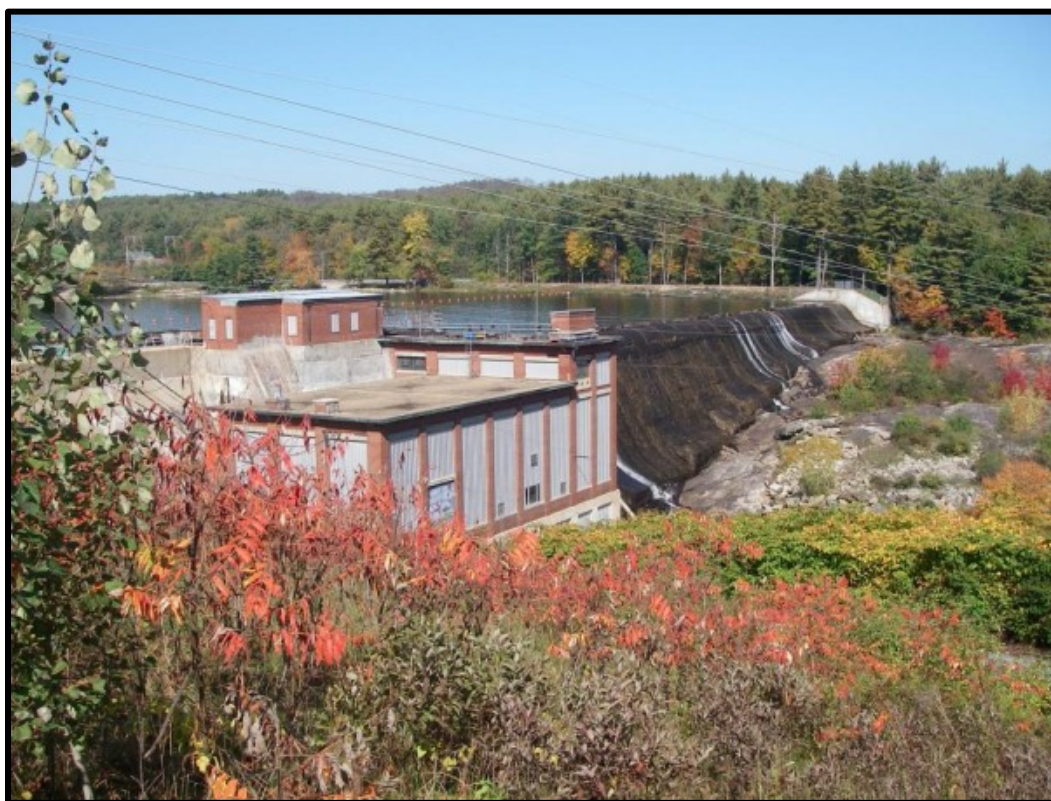


LOW-IMPACT HYDROPOWER POWER INSTITUTE CERTIFICATION APPLICATION

LIHI CERTIFICATE #120

GREGG'S FALLS HYDROELECTRIC PROJECT (FERC No. 3180)



Prepared for:

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APPENDIX F	LIHI INTAKE REVIEWER REPORT

**LOW-IMPACT HYDROPOWER POWER INSTITUTE
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**GREGG'S FALLS HYDROELECTRIC PROJECT
(FERC No. 3180)**

1.0 FACILITY DESCRIPTION

The Gregg's Falls Hydroelectric Project (Project or GFHP) is located in Hillsborough County, southeast New Hampshire, in the community of Goffstown. The Project is located on the Piscataquog River at river mile (RM) 6, approximately 6 river miles upstream from its confluence with the Merrimack River. The Piscataquog River consists of three branches (South, Middle, and North) that converge approximately 6 miles upstream from the Merrimack River. The GFHP is located downstream of the convergence point on the North Branch¹ of the Piscataquog River that is approximately 37 miles long from its headwaters at Deering Reservoir in Deering, New Hampshire. The Project draws water from an impoundment headpond (Glen Lake) that is approximately 136 acres and is part of a recreational waterway.

The Project exemption is held by Gregg Falls Hydroelectric Associates Limited Partnership (Gregg Falls Associates LP or Exemptee). The Project exemption was issued by FERC on July 21, 1983, which was owned at the time by the New Hampshire Water Resources Board² and Gregg Falls Hydroelectric Associates Limited Partnership. On July 9, 2013, Eagle Creek Renewable Energy, LLC (ECRE or Eagle Creek) acquired Gregg Falls Hydroelectric Associates Limited Partnership as a wholly owned indirect subsidiary.³

The Project dam was constructed in 1919 and operated as a peaking water power facility until the 1970's, when the powerhouse was decommissioned. In 1985, a major refurbishment took place, which included the installation of two new turbines and generators and the replacement of all

¹ The North Branch is the entire section of the river from the headwaters at Deering Reservoir to the confluence with the Merrimack River.

² The New Hampshire Water Resources Board was dissolved by state statute and all of its obligations and responsibilities were transferred to the New Hampshire Department of Environmental Resources.

³ <https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=13301023>

electrical and control equipment. The current installed capacity is 3,479 KW consisting of two Francis turbines with output capacities of 2,169 KW and 1,310 kW.

The Gregg's Falls hydroelectric facility consists of: (1) an existing earthfill and concrete gravity dam 1,360 feet long and 60 feet high; (2) a reservoir (Glenn Lake) with a storage capacity of 3,650 acre-feet; (3) existing intake structures; (4) an existing concrete penstock 31.75 feet long and 10 feet by 17.5 feet oblong shape, transitioning to a 7.5 feet diameter circular shape; (5) an existing powerhouse containing 2 turbines and 2 generators with an installed capacity of 3,479 kW; (6) a switchyard; (7) a 100-foot-long transmission line; and (8) a concrete spillway crest elevation with an elevation of 271.1 feet NGVD topped by 1.5-foot-high flashboards which raise the normal maximum surface elevation to 272.6 feet NGVD.

