeological sites at the Moxie Project.

<u>G. North Gorham</u>: There are no historic project facilities or archaeological sites at the Moxie Project.

<u>H. Skelton</u>: Historic properties at the Skelton Project include four archaeological sites.

<u>1. Historic Project Facilities</u>: There are no project facilities that qualify as historic properties.

2. Archaeological Sites: Phase I and phase II investigations have resulted in the identification of four sites eligible for inclusion on the NRHP. The four eligible sites are ME 7-26, ME 7-27, ME 7-28, ME 7-32.

<u>I. Weston</u>: The historic properties at the Weston Project include the project facilities and 11 archaeological sites.

<u>1. Historic Project Facilities</u>: The significant features of the neo-classical Weston powerhouse are its green tiled hip roof, tan brick veneer with a variety of ornamental string courses and stone blocks; stone trim around the multi-part windows and in the bracketed overdoors, as well as quoins, water table, and base; original multi-pane windows with tilt-out sash, original entryway highlighted by a pair of tall stacks that project through the roof and are connected by a low parapet; and original light fixtures.<sup>11</sup>

2. Archaeological Sites: Phase I and phase II investigations, and subsequent field visits by MHPC staff has resulted in the identification of 11 sites eligible for inclusion on the NRHP. The 11 eligible sites include ME 52-10, ME 52-16, ME 69-11, ME 52-9, ME 69-2, ME 69-8, ME 69-24, ME 69-27, ME 69-31, and ME 69-40, and 69-34.

<sup>11</sup>Ibid.

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J. Wyman: Historic properties at the Wyman Project include the project powerhouse and seven archaeological sites.

1. Historic Project Facilities: The Wyman Project is eligible for listing on the NRHP. The specific notable features include its art deco style detailing of the main entrance including lamps and Gothic door; multi-pane steel framed windows with tilt-out sash; and decorative concrete pilasters and paneling on the downstream side. <sup>12</sup>

2. Archaeological Sites: Phase I and phase II archaeological investigations, and subsequent field visits by MHPC staff have resulted in the identification of five sites eligible for inclusion in the NRHP. The five eligible sites are ME 86-12, ME 86-3A, ME 86-3B, ME 86-11, and ME 86-13.

### III. ANTICIPATED EFFECTS

## A. Bonny Eagle

1. Historic Project Facilities: The SHPO has requested to be consulted regarding the design plans for fish passage facilities as they are developed for the Bonny Eagle Project. <sup>13</sup> Although continuing to operate and maintain an eligible property as a hydroelectric station is rightly considered a beneficial effect, non-routine maintenance (i.e., the repair or replacement of significant structural fabric and mechanical systems), could involve adverse effects if not carried out according to the Secretary's Standards.

2. Archaeological Sites: Of the ten eligible archaeology sites identified, three (ME 7-4, ME 7-7, and ME 7-12), have been classified emergency sites as defined in MHPC's Policy. <sup>14</sup> These sites will receive priority treatment upon issuance of the Bonny Eagle hydropower license. The remaining seven sites (ME 7-6, ME 7-9, ME 7-11, ME 7-13, ME 7-16, ME 7-19,

<sup>13</sup>Per letter from Earle Shettleworth, Jr., Maine State Historic Preservation Officer, Augusta, Maine, July 27, 1992.

<sup>14</sup> As referenced in § II.B.3 of this Programmatic Agreement.

<sup>&</sup>lt;sup>12</sup>Per letter from Kirk Mohney, Architectural Historian, Maine Historic Preservation Commission, Augusta, Maine February 5, 1991.

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and ME 7-21) will be monitored for potential adverse effects in accordance with the Policy.

# B. Fort Halifax

<u>1. Historic Project Facilities</u>: The SHPO has determined that CMP's proposed installation of downstream fish passage facilities will have no adverse impact on the Fort Halifax hydroelectric plant. Additionally, the SHPO has requested that he be consulted as design plans for the proposed upstream fish passage facilities are developed. <sup>15</sup> Although continuing to operate and maintain an eligible property as a hydroelectric station is rightly considered a beneficial effect, non-routine maintenance (i.e., the repair or replacement of significant structural fabric and mechanical systems) could involve adverse effects if not carried out according to the Secretary's Standards.

2. Archaeological Sites: Of the 29 eligible archaeology sites, nine (ME 53-15, ME 53-16, ME 53-29, ME 53-30, ME 53-59, ME 53-64, ME 53-66, ME 53-69, and ME 53-75) have been classified emergency sites as defined in the Policy. These nine site will receive priority treatment for phase II investigation, and if warranted, phase III mitigation upon issuance of the Fort Halifax license. The remaining twenty sites (ME 53-5, ME 53-6, ME 53-11, ME 53-19, ME 53-21, ME 53-22, ME 53-23, ME 53-31, ME 53-55, ME 53-56, ME 53-57, ME 53-58, ME 53-60, ME 53-61, ME 53-62, ME 53-63, ME 53-65, ME 53-67, ME 53-68, and ME 53-70) will be monitored for potential adverse effects in accordance with the Policy.