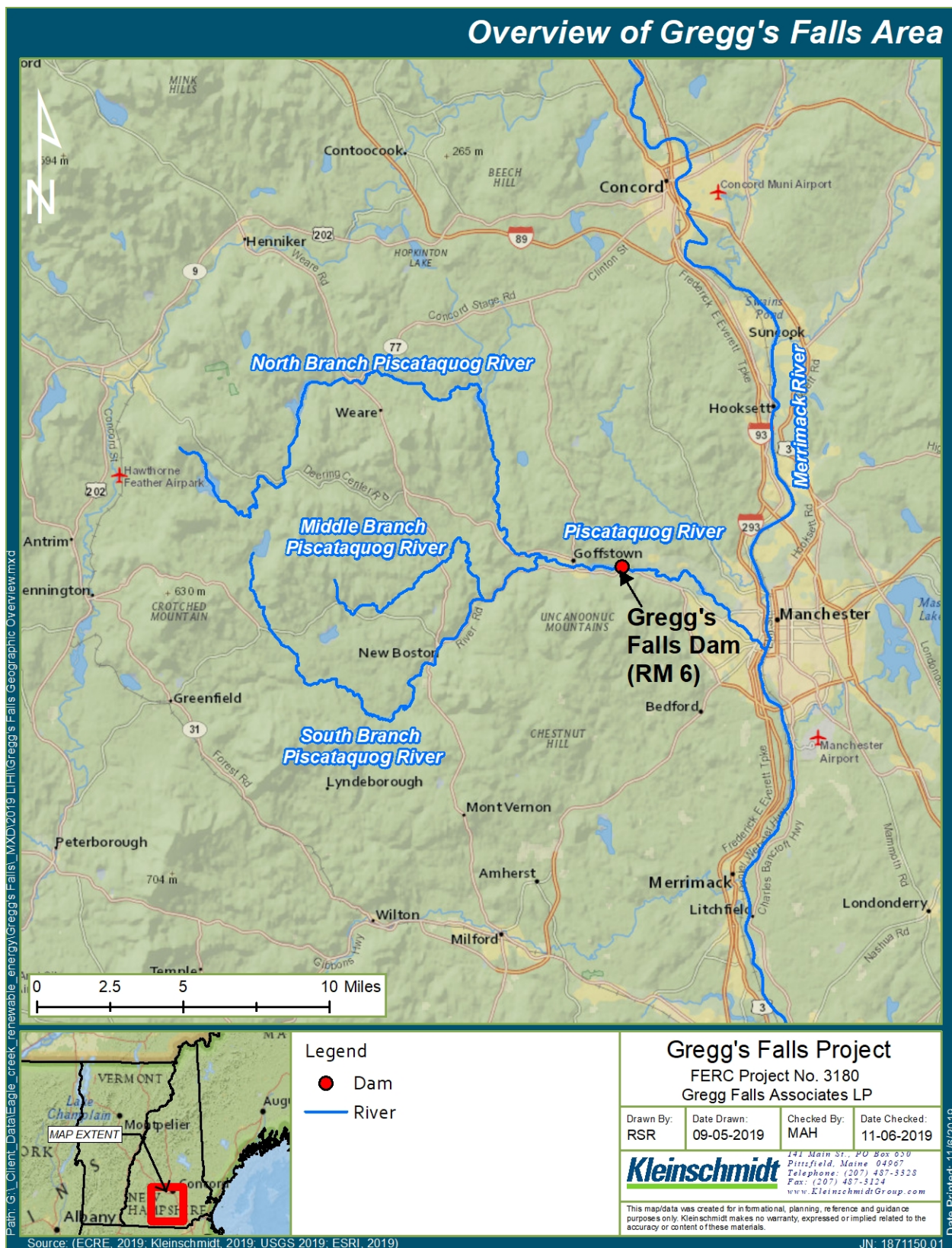


FIGURE 1-1 GEOGRAPHIC OVERVIEW OF PROJECT AREA

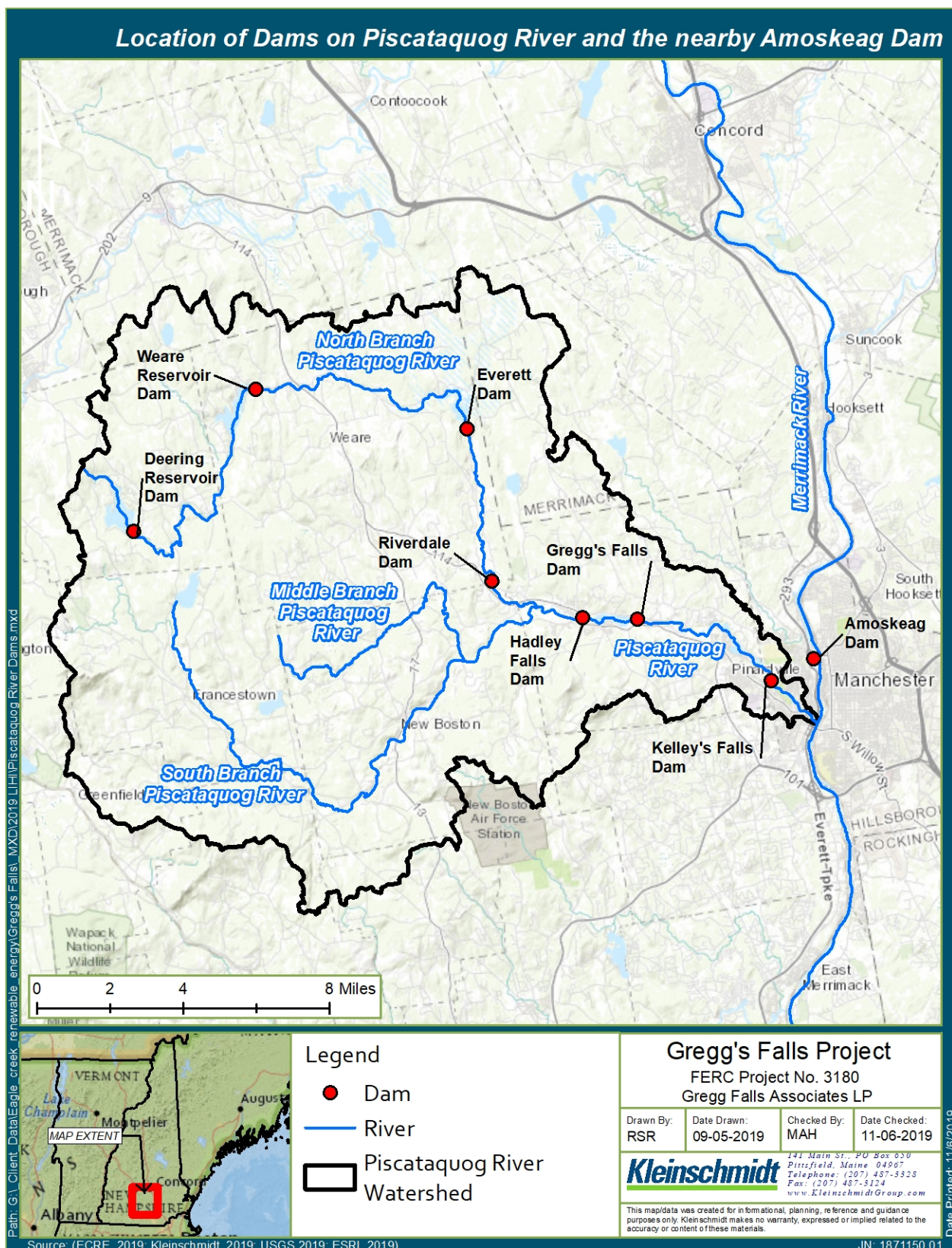


FIGURE 1-2 UPSTREAM AND DOWNSTREAM DAMS ON PISCATAQUOG RIVER

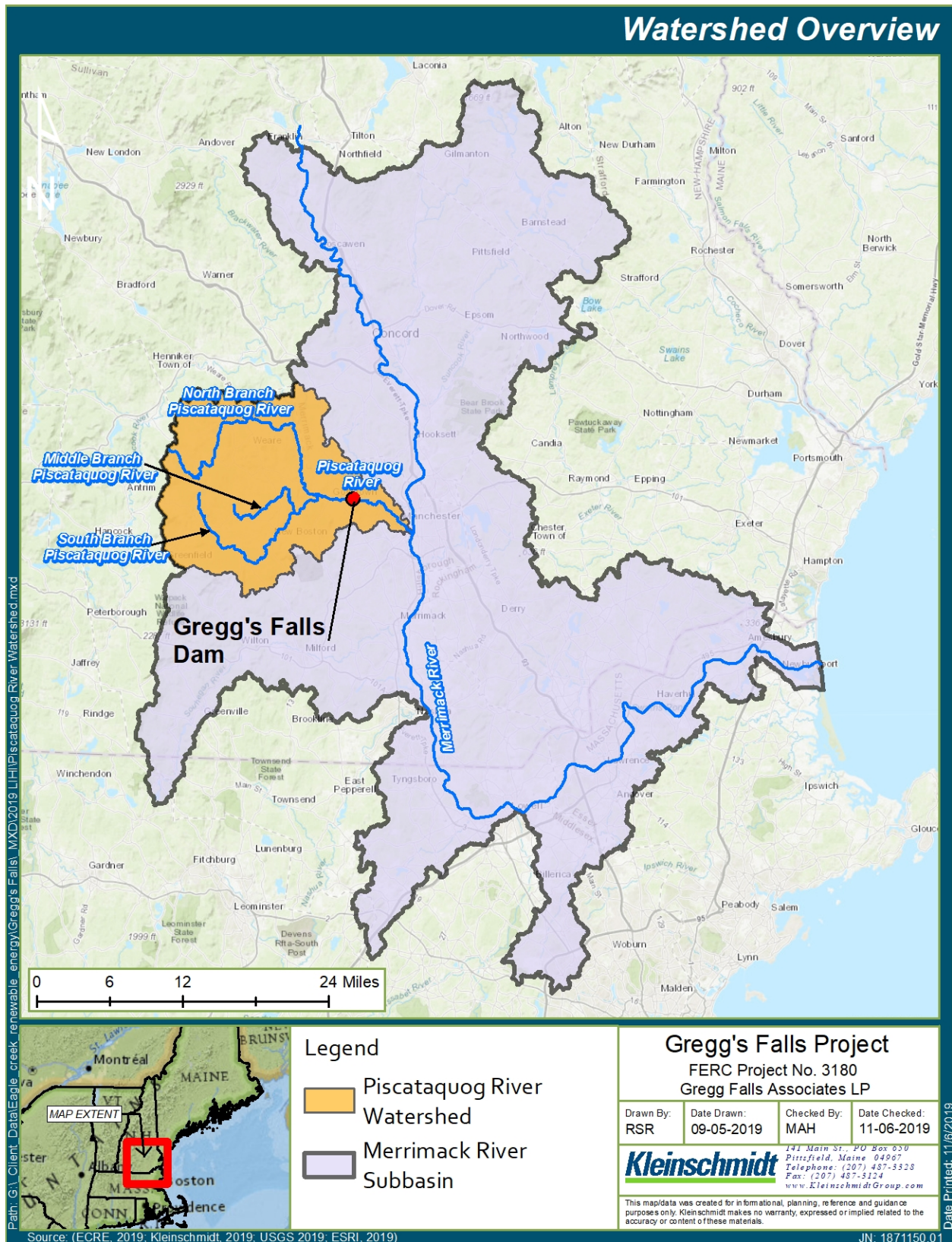


FIGURE 1-3 PISCATAQUOG RIVER AND MERRIMACK RIVER BASINS

1.1 FACILITY DESCRIPTION INFORMATION FOR GREGG’S FALLS HYDROELECTRIC PROJECT (LIHI CERTIFICATE #120)

INFORMATION TYPE	VARIABLE DESCRIPTION	FACILITY DESCRIPTION
<i>Name of the Facility</i>		Gregg’s Falls (FERC No. P-3180 or GFHP) referred to as the Project throughout this application.
<i>Location</i>	River name (U.S. Geologic Survey [USGS] proper name)	Piscataquog River (HUC-01070002)
	River Mile:	RM 6 on the Piscataquog River
	River Basin:	Merrimack River Basin (HUC-801070003)
	Nearest town, county, and state:	Goffstown, Hillsborough County, New Hampshire
	River Mile of Dam:	The Gregg’s Falls Project dam is located at approximately RM 6. The Kelley’s Falls Project is located downstream of the Project at river mile 1.8. The Hadley Falls Dam, upstream of the Project, is at approximately river mile 8.5.
	Geographic latitude:	43.018417°
	Geographic longitude:	-71.567848°
<i>Facility Owner</i>	Application Contact Names	Ms. Susan Giansante Eagle Creek Renewable Energy, LLC Robert Gates Gregg Falls Hydroelectric Associates, LP 65 Madison Ave, Suite 500 Morristown, NJ 07960

INFORMATION TYPE	VARIABLE DESCRIPTION	FACILITY DESCRIPTION
	Facility owner (individual and company names):	The Dam is owned by the New Hampshire Department of Environmental Services (NHDES), but the generating facility is owned by the Gregg Falls Hydroelectric Associates Limited Partners.
	FERC Licensee (or Exemptee) Company Name (if different from owner):	Gregg Falls Hydroelectric Associates Limited Partners
	Representative in LIHI certification	Susan Giansante, Eagle Creek Renewable Energy LLC Robert Gates, Gregg Falls Hydroelectric Associates Limited Partnership Andy Qua, Kleinschmidt Associates Nuria Holmes, Kleinschmidt Associates
<i>Regulatory Status</i>	FERC Project Number and Issuance and expiration dates	FERC Project No. P-3180 On July 21, 1983 the Project became FERC exempt.
	FERC license type or special classification (e.g., "qualified conduit")	Exempt.
	Water Quality Certificate identifier and issuance date, plus source agency name	N/A

INFORMATION TYPE	VARIABLE DESCRIPTION	FACILITY DESCRIPTION
	Hyperlinks to key electronic records on FERC e-library website (e.g., most recent Commission Orders, WQC, ESA documents, etc.)	<p>1983 Order Granting Exemption from Licensing of a Small Hydroelectric Project of 5 MW or Less (not available on FERC eLibrary) (Appendix B).</p> <p>1998 Order Amending Exemption</p> <p>2015 Memorandum between Eagle Creek and U.S. Fish and Wildlife Service</p> <p>2019 Interim Extension of MOA between Eagle Creek and U.S. Fish and Wildlife (Appendix D).</p>
Powerhouse	Date of Initial Operation (past or future for pre-operational applications)	The GFHP was originally commissioned in 1918. In 1983, the GFHP received its FERC exemption, and was commissioned for commercial operation in 1985.
	Total authorized capacity	3.479 MW – No change since last certification.
	Average annual generation (MWh)	~10,542 MWh (Period of record 2000-2015). This number has decreased slightly since the last certification.
	Number, type, and size of turbines, including maximum and minimum hydraulic capacity of each unit	<p>The Project powerhouse contains two Francis turbines with different output capacities of 2,160 kW (Unit 1) and 1,320 kW (Unit 2) which are connected to two National Industries synchronous generators with similar capacities of 2,169 kW and 1,314 kW respectively. The maximum hydraulic capacity of Unit 1 is 480 cfs, and 240 cfs for Unit 2. Minimum hydraulic capacity for Units 1 and 2 are 70 cfs and 40 cfs, respectively.</p> <p>The powerhouse is integrated into the base of the concrete gravity dam. It is a reinforced concrete structure measuring approximately 98.4 feet wide by 44.3 feet long. The powerhouse has a crane for servicing the generating equipment.</p>

INFORMATION TYPE	VARIABLE DESCRIPTION	FACILITY DESCRIPTION
	Modes of operation (run-of-river, peaking, pulsing, seasonal storage, etc.)	Run-of-river ⁴ – No change since last certification.
	Trashrack clear spacing (inches) for each trashrack:	1.5 inch spacing
	Dates and types of major equipment upgrades	In 1985 the Project went under major refurbishment which included the installation of two new turbines and generators and the replacement of all electrical and control equipment. There have been no major equipment upgrades since the last LIHI certification.
	Dates, purpose, and type of any recent operational changes	The site was decommissioned in the 1970's. In 2000 the facility was changed from a peaking project to a run-of-river facility. There have been no operational changes since the last LIHI certification.
	Plans, authorization, and regulatory activities for any facility upgrades	N/A
<i>Characteristics of Dam, Diversion or Conduit</i>	Date of construction	Original Construction: 1919
	Dam height:	The dam is approximately 60 feet tall.
	Dam width:	The GFHP has an earthfill and concrete dam with an approximate 1,360-foot span.
	Dam or Diversion Structure Height including separately, the height of any flashboards, inflatable dams, etc.:	The concrete spillway crest is topped by 1.5-foot-high flashboards that raise the normal maximum surface elevation to 272.6' NGVD.

⁴ The LIHI 2nd Edition Handbook characterizes a “run-of-river” facility as one in which the outflow of the facility is within reasonable measurement accuracy (+/- 10%) of the inflow of the facility, measured on an hourly basis.

INFORMATION TYPE	VARIABLE DESCRIPTION	FACILITY DESCRIPTION
	Spillway elevation and hydraulic capacity:	At the critical water surface elevation of 280.2 feet NGVD, the spillway would have a hydraulic capacity of 33,784 cfs if the flashboards were up, and 39,911 cfs if the flashboards were down (based on assumption of units not running).
	Tailwater (downstream water surface) elevation	Typical range 206 to 210
	Length and type of all penstocks and water conveyance structures between reservoir and powerhouse	Two concrete penstocks approximately 31.75 feet long with an oblong shape section 10-feet by 17.5-feet long that transitions into a circular section with a 7.5-foot diameter.
	Dates and types of major, generation-related infrastructure improvements	None since last certification.
	Designated facility purposes	Power Generation ⁵
	Source Water:	The Project's source water is the Piscataquog River, a stream approximately 70 miles in length. It consists of three branches. The North Branch originates from the Deering Reservoir in Deering, NH. The Middle Branch originates from Haunted Lake in Franconia, NH. The South Branch originates from Pleasant Pond in Franconia, NH. ⁶
	Receiving Water and Location of Discharge:	The Project discharges water from the powerhouse located directly downstream of the dam in the tailrace of the Piscataquog River.
<i>Impoundment and Watershed</i>	Authorized maximum and minimum water surface elevations:	Normal maximum water surface elevation is 272.6 feet NGVD. Surface area of the reservoir is 136 acres at 272.6 feet NGVD. No changes since last certification.

⁵ The interconnection point with PSNH grid distribution system is located approximately 98.5 feet from the powerhouse.

⁶ <https://www4.des.state.nh.us/blogs/rivers/wp-content/uploads/2010/12/2010-Piscataquog-River-Mnmt-Plan-Update.pdf>

INFORMATION TYPE	VARIABLE DESCRIPTION	FACILITY DESCRIPTION
	Maximum water surface elevation (ft. MSL)	272.6 feet NGVD (with 1.5-foot-high flashboards). No changes since last certification.
	Maximum and minimum volume and water surface elevations for designated power pool, if available:	Operated as run-of-river so no power pool available. No changes since last certification.
	Gross storage volume and surface area at full pool:	The reservoir (Glen Lake) has a gross storage volume of 3,650-acre-feet and surface area of 136 acres at the normal water elevation of 272.6 feet NGVD. No changes since last certification.
	Describe Requirements Related to Impoundment inflow, outflow, up/down ramping and refill rates:	The general guideline for drawdowns is a rate of 1 foot per hour. As a general guideline, typical refilling rate is passage of 90% inflow and retention of 10% inflow until normal head pond elevation is achieved. Once the normal elevation has been restored, normal operations are resumed.

INFORMATION TYPE	VARIABLE DESCRIPTION	FACILITY DESCRIPTION
	Upstream dam(s) by name, ownership, FERC number (if applicable), and river mile. Indicate which upstream dams have downstream fish passage. ⁷	<p>Dams located on the Piscataquog River upstream of the GFHP include:</p> <p><input type="checkbox"/> Hadley Mills Dam (FERC No. 5379) is located on approx. RM 8.5 and is owned by the State of New Hampshire.</p> <p><input type="checkbox"/> Riverdale Dam is located on approx. RM 11.8 and is owned by the U.S. Army Corp of Engineers.</p> <p><input type="checkbox"/> Everett Dam is located on approx. RM 16.9 and is owned by the U.S. Army Corp of Engineers.</p> <p><input type="checkbox"/> Weare Reservoir Dam is located on approx. RM 25.1 and is owned by the NH DES.</p> <p><input type="checkbox"/> Deering Reservoir Dam is located on approx. RM 33.7 and is owned by the NH DES.</p> <p>Upstream fish passage facilities do not currently exist at any of the Piscataquog River dams. Upstream facilities are required at Kelley's Falls (downstream of Gregg's Falls) by the second year following 15,000 American Shad being documented passing Amoskeag on the main stem Merrimack River. Downstream fish passage facilities are operated and maintained at Kelley's Falls.</p>
	Downstream dam(s) by name, ownership, FERC number (if applicable), and river mile. Indicate which downstream dams have upstream fish passage. ⁸	<p>The only dam located on the Piscataquog River downstream of the GFHP is the</p> <p><input type="checkbox"/> Kelley's Falls Hydroelectric (FERC No. 3025) is located at RM 1.8 and is owned by Green Mountain Power Corporation and NH DES.</p> <p>Downstream on the Merrimack:</p> <p><input checked="" type="checkbox"/> Amoskeag Hydro (FERC No. 1893) is located at RM 73 on the main stem Merrimack River and is owned by Central Rivers Power. Upstream fish passage is provided at Amoskeag.</p> <p>See upstream/downstream information above.</p>

⁷ Projects marked with ☒ indicate whether the Project has downstream or upstream fish passage, respectively.

INFORMATION TYPE	VARIABLE DESCRIPTION	FACILITY DESCRIPTION																																																								
	Operating agreements with upstream or downstream reservoirs that affect water availability, if any, and facility operation	<p>There are no operating agreements with upstream or downstream reservoirs that affect water availability. However, there is an upstream blueberry farm that has a permit for withdrawal from the Piscataquog. Additionally, there are currently no NHDES or EPA approved discharges into the Piscataquog River.</p> <p>Currently no protected instream flow regulations exist for the Piscataquog River.</p>																																																								
	Area of land (acres) and area of water (acres) inside FERC project boundary or under facility control:	The area of land and water inside the FERC project boundary is approximately 185 acres.																																																								
	Average annual flow at the dam (cfs):	The average annual flow as measured at the downstream at the USGS Gage 01091500 is 372.5 (2018).																																																								
Hydrologic Setting	Average monthly flows (cfs)	Average daily flows by month at the Project (Data from USGS Gage 01091500) ⁹ in cfs:																																																								
		<table><tr><th>Month</th><th>Min. Daily</th><th>Mean Daily</th><th>Max Daily</th></tr><tr><td>January</td><td>148</td><td>488</td><td>1500</td></tr><tr><td>February</td><td>245</td><td>648</td><td>1310</td></tr><tr><td>March</td><td>321</td><td>603</td><td>1460</td></tr><tr><td>April</td><td>373</td><td>698</td><td>1820</td></tr><tr><td>May</td><td>94</td><td>224</td><td>569</td></tr><tr><td>June</td><td>35</td><td>103</td><td>352</td></tr><tr><td>July</td><td>28</td><td>75</td><td>224</td></tr><tr><td>August</td><td>97</td><td>432</td><td>974</td></tr><tr><td>September</td><td>80</td><td>92</td><td>104</td></tr><tr><td>October</td><td>30</td><td>304</td><td>2860</td></tr><tr><td>November</td><td>177</td><td>411</td><td>1430</td></tr><tr><td>December</td><td>158</td><td>194</td><td>280</td></tr><tr><td>Average:</td><td>28</td><td>356</td><td>2860</td></tr></table>	Month	Min. Daily	Mean Daily	Max Daily	January	148	488	1500	February	245	648	1310	March	321	603	1460	April	373	698	1820	May	94	224	569	June	35	103	352	July	28	75	224	August	97	432	974	September	80	92	104	October	30	304	2860	November	177	411	1430	December	158	194	280	Average:	28	356	2860
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		July	28	75	224																																																					
		August	97	432	974																																																					
		September	80	92	104																																																					
		October	30	304	2860																																																					
		November	177	411	1430																																																					
December	158	194	280																																																							
Average:	28	356	2860																																																							
*Time period for data: 10/1/2017 to 9/30/2018.																																																										

⁹ Hillsborough County, New Hampshire, Hydrologic Unit Code 01070002, Latitude 43°01'00", Longitude 71°33'04" NAD27, Drainage area 202 square miles, Gage datum 174.65 feet above NGVD29

INFORMATION TYPE	VARIABLE DESCRIPTION	FACILITY DESCRIPTION
	Location and name of relevant stream gauging stations above and below the facility	<p>Relevant stream gauging stations below the facility: USGS Gage No. 01091500 PISCATAQUOG RIVER NEAR GOFFSTOWN, NH</p> <p>Relevant stream gauging stations above the facility: USGS Gage No. 01091000 SOUTH BRANCH PISCATAQUOG RIVER NEAR GOFFSTOWN, NH</p> <p>Relevant stream gaging stations above the facility: USGS Gage No. 01090800 PISCATAQUOG RIVER BL EVERETT DAM (This upstream USGS gauge has been discontinued.)</p> <p>Although this gage is not on the Piscataquog River, the nearest downstream gage on the Merrimack is: 01092000 MERRIMACK R NR GOFFS FALLS, BELOW MANCHESTER, NH</p>
	Watershed area at the dam	193.1 square miles
	Number of zones of effect	2
Designated Zones of Effect	Upstream and downstream locations by river miles	<p>Impoundment: RM 7 to RM 6</p> <p>The powerhouse is integrated into the base of the concrete gravity dam (i.e. there is no bypassed reach of the river).</p> <p>Tailrace: RM 6 to RM 5.7</p>
	Type of waterbody (river, impoundment, bypassed reach, etc.)	The waters located within the Impoundment ZOE are classified as “Lake” by the USFWS National Wetlands Inventory (Classification code L1UBHb ¹⁰). The waters within the tailrace are classified as “Riverine” by the USFWS National Wetlands Inventory (Classification code R2UDH ¹¹) (USFWS 2016).

¹⁰ L1UBHb = Lacustrine (L), Limnetic (1), Unconsolidated Bottom (UB), Permanently Flooded (H), Diked/Impounded (h).

¹¹ R2UBH = Riverine (R), Lower Perennial (2), Unconsolidated Bottom (UB), Permanently Flooded (H)

INFORMATION TYPE	VARIABLE DESCRIPTION	FACILITY DESCRIPTION
	Delimiting structures	<p>Zone of Effect #1: Impoundment</p> <ul style="list-style-type: none"> The Project currently has a reservoir with a storage capacity of 3,650-acre-feet and an area of 136 acres. Normal maximum water surface elevation of the reservoir is 272.6 feet NGVD. The Project's impoundment extends from RM approximately 8.5 (where the Hadley Mills tailrace ends and becomes an impoundment) to RM 6.0 (the Project dam). <p>Zone of Effect #2: Tailrace</p> <ul style="list-style-type: none"> The Project's tailrace extends from RM 6.0 to RM 5.7 (about 1,600 ft.)
	Designated uses by state water quality agency	<p>The Piscataquog River Management Plan (2010) identifies that pursuant to RSA 483:7-a., Project waters are classified as Community River (impoundment) and Rural-Community River (downstream of the dam), both of which must meet Class B water quality standards. As such, the NHDES has designated the following beneficial uses for the Piscataquog River: Agricultural watering; Boating; Fishing; Aesthetic quality; Water contact recreation; Swimming; Wildlife habitat (including several endangered and threatened species); Fish nursery/fishery; Wetland support; Hydropower; Water storage.¹²</p>
	Names, addresses, phone numbers, and e-mail for local state and federal resource agencies	See Section 4 for the Project Contacts Form.
<i>Additional Contact Information:</i>	Names, addresses, phone numbers, and e-mail for local non-governmental stakeholders	See Section 4 for the Project Contacts Form.

¹² <https://www4.des.state.nh.us/blogs/rivers/wp-content/uploads/2010/12/2010-Piscataquog-River-Mnmt-Plan-Update.pdf> and <https://www.des.nh.gov/organization/divisions/water/wmb/rivers/documents/pisc-report.pdf>

INFORMATION TYPE	VARIABLE DESCRIPTION	FACILITY DESCRIPTION
	Photographs of key features of the facility and each of the designated zones of effect	Please see Figure 1-4 for key Project features and Figure 2-1 for Project Zones of Effect. See Appendix A for photographs of key features of the facility.
<i>Photographs of the Facility</i>	Maps, aerial photos, and/or plan view diagrams of facility area and river basin	Please see Figure 1-4 for key Project features and Figure 2-1 for Project Zones of Effect. See Appendix A for photographs of key features of the facility.



FIGURE 1-4 PROJECT FACILITY DETAILS

2.0 STANDARDS MATRICES

2.1 ZONE OF EFFECT: IMPOUNDMENT ZOE

CRITERION		ALTERNATIVE STANDARDS				
		1	2	3	4	PLUS
A	Ecological Flow Regimes	X				
B	Water Quality			X		
C	Upstream Fish Passage	X				
D	Downstream Fish Passage		X			
E	Watershed and Shoreline Protection			X		
F	Threatened and Endangered Species Protection	X				
G	Cultural and Historic Resources Protection	X				
H	Recreational Resources			X		X

2.2 ZONE OF EFFECT: TAILRACE ZOE

CRITERION		ALTERNATIVE STANDARDS				
		1	2	3	4	PLUS
A	Ecological Flow Regimes	X				
B	Water Quality			X		
C	Upstream Fish Passage		X			
D	Downstream Fish Passage	X				
E	Watershed and Shoreline Protection			X		
F	Threatened and Endangered Species Protection	X				
G	Cultural and Historic Resources Protection	X				
H	Recreational Resources			X		X

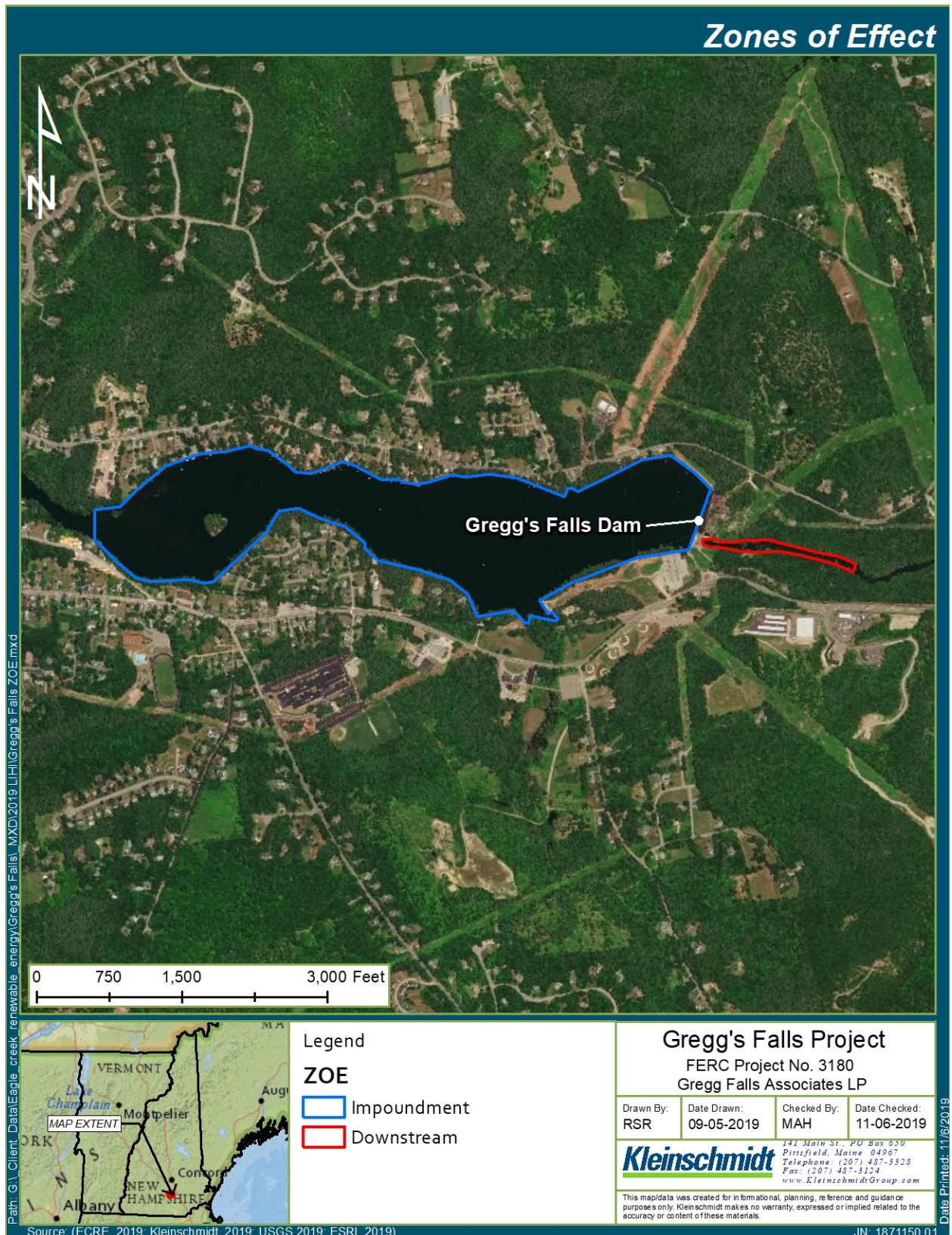


FIGURE 2-1 DESIGNATED ZONES OF EFFECT FOR THE PROJECT

3.0 SUPPORTING INFORMATION

3.1 ECOLOGICAL FLOW STANDARDS

3.1.1 ALL ZOES

CRITERION	STANDARD	INSTRUCTIONS
A	1	<p><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none">• Confirm the location of the powerhouse relative to other dam/diversion structures to establish that there are no bypassed reaches at the facility.• If Run-of-River operation, provide details on how flows, water levels, and operation are monitored to ensure such an operational mode is maintained.• In a conduit project, identify the water source and discharge points for the conduit system within which the hydropower plant is located.• For impoundment zones only, explain 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.