### C. Gulf Island-Deer Rips

1. Historic Project Facilities: Although continuing to operate and maintain an eligible property as a hydroelectric station is rightly considered a beneficial effect, non-routine maintenance (i.e., the repair or replacement of significant structural fabric and mechanical systems), could involve adverse effects if not carried out according to the Secretary's Standards.

2. Archaeological Sites: Phase I and phase archaeological investigations, and subsequent field visits by

<sup>15</sup>Per letter from Earle Shettleworth, Jr., Maine State Historic Preservation Officer, Augusta, Maine, July 27, 1992.

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MHPC staff have resulted in the identification of eight sites eligible for inclusion in the NRHP. Of these eight sites two (ME 36-29, and ME 36-30) have been classified emergency sites as defined in the Policy. These sites will be given priority treatment upon issuance of the Gulf Island - Deer Rips hydropower license. The remaining six sites (ME 24-32, ME 24-33, ME 36-27, ME 36-28, ME 36-32, and ME 36-37) will be monitored for potential adverse effects in accordance with the Policy.

#### D. Messalonskee

1. Historic Project Facilities: Although continuing to operate and maintain an eligible property as a hydroelectric station is rightly considered a beneficial effect, non-routine maintenance (i.e., the repair or replacement of significant structural fabric and mechanical systems), could involve adverse effects if not carried out according to the Secretary's Standards.

2. Archaeological Sites: Phase I and phase II archaeological investigations, and subsequent field visits by MHPC staff have resulted in the identification of nine sites eligible for inclusion in the NRHP. Of these nine sites two (ME 37-16, and ME 37-18) have been classified emergency sites as defined in the Policy. These sites will be given priority treatment upon issuance of the Messalonskee hydropower license. Five of the remaining sites (ME 37-1, ME 52.26, ME 52-30, ME 53-41, and ME 53-42) will be monitored for potential adverse effects in accordance with the Policy. It has been determined that project operations will have no effect on sites ME 37-19 and ME 53-48.

#### E. Moosehead

<u>1. Historic Project Facilities</u>: There are no project facilities that qualify as historic properties.

2. Archaeological Sites: Upon completion of the ongoing phase II investigation, the currently known and potentially eligible archaeological sites will be classified as to their status as emergency sites. Those sites determined to be emergency sites as defined in the Policy will receive priority treatment upon issuance of the Moosehead hydrophore bicence Other non-emergency and potentially eligible sites will be monitored for potential adverse effects in accordance with the Policy.

<u>F. Moxie</u>: There are no historic structures or eligible archaeological properties at the Moxie Project.

<u>G. North Gorham</u>: There are no historic structures or eligible archaeological properties at the Moxie Project.

#### H. Skelton

<u>1. Historic Project Facilities</u>: There are no eligible project facilities at the Skelton Project.

<u>2. Archaeological Sites</u>: It has been determined that project operations will have no effect on the four eligible sites (ME 7-26, ME 7-27, ME 7-28, and ME 7-32).

### I. Weston

1. Historic Project Facilities: The SHPO has determined that CMP's proposed replacement of the Weston Project's turbine runners would produce no adverse effect. Additionally, the SHPO has requested that he be consulted as design plans for the proposed upstream fish passage facilities are developed. <sup>16</sup> Moreover, although continuing to operate and maintain an eligible property as a hydroelectric station is rightly considered a beneficial effect, non-routine maintenance (i.e, the repair or replacement of significant structural fabric and mechanical systems), could involve adverse effects if not carried out according to the Secretary's Standards.

2. Archaeological Sites: Of the 11 eligible archaeological sites, three (ME 52.10, ME 52-16, and ME 69-11), have been classified emergency sites as defined in the Policy. These sites will receive priority treatment upon issuance of the Weston hydropower license. Seven of the remaining sites (ME 52-9, ME 69-2, ME 69-8, ME 69-24, ME 69-27, ME 69-31, and ME 69-40) will be monitored for potential adverse effects in accordance with the Policy. It has been determined that project operations will have no effect on site ME 69-34.

#### J. Wyman

1. Historic Project Facilities: Although continuing to operate and maintain an eligible property as a hydroelectric station is rightly considered a beneficial effect. International maintenance (i.e., the repair or replacement of significant structural fabric and mechanical systems), could involve adverse

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effects if not carried out according to the Secretary's Standards.

2. Archaeological Sites: Of the five eligible archaeological sites one (ME 86-12) has been classified an emergency site as defined in the Policy. This site will be given priority treatment upon issuance of the Wyman hydropower license. The remaining four sites (ME 86-3A, ME 86-3B, ME 86-11, and ME 86-13) will be monitored for potential adverse effects in accordance with the Policy.