The powerhouse is integrated into the base of the concrete gravity dam (i.e. there is no bypassed reach of the river).

On July 21, 1983, the Commission issued an Order Granting Exemption from Licensing to the Gregg's Falls Project.¹³ Article 2 of the Exemption Order requires compliance with the terms and conditions specified by Federal and State Fish and Wildlife agencies. During the FERC exemption process, the U.S. Department of the Interior's (USDOI) Fish and Wildlife Service (USFWS) stated that the minimum flow recommended at the Gregg's Falls project, based on historical streamflow, would be 20 cfs. The controls of the generating units are set to allow the wicket gates to open to pass 20 cfs when the unit goes offline.

- On June 28, 1983, the USFWS requirement for the Project is to remain in run-of-river mode and maintain a minimum flow of 20 cfs.¹⁴

¹³ Order 24 FERC ¶ 62,076 is not available online or on FERC's eLibrary.

¹⁴ Although this document is not available electronically due to age, a 2003 FERC Inspection of the Project noted the Project was in compliance and no follow-up was needed on this requirement.
<https://elibrary.ferc.gov/IDMWS/common/opennat.asp?fileID=9618081>

- On April 9, 2013, while still under ownership of Algonquin Power, the Commission issued a letter acknowledging the receipt of the annual compliance report and determined that there is no license requirement for these annual statements to be filed with the Commission and the practice can be discontinued. However, compliance reports continued to be filed on behalf of Gregg Falls Hydroelectric Associates, LP for multiple years while awaiting confirmation of the request to discontinue reporting, and on March 4, 2016 a letter from the Commission confirmed that “there are no requirements for you to file these annual statements.”¹⁵ The compliance verification submittals have since been discontinued (2015 was the last year filed), however, Gregg Falls Hydroelectric Associates, LP still adheres to the requirement to file deviation notices, although none have occurred since the last LIHI certification.

On August 14, 2014, ECRE entered into a Memorandum of Agreement (MOA) with the USFWS to establish a plan and schedule for addressing fish passage and minimum flow issues. An interim extension of the MOA has been executed by both parties extending the term of the current MOA through March 31, 2020 (Appendix D).

- Under this MOA, ECRE is required, for the protection and enhancement of fish and aquatic habitat, to provide continuous minimum flows in the bypass reaches of the Project (this was a generic MOA relevant to all ECRE’s hydro projects; for the Gregg’s Falls project, MOA noted that minimum flows from the dam were likely not needed and they would verify the adequacy of flows below the dam in 2014). The February 2017 Revised and Approved MOA between Eagle Creek and the USFWS stated that in 2015 minimum flows were reviewed and found to be acceptable for the GFHP.
- Under the terms of the MOA, ECRE was to prepare and file for approval by the USFWS, an Operations and Flow Monitoring Plan for monitoring the run-of-river operation. The Operations and Flow Monitoring Plan was developed based upon a mutually agreeable schedule that allowed downstream fish passage facilities at certain New Hampshire Projects to first be placed into service. The Operations and Flow Monitoring Plan was prepared and submitted to USFWS and approved in 2017. It was then updated in December 2018. Eagle Creek recently received comments from agencies on the Plan in September 2019. The Operations and Flow Monitoring Plan will be updated based on further discussion with the agencies as Eagle Creek looks to extend this MOA.
- Minimum flow is released through the units or when the units are offline via wicket gate leakage and/or over the dam.

The project uses a PLC system to maintain pond level for run of river operations. The system operates within a two-inch band of pond level fluctuation and continually measures flow and level for adjustment. The operator is typically at the site for several hours each day and confirms run of river operations and minimum flow compliance. The Exemptee conducts drawdowns of Glen Lake each fall in cooperation with the NHDES. The lake is drawn down 1.5 feet to the crest of the dam via generation and the floodgates, as needed, depending on inflow. The current practice is once the impoundment is drawn down, the flashboards are removed and then replaced

¹⁵ <https://elibrary.ferc.gov/IDMWS/common/opennat.asp?fileID=14173631>

in the late spring, after river flows subside. Minimum flow and run of river operations are maintained at the drawdown elevation until the late spring when the flashboards are replaced, and normal operations resume. Ramping and refilling are conducted as outlined in Section 1.1. The drawdown schedule for Glen Lake, along with other lakes and ponds controlled by dams owned by NHDES, are posted on the NHDES website.¹⁶ NHDES notes that lake drawdowns are conducted each fall to reduce winter ice damage to shoreline properties and to reduce spring flooding. The drawdowns also give property owners an opportunity to conduct any necessary repairs to their waterfront property, provided they first secure a permit from the NHDES Wetlands Bureau.

In May 2017 Essex Hydro on behalf of the Exemptee provided NHDES with detailed information regarding the physical structure of the facility, minimum flows and pond fluctuations at the Gregg's Falls Hydroelectric Project.¹⁷ The Exemptee confirmed that the facility is operated as a run of river project and that the project does not draw down the impoundment or store water for purposes of power generation. Any pond level fluctuations are the result of operation of upstream hydroelectric projects, inflow that exceeds turbine capacity, or maintenance drawdowns. The Gregg's Falls Hydroelectric Project is required by the FERC and the MOA to maintain a minimum flow release of 20 cfs or inflow, whichever is less. Essex Hydro on behalf of the Exemptee provided NHDES with 5 years of their FERC minimum flow compliance reports. In a July 10, 2017 letter, NHDES confirmed that based on the current operation of the facility, current water quality standards, and water quality data provided, the GFHP is meeting water quality standards under the conditions during which the data was provided.

In September 2019, Kleinschmidt, on behalf of Gregg Falls Associates LP, consulted with state and federal agencies, requesting confirmation that the Gregg's Falls Project is operated in compliance with the conditions of the FERC license and operating plans/agreements. The USFWS response to the consultation letter, included in Appendix E, confirms compliance. Any further responses received in the interim will be included as part of the Final LIHI Certification Application.

¹⁶ <https://www.des.nh.gov/media/pr/2019/20190910-lakes-drawdown.htm>

¹⁷ From July 10, 2017 letter from NHDES (Ted Walsh) to LIHI.

3.2 WATER QUALITY STANDARDS

3.2.1 ALL ZOES

CRITERION	STANDARD	INSTRUCTIONS
B	3	<p><u>Site-Specific Monitoring Studies:</u></p> <ul style="list-style-type: none">• If facility is located on a Water Quality Limited river reach, provide a link to the state's most recent impaired waters list and indicate the page(s) therein that apply to facility waters. If possible, provide an agency letter stating that the facility is not a cause of such limitation.• Document consultation with appropriate water quality agency to determine what water quality parameters and sampling methods are required.• Present recent water quality data from the facility or from other sources in the vicinity of the facility (e.g., data collected from the state, watershed associations, or others who collected data under generally accepted sampling protocols and quality assurance procedures) and explain and demonstrate how it satisfies current applicable water quality standards including designated uses, or provide a letter from the appropriate state or other regulatory agency accepting the data.

The Piscataquog River's water quality is directly affected by the quality of each of the headwaters that feed the river. The headwaters of each of the three branches of the river is a lake: Deering Reservoir (North Branch), Pleasant Pond (South Branch), Haunted Lake (Middle Branch). These lakes and the entire length of the river are fed by numerous streams (NH DES 2010).¹⁸

The Piscataquog River is considered a Class B River, meeting drinking water standards that can be remedied with treatment and the recreational purposes of the river. The Piscataquog River is considered by the State of New Hampshire a "High Quality Surface Water" under Chapter Env-Wq 1700 (Surface Water Quality Regulations).¹⁹ The State of New Hampshire currently does not publish an official listing of "High Quality Surface Waters" for the state.

According to the NHDES's 303(d) list, the Piscataquog River at Goffstown and Manchester has an impairment for pH. The TMDL priority is categorized as "low." The impairment is marginal

¹⁸ <https://www4.des.state.nh.us/blogs/rivers/wp-content/uploads/2010/12/2010-Piscataquog-River-Mnmt-Plan-Update.pdf>

¹⁹ Env-Wq 1702.24 "High quality surface waters" means all surface waters whose water quality is better than required by any aquatic life and/or human health water quality criteria contained in these rules or other criteria assigned to the surface water, or whose qualities and characteristics make them critical to the propagation or survival of important living natural resources. <https://www.epa.gov/sites/production/files/2014-12/documents/nh-chapter1700.pdf>

as defined in DES sub-category 4A-M above.²⁰

- Per 24 FERC ¶ 62,076 Order Granting Exemption from Licensing of a Small Hydroelectric Project of 5 MW or Less (July 21, 1983), the Project is exempted from all of the requirements of Part I of the Federal Power Act, including licensing. FERC does not require a 401 Water Quality Certification before acting on an exemption application. The Federal Power Act subjects FERC exempt projects only to the terms and conditions attached to the exemption [16 U.S.C § 823a\(c\)](#). Nevertheless, certain states may still require a 401 Water Quality Certification for FERC exempted projects as a term or condition to the exemption.²¹
- A Water Quality Certificate was not issued for the project. In 2013, Essex Hydro on behalf of the Exemptee worked with the NHDES to develop a water quality monitoring program to confirm that the facility area and downstream reach are in compliance with state standards.
 - A water-sampling program of the Piscataquog River was completed in September 2013 following NHDES's sampling protocol created for the project to the extent possible. Due to environmental conditions, flows in the Piscataquog River never fell to the 3X7Q10 value of 26.4 cfs required by NHDES in order to monitor dissolved oxygen content and malfunction of the data logger also occurred compromising some data accuracy. Thus the 2013 sampling program was incomplete.
 - In June 2015, NHDES stated that the hydropower operation was likely not affecting the phosphorus levels in the area, and phosphorous levels could be due to upstream source(s). NHDES also stated that DO sampling, additional rounds of chlorophyll-a sampling, as well as pH and conductivity monitoring, should also be collected to confirm standard compliance for both the impoundment and downstream reach. The Exemptee agreed to conduct follow-up sampling to obtain data found to be incomplete during the 2013 sampling program. The Exemptee completed sampling in May 2015.
 - In this same 2015 communication, NHDES also confirmed that the upstream sources are the cause of the impairment state of the lake for total phosphorous, not the Gregg's Falls Project itself.

A 2017 letter to LIHI from the NHDES Watershed Management Bureau stated that “based on the current operation of the facility, current water quality standards, water quality data information provided to NHDES by EHA, the Piscataquog River immediately upstream and downstream of the Gregg's Falls Hydroelectric Project is meeting water quality standards under the conditions during which the data was collected.”

²⁰ “Appendix A.1- 2018, 303(d) List, (see lines 1809 and 1813)
<https://www.des.nh.gov/organization/divisions/water/wmb/swqa/2018/index.htm>

²¹ If the state requires a certification, typically the developer or licensee would have requested a water certification early on in the FERC exemption process per 16 U.S.C § 823a(c)

In September 2019, Kleinschmidt, on behalf of Gregg Falls Associates LP, consulted with state and federal agencies, requesting confirmation that the Gregg's Falls Project is operated in compliance with the conditions of the FERC license and operating plans/agreements. Any further responses, other than those received to date and included as Appendix E, will be added to the Final LIHI Certification Application. As of December 16, 2019, no responses have been received.

3.3 UPSTREAM FISH PASSAGE STANDARDS

3.3.1 IMPOUNDMENT

CRITERION	STANDARD	INSTRUCTIONS
C	1	<p><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none">• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone. Typically, impoundment zones will qualify for this standard since once above a dam and in an impoundment, there is no facility barrier to further upstream movement.• 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 or was not the cause of this.

On July 21, 1983, the Commission issued an Order Granting Exemption from Licensing to the Gregg's Falls project. Standard Article 2 of the Exemption Order requires compliance with the terms and conditions specified by Federal and State Fish and Wildlife agencies.²² During the FERC exemption process, the U.S. Department of the Interior's Fish and Wildlife Service provided agency recommendations on fish passage measures. On June 28, 1983, the U.S. Department of the Interior (USDOl) required the Project to operate downstream fish passage facilities specific for passing salmon smolts from April 15 to May 15 each year.²³

No upstream passage has been required at the Project to date. In addition, there is no upstream fish passage at Kelley's Falls Hydropower Project, the next dam downstream of Gregg's Falls (see below). Once above the dam, there is no facility barrier to further upstream movement.

See additional Project information below.

²² Order 24 FERC ¶ 62,076 is not available online or on FERC's eLibrary.

²³ A 2003 FERC Inspection of the Project noted the Project was in compliance and no follow-up was needed on this requirement. <https://elibrary.ferc.gov/IDMWS/common/opennat.asp?fileID=9618081>

3.3.2 TAILRACE

CRITERION	STANDARD	INSTRUCTIONS
C	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none">• 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).• 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.• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented.

On July 21, 1983, the Commission issued an Order Granting Exemption from Licensing to the Gregg's Falls project. Standard Article 2 of the Exemption Order requires compliance with the terms and conditions specified by Federal and State Fish and Wildlife agencies.²⁴ During the FERC exemption process, the U.S. Department of the Interior's Fish and Wildlife Service provided agency recommendations on fish passage measures. On June 28, 1983, the U.S. Department of the Interior (USDOl) required the Project to operate downstream fish passage facilities specific for passing salmon smolts from April 15 to May 15 each year.²⁵

No upstream passage has been required at the Project to date. In addition, there is no upstream fish passage at Kelley's Falls Hydropower Project, the next dam downstream of Gregg's Falls (see below).

The Gregg's Falls Project is in compliance with the requirements of the MOA between the USFWS and NHF&G. No upstream passage is currently required at the Project. Separate from KA consultation with resource agencies as summarized below, to date, The Exemptee has not been asked by any agency to install upstream passage facilities at the site, and upstream passage will be reviewed in 2020 per the terms of the MOA.

In September 2019, Kleinschmidt, on behalf of Gregg Falls Associates LP, consulted with state and federal agencies, requesting confirmation that the Gregg's Falls Project is operated in compliance with the conditions of the FERC license and operating plans/agreements.

On October 2, 2019, the USFWS stated that "according to the New Hampshire Fish and Game Department (NHF&G), American eel are present upstream, and downstream, of the Project." The

²⁴ Order 24 FERC ¶ 62,076 is not available online or on FERC's eLibrary.

²⁵ A 2003 FERC Inspection of the Project noted the Project was in compliance and no follow-up was needed on this requirement. <https://elibrary.ferc.gov/IDMWS/common/opennat.asp?fileID=9618081>

Service recommends that any LIHI recertification requires ECRE to conduct an upstream eel passage siting survey within the project boundary to determine areas of eel concentration so that a permanent upstream passage facility (or facilities) can be properly sited.

Additionally, while Gregg's Falls does not currently have anadromous passage measures, such measures may be needed in the future. The Service intends to prescribe anadromous fish passage facilities at Kelley's Falls Hydroelectric Dam (FERC No. 3025), the dam downstream of Gregg's Falls, in the context of relicensing, and there has been continued improvement of upstream and downstream anadromous facilities at projects located along the Merrimack River. Therefore, as part of this LIHI recertification process, the Service would like a commitment from ECRE to implement alosine passage measures, if necessary, in the future. Those measures would likely include an upstream fish passage facility and downstream passage measures. Implementation would require consultation with, and approval of, facilities by the Service and passage measures implemented within three years after notification.

Kelley's Falls is currently undergoing relicensing, and is due to receive a new license in 2024. Fish passage at Gregg's Falls is currently being addressed with USFWS through the MOA, which has been extended through March 2020, and any LIHI conditions would be expected to be directed towards the MOA, rather than the specific requirements for fish passage. In addition, it is likely that Kelley's Falls will not have fish passage until two to three years after relicensing (2026 or 2027) and therefore, this current Gregg's Falls LIHI certification window (5 years) falls outside of the Kelley's Falls fish passage implementation timeline.

Migratory species historically present in the Piscataquog River include, alewife, American Shad, blueback herring, Atlantic salmon, and American eel. Currently, due to downstream barriers, only American eel can potentially migrate upstream to the Gregg's Falls facility. As available from downstream trapping operations, American shad are afforded access to upstream portions of the river through stocking programs managed by resource agencies.

There is on-going restoration work to improve upstream and downstream for diadromous fish species that historically occupied the Merrimack River (downstream of the Gregg's Falls Project), including sea-run alewives, American shad, and American eel (2019). There are no formal, final restoration plans or management plans for river herring or American eels in the Merrimack River (2019). Atlantic salmon occurred historically in the Merrimack River watershed; however, the USFWS terminated Atlantic salmon restoration efforts for the Merrimack River in 2013 due to a lack of funds and a change in management direction (2019).²⁶

²⁶ <https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=15213061>

3.4 DOWNSTREAM FISH PASSAGE AND PROTECTION STANDARDS

3.4.1 IMPOUNDMENT

CRITERION	STANDARD	INSTRUCTIONS
D	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none">• 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 stringent).• 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.• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented.

On July 21, 1983, the Commission issued an Order Granting Exemption from Licensing to the Gregg's Falls project. Standard Article 2 of the Exemption Order requires compliance with the terms and conditions specified by Federal and State Fish and Wildlife agencies.²⁷ During the FERC exemption process, the U.S. Department of the Interior's Fish and Wildlife Service provided agency recommendations on fish passage measures. On June 28, 1983, the U.S. Department of the Interior (USDOI) required the Project to operate downstream fish passage facilities specific for passing salmon smolts from April 15 to May 15 each year.²⁸

In a letter dated August 27, 2014, NHF&G stated their concurrence with the recommendations and proposed actions under the MOA.²⁹ This MOA contains provisions for downstream eel passage measures at Greggs Falls within 48 months of notification issued by either USFWS or NHF&G. As of the execution of the intern extension of the MOA, no notification has been issued.³⁰

The Gregg's Falls project had fully operational downstream passage facilities for salmon smolt until July of 2016 which consisted of a salmon smolt bypass pipe that allowed 20 cfs to be conveyed into the tailrace. Fish passage was opened commencing April 1 through June 1 each calendar year as required by NHF&G and NHDES. Based on consultation with the USFWS and NH&FG during development of the MOA, the agencies recommended that the existing salmon

²⁷ Order 24 FERC ¶ 62,076 is not available online or on FERC's eLibrary.

²⁸ A 2003 FERC Inspection of the Project noted the Project was in compliance and no follow-up was needed on this requirement. <https://elibrary.ferc.gov/IDMWS/common/opennat.asp?fileID=9618081>

²⁹ <https://lowimpacthydro.org/wp-content/uploads/2015/01/NH-Fish-and-Game-Approval-20140827.pdf>

³⁰ <https://lowimpacthydro.org/wp-content/uploads/2015/01/eagle-creek-moa-appendix-A.pdf>

smolt downstream passage at Gregg's Falls be discontinued as salmon are no longer stocked upstream. The use of this fishway was discontinued in July 2016.

A 2017 letter to LIHI from the NHDES Watershed Management Bureau stated that:

“The MOA signed in 2014 also addresses the issue of fish passage at the Gregg Falls Hydroelectric Project. ECRE and the USFWS have agreed to a schedule for implementing downstream fish passage enhancements to specifically target American eel and river herring. The proposed enhancements will consist of exclusion and safe and effective downstream passage of river herring and American eel or seasonal project shutdown of turbines, combined with safe egress routes. The parties have agreed to review upstream fish passage issues in 2020.

Per the MOA, ECRE agrees to construct, operate and maintain downstream fish bypass passage facilities for adults and juvenile river herring in all years when river herring have been stocked upstream of the project. The downstream fish passage measures for downstream river herring passage may be the same as measures implemented for American eel. The downstream passage facilities will consist of measures to protect downstream river herring from impingement and/or entrapment as well as bypass facilities to assist fish in moving safely past the projects. For all proposed structural fish passage measures, ECRE will provide the USFWS with functional design drawings of the proposed changes for its review and approval.”

Further, in September 2019, Kleinschmidt, on behalf of Gregg Falls Associates LP, consulted with state and federal agencies, requesting confirmation that the Gregg's Falls Project is operated in compliance with the conditions of the FERC license and operating plans/agreements.

On October 2, 2019, the USFWS stated that “according to the New Hampshire Fish and Game Department (NHFGD), American eel are present upstream, and downstream, of the Project.” The Service recommends that any LIHI recertification recommends ECRE “develop changes to project structures or operation, in consultation with the natural resource agencies, to protect downstream migrating eels. Potential changes may include performing nighttime shutdowns during the adult American eel egress period or installing narrower trashracks that exclude migratory and resident fish from becoming entrained. Either alternative would necessitate operation of a fish bypass with an adequate fish bypass flow to provide a safe egress route past the Project.” This letter can be found in Appendix E.

Additionally, while Gregg's Falls does not currently have anadromous passage measures, such measures may be needed in the future. The Service intends to prescribe anadromous fish passage facilities at Kelley's Falls Hydroelectric Dam (FERC No. 3025), the dam downstream of Gregg's Falls, in the context of relicensing, and there has been continued improvement of upstream and downstream anadromous facilities at projects located along the Merrimack River. Therefore, as part of this LIHI recertification process, the Service would like a commitment from ECRE to implement alosine passage measures, if necessary, in the future. Those measures would likely include an upstream fish passage facility and downstream passage measures. Implementation

would require consultation with, and approval of, facilities by the Service and passage measures implemented within three years after notification.

Kelley's Falls is currently undergoing relicensing, and is due to receive a new license in 2024. Fish passage at Gregg's Falls is currently being addressed with USFWS through the MOA, and any LIHI conditions would be expected to be directed towards the MOA, rather than the specific requirements of passage. In addition, it is likely that Kelley's Falls will not have fish passage until two to three years after relicensing (2026 or 2027) and therefore, this current Gregg's Falls LIHI certification window (5 years) falls outside of the Kelley's Falls fish passage implementation timeline.

The Southern New Hampshire Planning Commission (2010)³¹ described the Piscataquog River fisheries assemblage as being composed of 24 native, non-native, game, and non-game fish species:

Alewife (<i>Alosa pseudoharengus</i>)	Perch, yellow (<i>Perca flavescens</i>)
Bass, largemouth (<i>Micropterus salmoides</i>)	Perch, white (<i>Morone americana</i>)
Bass, smallmouth (<i>Micropterus dolomieu</i>)	Pickerel, chain (<i>Esox niger</i>)
Bluegill (<i>Lepomis macrochirus</i>)	Pumpkinseed (<i>Lepomis gibbosus</i>)
Bullhead, brown (<i>Ameiurus nebulosus</i>)	Salmon, Atlantic (<i>Salmo salar</i>)
Bullhead, yellow (<i>Ameiurus natalis</i>)	Sculpin, slimy (<i>Cottus cognatus</i>)
Carp (<i>Cyprinus carpio</i>)	Shiner, bridle (<i>Notropis bifrenatus</i>)
Chub, creek (<i>Semotilus atromaculatus</i>)	Shiner, common (<i>Luxilus cornutus</i>)
Chubsucker, creek (<i>Erimyzon oblongus</i>)	Shiner, golden (<i>Notemigonus crysoleucas</i>)
Dace, blacknose (<i>Rhinichthys atratulus</i>)	Shiner, spottail (<i>Notropis hudsonius</i>)
Dace, longnose (<i>Rhinichthys cataractae</i>)	Sucker, white (<i>Catostomus commersoni</i>)
Eel, American (<i>Anguilla rostrata</i>)	Sunfish, redbreast (<i>Lepomis auritus</i>)
Fallfish (<i>Semotilus corporalis</i>)	Trout, brook (<i>Salvelinus fontinalis</i>)
Madtom, margined (<i>Noturus insignis</i>)	Trout, brown (<i>Salmo trutta</i>)
	Trout, rainbow (<i>Oncorhynchus mykiss</i>)

With the exception of alewife and Atlantic salmon, these species are considered non-migratory in that they do not require migration to and from seawaters to complete their lifecycles.

3.4.1 TAILRACE

CRITERION	STANDARD	INSTRUCTIONS
D	1	<p><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none">• Explain why the facility does not impose a barrier to downstream fish passage in the designated zone, 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 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 does not contribute adversely to the sustainability of these populations or to their access to habitat necessary for successful completion of their life cycles.• 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 or was not the cause of this.

See information provided above.

3.5 SHORELINE AND WATERSHED PROTECTION STANDARDS

3.5.1 ALL ZOES

CRITERION	STANDARD	INSTRUCTIONS
E	3	<p><u>Enforceable Protection:</u></p> <ul style="list-style-type: none">• Demonstrate that there is an approved and enforceable shoreline buffer or equivalent watershed protection plan in place for conservation purposes, including buffered shoreline along river corridors.• In lieu of an existing shore land protection plan, provide documentation that the facility commits to protect and not develop an equivalent land area for conservation purposes as a condition of LIHI Certification, with such commitment to be in effect for the duration of LIHI Certification.

- The FERC license exemption does not include a requirement for a Shoreline Management Plan.
- For 22 years the Piscataquog Watershed Association, the Society for the Protection of New Hampshire Forests, the New England Forestry Foundation, the Audubon Society of New Hampshire, river towns, state agencies and dozens of private landowners and river stewards have worked to protect the watershed acres of the Piscataquog River. As a result, 4,356 acres of land along the river are protected as well as 85% of the open space within the Piscataquog Watershed.
 - The Rivers Management and Protection Program Act was passed by the General Court in the State of New Hampshire in 1988. In 1993, the New Hampshire Department of Environmental Services nominated the Piscataquog River for protection status. The area around the Gregg's Falls dam was included within the New Hampshire Rivers Management and Protection Program. Specifically, two portions within the Project Boundary were nominated:
 - (1) from the "confluence with the North Branch to Route 114 in Goffstown, and from below the Gregg's Dam in Goffstown to the river's mouth at Bass Island in Manchester." The section of river within the Gregg's Falls Dam area was nominated as a "rural-community" river, and
 - (2) from Route 114 in Goffstown to, and including, the Gregg's Falls Dam in Goffstown, generally including the impoundment.

Additionally, the section of the river within the Gregg's Falls Dam area was also nominated as a "community" river under the Rivers Management and

Protection Program. These rivers are classified as rivers that “flow through developed or populated areas of the state and which possess existing or potential community resource values, such as those identified in official municipal plans or land use controls. Such rivers have mixed land uses in the corridor reflecting some combination of open space, agricultural, residential, commercial and industrial land uses. Such rivers are readily accessible by road or railroad, may include existing impoundments or diversions, or potential sites for new impoundments or diversions for hydropower, flood control or water supply purposes, and may include the urban centers for municipalities.”³²

- Much of the land around the river is open to the public and used for recreational and educational purposes. Forest tracts around the river are managed for timber harvesting.³³ The surrounding forest contains second and third growth vegetation. During the high-water season, the river is frequently used for canoeing, kayaking, and fishing. The Piscataquog contains high ecological value (it is free-flowing for 95% of its length). Many high-quality headwater wetlands are within the Piscataquog River corridor, particularly in the towns of New Boston, Frankestown, Greenfield, and Lyndeborough. All of these towns are located southwest of the Project, with New Boston being the closest, approximately seven miles away, and the remainder of these towns being between 14 and 19 miles southwest of the Project. In addition, much of the area around the Piscataquog River is protected by the Shoreland Water Quality Act. Many acres of land surrounding the river are classified as “waterfront buffer” and “natural woodland buffer.” In spite of this, with no FERC requirement for a Shoreline Protection Management Plan, the Gregg Falls Associates LP is not responsible for any specific shoreline protections.
- Land cover types can be seen in Figure 3-1 below.

³² <https://www.des.nh.gov/organization/divisions/water/wmb/rivers/documents/pisc-report.pdf>

³³ <https://www.des.nh.gov/organization/divisions/water/wmb/rivers/documents/pisc-report.pdf>

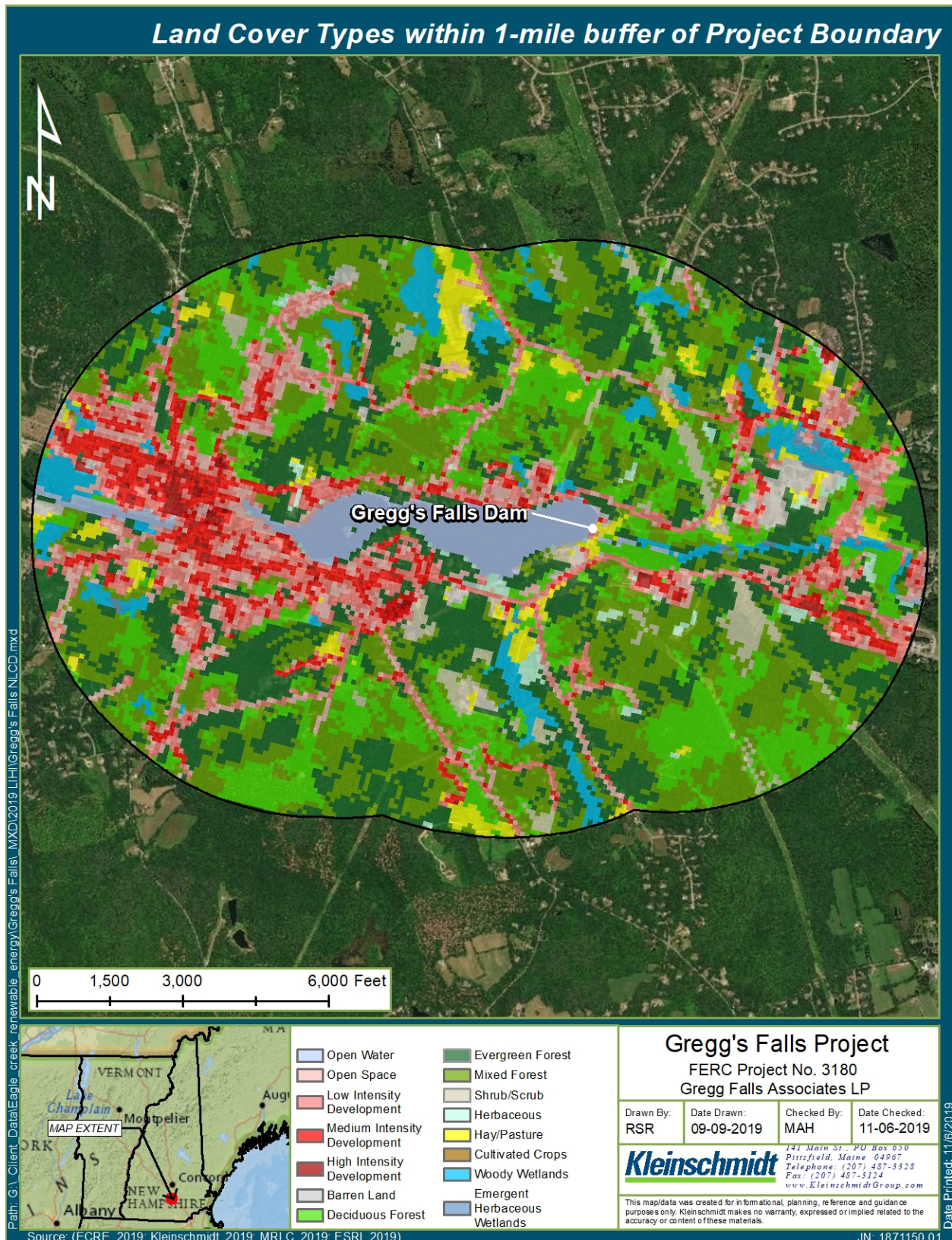


FIGURE 3-1 LAND USE CLASSIFICATIONS IN PROJECT AREA

3.6 THREATENED AND ENDANGERED SPECIES STANDARDS

3.6.1 ALL ZOEES

CRITERION	STANDARD	INSTRUCTIONS
F	1	<p><u>Not Applicable/ De Minimis:</u></p> <ul style="list-style-type: none">• Document that there are no listed species in the facility area or affected riverine zones downstream of the facility.• If listed species are known to have existing in the facility area in the past but are not current present, explain why the facility was not the cause of the extirpation of such species.• If the facility is making significant efforts to reintroduce an extirpated species, describe the actions that are being taken.







On August 14, 2014, ECRE entered into a Memorandum of Agreement (MOA) (Appendix D) with the USFWS to establish a plan and schedule for addressing fish passage and minimum flow issues. In this MOA, the USFWS acknowledged that there are no Federally listed or proposed endangered or threatened species under the USFWS's jurisdiction that are known to exist in the Project's impact area. In addition, no habitat in the Project's impacts area is currently designated or proposed "critical habitat" in accordance with the Endangered Species Act.





On August 16, 2019, an Information for Planning and Consultation (IPaC) report was generated from the USFWS online project planning tool to confirm threatened and endangered species in the Project facility area. Two species may potentially have habitat in the Project facility area:

- The Northern Long-eared Bat (*Myotis septentrionalis*), which is listed as Threatened. The northern long-eared bat (NLEB) was listed as a federally threatened species under the ESA on May 4, 2015 and is also a species of special concern in New Hampshire.
 - The facility abides by the 4(d) Ruling for the NLEB.
- The Small Whorled Pogonia (*Istoria medeoloides*), which is listed as Threatened. The largest known population of this species is found in Central NH and Maine.

Rare, threatened or "special attention" plant species found in the Piscataquog River basin are outlined below in Table 3-1 (below):

TABLE 3-1 RARE OR THREATENED PLANT SPECIES FOUND IN PISCATAQUOG RIVER BASIN

COMMON NAME	SCIENTIFIC NAME	IMAGE	SPECIAL STATUS
Small Whorled Pogonia	<i>Istoria medeoloides</i>		Threatened
Sessile-fruited Arrowhead	<i>Sagittaria rigida</i>		Rare
American Cancerroot	<i>Conopholis americana</i>		Rare
Sweet Coltsfoot	<i>Petasites frigidus</i> var. <i>palmatus</i>		Rare
Farwell's Water Milfoil	<i>Myriophyllum farwellii</i>		Rare
Fern-leaved False Foxglove	<i>Aureolaria Pedicularia</i> var. <i>intercendens</i>		Rare

COMMON NAME	SCIENTIFIC NAME	IMAGE	SPECIAL STATUS
Gall-of-The-Earth	<i>Nabalus serpentarius</i>		Special Status
One-sided Rush	<i>Juncus secundus</i>		Special Status
Piled-up Sedge	<i>Carex cumulata</i>		Special Status
Slender Crabgrass	<i>Digitaria filiformis</i>		Special Status

Source: Piscataquog River Report to the General Court 1993

Additionally, according to the Piscataquog River Management plan, the river area may provide ideal habitat for the endangered New England cottontail (*Sylvilagus transitionalis*). Additionally, the Piscataquog River Management Plan notes that the following listed (includes Threatened and Endangered NH Status) reptiles have been found in the river's watershed:

- Eastern hognose (*Heterodon platirhinos*)- endangered (state)
- Northern black racer (*Coluber constrictor*)- threatened (state)
- Blanding's turtle (*Emydoidea blandingii*)- endangered
- Spotted turtle (*Clemmys guttata*)- protected (state)

There is no critical habitat in this location.

The IPaC report also listed six (6) migratory birds protected under the Migratory Bird Treaty Act, and the Bald and Golden Eagle Protection Act. The birds listed below are birds of particular concern because they are either a Bird of Conservation Concern or may warrant special protections in the project area.

- Bald Eagle (*Haliaeetus leucocephalus*)
- Black-billed Cuckoo (*Coccyzus erythrophthalmus*)
- Bobolink (*Dolichonyx orzyivorous*)
- Prairie Warbler (*Dendroica discolor*)
- Snowy Owl (*Bubo scandiacus*) and
- Wood Thrush (*Hylocichla mustelina*)

Although these species of migratory birds may be present in the Project vicinity, there are no provisions or management plans required of the Exemptee with regard to species protection. The Project complies with all provisions under the Migratory Bird Treaty Act, and the Bald and Golden Eagle Protection Act.

According to the 2015 New Hampshire Fish and Game Department Wildlife Action Plan³⁴, the State of New Hampshire does list two species listed as endangered or a Species of Special Concern:

- Brook Floater Mussel (*Alasmodonta varicose*)³⁵ is endangered, and
- Wood Turtle (*Glyptemys insculpta*)³⁶, is a state Species of Special Concern.

Both species are reported in the Project vicinity, however, a recovery plan for the Brook Floater Mussel has not been developed. There is no habitat management being conducted for the wood turtle by NHF&G. Neither a Biological Opinion or Incidental Take Permit have been issued for the Gregg's Falls Project. While both of the species were listed at the time the MOA was signed, which was endorsed by NHF&G, it was assumed that that run-of-river operational mode of the Gregg's Falls Project was appropriate to protect the state-listed species. As such, the Gregg's Falls Project operations do not affect these species as noted below.

In September 2019, Kleinschmidt, on behalf of Gregg Falls Associates LP, consulted with state and federal agencies, requesting confirmation that the Gregg's Falls Project is operated in compliance with the conditions of the FERC license and operating plans/agreements. As of December 16, 2019, responses from New Hampshire Fish and Game Department have not been received, but will be provided to LIHI at a later time if they are received after submittal of the application.

On November 20, 2019, a New Hampshire Natural Heritage Bureau data request was submitted. The report is attached in Appendix E.

³⁴ <https://wildlife.state.nh.us/wildlife/wap.html>

³⁵ Brook floaters are strictly riverine species inhabiting clean and well-oxygenated small streams to large rivers with high to moderate flows. <https://www.wildlife.state.nh.us/wildlife/profiles/wap/mussel-brookfloater.pdf>

³⁶ Wood turtles are associated with rivers and streams with hard sand or gravel substrate, but make extensive use of surrounding uplands during the summer. <https://www.wildlife.state.nh.us/wildlife/profiles/wap/reptile-woodturtle.pdf>

3.7 CULTURAL AND HISTORIC RESOURCES STANDARDS

3.7.1 ALL ZOEES

CRITERION	STANDARD	INSTRUCTIONS
G	1	<p><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none">• Document that there are no cultural or historic resources located on facility lands that can be affected by construction or operations of the facility.• Document that the facility construction and operation have not in the past adversely affected any cultural or historic resources that are present on facility lands.

During the relicensing process, no known sites of historic or archeological importance were discovered in the Gregg's Falls project area. FERC did not require the original exemptee to develop a cultural resource management plan.

No cultural (historical or archaeological resources) are expected to be impacted by Project operations, based on a September 30, 2013 response to a Request for Project Review received from the New Hampshire Division of Historical Resources (NHDHR). However, in this response, NHDHR has required that cultural resources surveys will need to be conducted if any site alterations are planned. No such alteration have occurred or are planned that would trigger consultation with NHDHR.

On September 10, 2019, Kleinschmidt Associates, on behalf of Gregg Falls Associates LP, requested an evaluation by the NHDHR to concur with their 2013 opinion. On September 23, 2019, NHDHR reviewed the project information and concurred that the project is an unevaluated resource. NHDHR stated that "if in the future, plans involve alterations to the facility, including ground disturbing activity, surveys may be required." The Exemptee does not have any known plans to make alternations to the facility or conduct any ground disturbing activity that would merit consultation with the NHDHR (Appendix E).

3.8 RECREATIONAL RESOURCES STANDARDS

3.8.1 ALL ZOES

CRITERION	STANDARD	INSTRUCTIONS
H	3	<p><u>Assured Accessibility:</u></p> <ul style="list-style-type: none">• In lieu of existing recommendations and plans for recreational uses, document the facility's current and future commitment to accommodate reasonable requests from recreation interests for adequate public access for recreational use of lands and waters of the facility, including appropriate recreational water flows and levels, without fees or charges.

Recreational facilities were not included as a requirement in the Project's FERC exemption issued July 21, 1983 and amended December 1, 1998. The Exemptee allows recreational access free of charge within a safe distance of the project works. The Exemptee maintains a stone stairway down the embankment to allow shoreline access for various recreational activities including tailrace fishing (Photo 5-10).

The Exemptee is not required to maintain recreation sites in the project area, nor does the Project have a Recreation Resources Management Plan. In lieu of an existing recreation management plan, the Exemptee is committed to accommodating reasonable access from recreationists for use of the project lands and waters of the facility without fees or charges.

- A boat launch and parking lot located on Glen Lake is maintained by the Town of Goffstown. This is a well-used, well-developed boat ramp (Photo 5-11). Extensive boating occurs within the project impoundment and, throughout Glen Lake, as well as, below the project tailrace
- Boating, waterskiing, and other boat-related recreation are permitted on the Piscataquog River and on Glen Lake
- Fishing is popular on the Piscataquog River, including Glen Lake and the Project tailrace. Both angling and fly fishing are permitted. The river has coldwater and warmwater species, but it is managed as a cold-water fishery.

The Exemptee conducts annual drawdowns of Glen Lake in the fall in cooperation with the NHDES (please see Ecological Flows Standard in Section 3.1). As noted on the NHDES website³⁷, at Glen Lake / Greggs Falls, the drawdown will be initiated or accelerated on a specific Saturday in October to provide recreational opportunities for canoeists and kayakers in the river below the dam. The release at Greggs Falls was completed this year on October 26th.

In September 2019, Kleinschmidt, on behalf Gregg Falls Associates LP, consulted with state and federal agencies, requesting confirmation that the Gregg's Falls Project is operated in compliance with the conditions of the FERC license and operating plans/agreements. As of

³⁷ <https://www.des.nh.gov/media/pr/2019/20190910-lakes-drawdown.htm>

December 16, 2019, no responses related to the recreation standard have been received, however, any responses will be included as part of the Final LIHI Certification Application.

3.8.2 H-PLUS

3.8.2.1 ALL ZOES

CRITERION	STANDARD	INSTRUCTIONS
H	PLUS	<u>Bonus Activities:</u> <ul style="list-style-type: none">• Document any new public recreational opportunities that have been created on facility lands or waters beyond those required by agencies (e.g., campgrounds, whitewater park, boating access facilities and trails).• Document that such new recreational opportunities did not create unmitigated impacts to other resources.

Recreational facilities were not included as a requirement in the Project's FERC exemption issued July 21, 1983 and amended December 1, 1998. The Exemptee allows recreational access free of charge within a safe distance of the project works.

The Exemptee conducts seasonal drawdowns annually at Glen Lake in the fall in cooperation with the NHDES so that they may benefit the paddling community, reduce winter damage, and give property owners the opportunities to conduct necessary repairs on shoreline properties. The Exemptee, in coordination with the NHDES, schedules the drawdown release with input from the local paddling community. Project Operators coordinate with the local kayaking group on a convenient time and release date to ensure there are not conflicting events. Operators also coordinate with NHDES on the specifics of the drawdown. These actions are not a requirement of the MOA or any other exemption requirement. These actions are voluntary. The NHDES posts the date of the drawdown on their website.³⁸

The Exemptee and NHDES have made commitments to the paddling community to conduct the drawdown on weekends instead of weekdays in order to facilitate the Annual Piscataquog Dam Release in Goffstown (typically scheduled in later October).³⁹ This year's Annual Piscataquog Dam Release in Goffstown was on Saturday, October 26, 2019.⁴⁰ The reservoir was dropped 1.5 feet of depth from the normal maximum elevation as noted in the 2019 NHDES Fall Drawdown of Lakes press release issued September 10, 2019. These further actions are not a requirement of the MOA or any other exemption requirement. These actions are voluntary.

The rock staircase (Photo 5-10) mentioned above in Section 3.8.1, is maintained by Gregg Falls Associates LP and allows anglers and paddlers access to the tailrace and river. Gregg Falls Associates LP maintains this stairway on a voluntary basis as it is not a requirement of the MOA or any other exemption requirement.

The whitewater and paddling activities noted above have been part of the community for several years, and are done in coordination with the NHDES. These recreational activities do not impact other resources.

³⁸ <https://www.des.nh.gov/media/pr/2019/20190910-lakes-drawdown.htm>

³⁹ <https://www.americanwhitewater.org/content/River/detail/id/3600/>

⁴⁰ <https://activities.outdoors.org/search/index.cfm/action/details/id/115679>

4.0 FACILITY CONTACTS FORM

1. All applications for LIHI Certification must include complete contact information to be reviewed.

Project Owner:	
Name and Title	Robert Gates, Vice President
Company	Gregg Falls Hydroelectric Associates, LP
Phone	973-998-8403
Email Address	Bob.Gates@eaglecreekre.com
Mailing Address	65 Madison Avenue, Suite 500, Morristown, NJ 07960
Consulting Firm / Agent for LIHI Program (if different from above):	
Name and Title	Andy Qua and Nuria Holmes
Company	Kleinschmidt Associates
Phone	207-487-3328 (Andy) or 971-266-5395 (Nuria)
Email Address	Andrew.Qua@KleinschmidtGroup.com Nuria.Holmes@KleinschmidtGroup.com
Mailing Address	P.O. Box 650, Pittsfield, ME 04967
Compliance Contact (responsible for LIHI Program requirements):	
Name and Title	Robert Gates, Vice President
Company	Gregg Falls Hydroelectric Associates, LP
Phone	973-998-8403
Email Address	Bob.Gates@eaglecreekre.com
Mailing Address	65 Madison Avenue, Suite 500, Morristown, NJ 07960
Party responsible for accounts payable:	
Name and Title	Robert Gates, Vice President
Company	Gregg Falls Hydroelectric Associates, LP
Phone	973-998-8403
Email Address	Bob.Gates@eaglecreekre.com
Mailing Address	65 Madison Avenue, Suite 500, Morristown, NJ 07960

2. Applicant must identify the most current and relevant state, federal, provincial, and tribal resource agency contacts (copy and repeat the following table as needed).

Agency Contact (Check area of responsibility: Flows <u>X</u> , Water Quality __, Fish/Wildlife Resources <u>X</u> , Watersheds <u>X</u> , T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Agency Name	United States Fish and Wildlife Service (USFWS)
Name and Title	Julianne Rosset; Fish & Wildlife Biologist
Phone	603-227-6436
Email address	julianne_rosset@fws.gov
Mailing Address	USFWS New England Field Office 70 Commercial Street, Suite 300 Concord, NH 03301
Agency Contact (Check area of responsibility: Flows <u>X</u> , Water Quality <u>X</u> , Fish/Wildlife Resources __, Watersheds <u>X</u> , T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Agency Name	New Hampshire Department of Environmental Services (NHDES)
Name and Title	Gregg Comstock, P.E.; Supervisor, Water Quality Planning Section
Phone	603-271-2983
Email address	gregg.comstock@des.nh.gov
Mailing Address	NH Department of Environmental Services 29 Hazen Drive, P.O. Box 95 Concord, NH 03302-0095
Agency Contact (Check area of responsibility: Flows <u>X</u> , Water Quality <u>X</u> , Fish/Wildlife Resources <u>X</u> , Watersheds __, T/E Spp. <u>X</u> , Cultural/Historic Resources __, Recreation <u>X</u>):	
Agency Name	New Hampshire Fish and Game Department (NHFGD)
Name and Title	Carol Henderson; Environmental Review Coordinator
Phone	603-271-1138
Email address	Carol.Henderson@wildlife.nh.gov
Mailing Address	New Hampshire Fish and Game Department 11 Hazen Drive Concord, NH 03301
Agency Contact (Check area of responsibility: Flows __, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. __, Cultural/Historic Resources <u>X</u> , Recreation __):	
Agency Name	New Hampshire Division of Historical Resources
Name and Title	Nadine Miller; Deputy State Historic Preservation Officer
Phone	603-271-6628
Email address	Nadine.Miller@dcr.nh.gov
Mailing Address	NH Division of Historical Resources 19 Pillsbury Street – 2 nd Floor Concord, NH 03301-3570

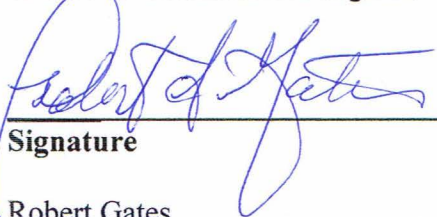
5.0 SWORN STATEMENT

As an Authorized Representative of Gregg's Falls Hydroelectric Associates, LP, 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 is certification of the applying facility is issues, the LIHI Certification Mark License Agreement must be executed prior to marketing the electricity product as LIHI Certified.

The Undersigned Applicant 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.



Signature

Robert Gates

Name

Vice President

Title

Gregg Falls Hydroelectric Associates, LP

Company

APPENDIX A

PROJECT PHOTOGRAPHS

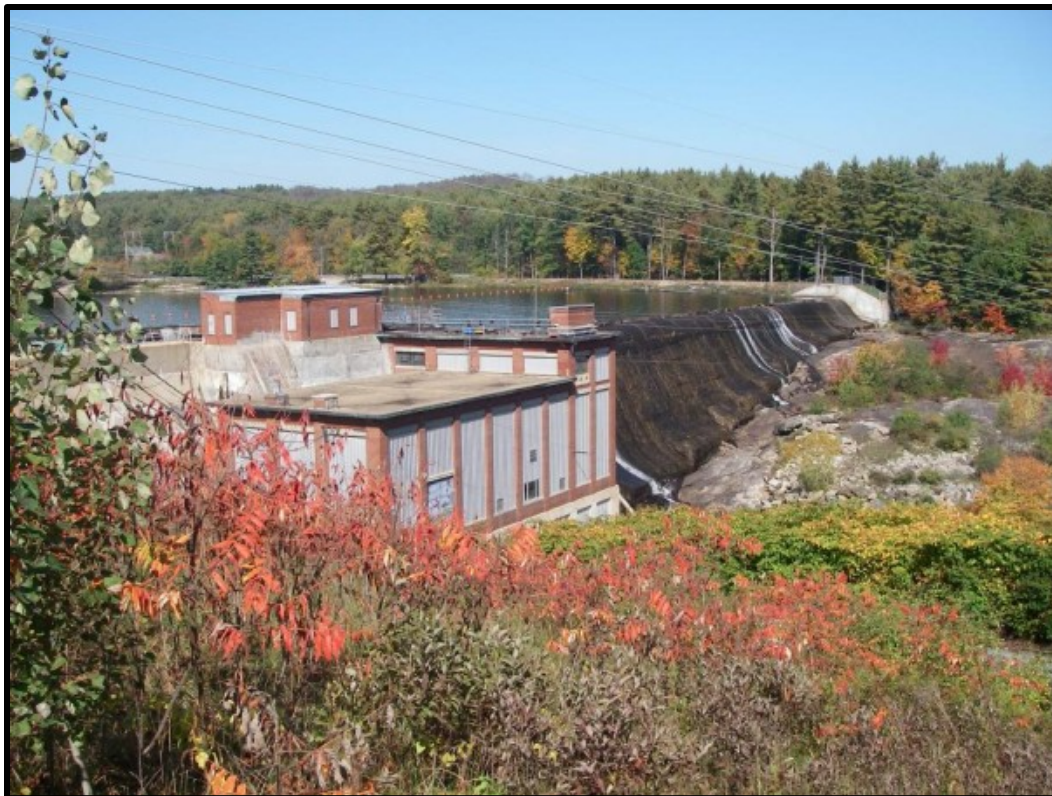


PHOTO 5-1 GREGG'S FALLS PROJECT VIEW OF DAM

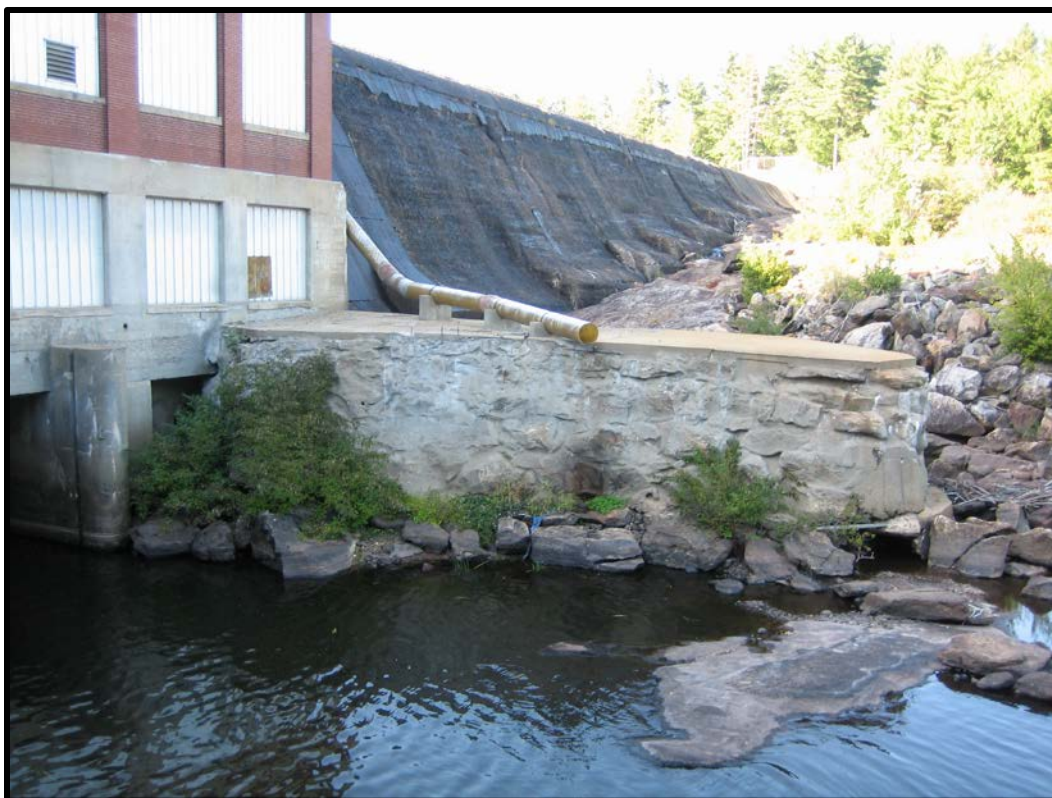


PHOTO 5-2 DISCONTINUED DOWNSTREAM SALMON SMOLT PIPE



PHOTO 5-3 **UPSTREAM VIEW OF DISCONTINUED SALMON SMOLT PIPE**



PHOTO 5-4 **DOWNSTREAM TAILRACE VIEW**



PHOTO 5-5 CREST OF THE OGEE SPILLWAY VIEWED FROM GATED STRUCTURE



PHOTO 5-6 DOWNSTREAM TOE OF OGEE SPILLWAY VIEWED FROM BEDROCK AT DAM



PHOTO 5-7 IMPOUNDMENT LOOKING DOWNSTREAM



PHOTO 5-8 BOAT BARRIER IN DISTANCE



PHOTO 5-9 ZOOMED OUT VIEW OF PROJECT FROM IMPOUNDMENT



PHOTO 5-10 VIEW OF TAILRACE ACCESS STAIRS



PHOTO 5-11 VIEW OF MUNICIPAL BOAT RAMP FACILITY

APPENDIX B

FERC EXEMPTION

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

24 FERC ¶62,076

The New Hampshire Water Resources Board)
and Gregg's Falls Hydroelectric Associates) Project No. 3180-001

ORDER GRANTING EXEMPTION FROM LICENSING OF A
SMALL HYDROELECTRIC PROJECT OF 5 MEGAWATTS OR LESS

(Issued July 21, 1983)

The Applicant 1/ filed an application for exemption from all or part of Part I of the Federal Power Act (Act) pursuant to 18 C.F.R. Part 4 Subpart K (1980) implementing in part Section 408 of the Energy Security Act (ESA) of 1980 for a project as described in the attached public notice. 2/ 3/

Notice of the application was published in accordance with Section 408 of the ESA and the Commission's regulations and comments were requested from interested Federal and State agencies including the U.S. Fish and Wildlife Service and the State Fish and Wildlife Agency. All comments, protests and petitions to intervene that were filed have been considered. No agency has any objection relevant to issuance of this exemption.

-
- 1/ The New Hampshire Water Resources Board and Gregg's Falls Hydroelectric Associates, Project No. 3180-001, filed April 1, 1983.
- 2/ Pub. Law 96-294, 94 Stat. 611. Section 408 of the ESA amends inter alia, Sections 405 and 408 of the Public Utility Regulatory Policies Act of 1978 (16 U.S.C. §§2705 and 2708).
- 3/ Authority to act on this matter is delegated to the Deputy Director, Office of Electric Power Regulation, under §375.308 of the Commission's regulations, 18 C.F.R. §375.308 (1982). This order may be appealed to the Commission by any party within 30 days of its issuance pursuant to Rule 1902, 18 C.F.R. 385.1902, 47 Fed. Reg. 19047 (1982). Filing an appeal and final Commission action on that appeal are prerequisites for filing an application for rehearing as provided in Section 313(a) of the Act. Filing an appeal does not operate as a stay of the effective date of this order or of any other date specified in this order, except as specifically directed by the Commission.

DC-A-8

Standard Article 2, included in this exemption, requires compliance with any terms and conditions that Federal or State fish and wildlife agencies have determined appropriate to prevent loss of, or damage to, fish and wildlife resources. The terms and conditions referred to in Article 2 are contained in any letters of comment by these agencies which have been forwarded to the Applicant in conjunction with this exemption.

Should the Applicant contest any terms or conditions that were proposed by Federal or State agencies in their letters of comment as being outside the scope of Article 2, the Commission shall determine whether the disputed terms or conditions are outside the scope of Article 2.

Based on the terms and conditions required by Federal and State fish and wildlife agencies, the environmental information in the application for exemption, other public comments, and staff's independent analysis, issuance of this order is not a major Federal action significantly affecting the quality of the human environment.

It is ordered that:

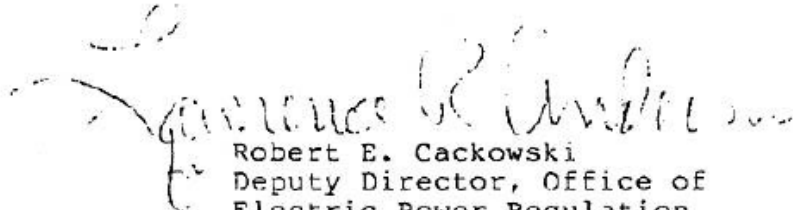
(A) Gregg's Falls Project No. 3180 as described and designated in The New Hampshire Water Resources Board and Gregg's Falls Hydroelectric Associates' application filed on April 1, 1983, is exempted from all of the requirements of Part I of the Federal Power Act, including licensing, subject to the standard articles in §4.106, of the Commission's regulations attached hereto as Form E-2, 18 C.F.R. §4.106 45 Fed. Reg. 76115 (November 18, 1980), and the following Special Article.

Article 6. Any exempted small hydroelectric power project that utilizes a dam which is more than 33 feet in height above streambed, as defined in 18 CFR 12.31(c) of this chapter, impounds more than 2,000 acre-feet of water, or has a significant high hazard potential, as defined in 33 CFR Part 222, is subject to the following provisions of 18 CFR Part 12;

- (i) Section 12.4(b)(1)(i)(ii)(2)(i), (iii)(A)(B), (iv), and (v);
- (ii) Section 12.4(c);
- (iii) Section 12.5;
- (iv) Subpart C; and
- (v) Subpart D.

516.1

For the purposes of applying these provisions of 18 CFR Part 12, the exempted project is deemed to be a licensed project development and the owner of the exempted project is deemed to be a licensee.


Robert E. Cackowski
Deputy Director, Office of
Electric Power Regulation

P-3180-001

**UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION**

Notice of Application Filed with the Commission

(May 9, 1983)

Take notice that the following hydroelectric application has been filed with the Federal Energy Regulatory Commission and is available for public inspection:

DC-A-2

- a. Type of Application: 5 MW Exemption
- b. Project No: 3180-001
- c. Date Filed: April 1, 1983
- d. Applicant: The New Hampshire Water Resources Board and Gregg's Falls Hydroelectric Associates
- e. Name of Project: Gregg's Falls Project
- f. Location: On the Piscataquog River in Hillsborough County, New Hampshire.
- g. Filed Pursuant to: Federal Power Act, 16 U.S.C., §§791(a) - 825(r).
- h. Contact Person: Raymond A. Wingert, c/o National Hydro Corporation, 77 Franklin Street, Boston, Massachusetts 02110 and Delbert P. Downing, New Hampshire Water Resources Board, 37 Pleasant Street, Concord, New Hampshire 03301.
- i. Comment Date: June 24, 1983
- j. Description of Project: The proposed project would consist of: (1) an existing earthfill and concrete gravity dam 1,360 feet long and 60 feet high; (2) a reservoir (Glenn Lake) with a storage capacity of 3,600 acre-feet; (3) existing intake structures; (4) new fish passage facilities; (5) an existing concrete penstock 31.75 feet long and 10 feet by 17.5 feet oblong shape, transitioning to 7.5 feet diameter circular shape; (6) an existing powerhouse containing 2 turbines and 2 new generators with a total installed capacity of 3,820 kW; (7) a new switchyard; and (8) a new 100-foot-long transmission line. The Applicants propose to raise the concrete spillway crest by one foot with provisions for six-inch flashboards which would raise the normal maximum surface elevation from 272.5 to 273.0 feet NGVD and increase the reservoir's storage capacity to 3,650 acre-feet. Applicants estimate an average annual generation of 8,733,000 kWh.
- k. Purpose of Project: Project energy would be sold to the Public Service Company of New Hampshire.
- l. This notice also consists of the following standard paragraphs: A1, B, C, D1 and D3a.
- m. Purpose of Exemption: An exemption, if issued, gives the Exemptee priority of control, development, and operation of the project under the terms of the exemption from licensing, and protects the Exemptee from permit or license applicants that would seek to take or develop the project.

§ 4.106 Standard terms and conditions of exemption from licensing.

Any exemption from licensing granted under this subpart for a small hydroelectric power project is subject to the following standard terms and conditions:

(a) Article 1. The Commission reserves the right to conduct investigations under sections 4(g), 306, 307, and 311 of the Federal Power Act with respect to any acts, complaints, facts, conditions, practices, or other matters related to the construction, operation, or maintenance of the exempt project. If any term or condition of the exemption is violated, the Commission may revoke the exemption, issue a suitable order under section 4(g) of the Federal Power Act, or take appropriate action for enforcement, forfeiture, or penalties under Part III of the Federal Power Act.

(b) Article 2. The construction, operation, and maintenance of the exempt project must comply with any terms and conditions that any Federal or state fish and wildlife agencies have determined are appropriate to prevent loss of, or damage to, fish or wildlife resources or otherwise to carry out the purposes of the Fish and Wildlife Coordination Act, as specified in Exhibit E of the application for exemption from licensing or in the comments submitted in response to the notice of the exemption application.

(c) Article 3. The Commission may accept a license application by any qualified license applicant and revoke this exemption if actual construction or development of any proposed generating facilities has not begun within 18 months, or been completed within four years, from the date on which this exemption was granted. If an exemption is revoked, the Commission will not accept a subsequent application for exemption within two years of the revocation.

(d) Article 4. This exemption is subject to the navigation servitude of the United States if the project is located on navigable waters of the United States.

(e) Article 5. This exemption does not confer any right to use or occupy any Federal lands that may be necessary for the development or operation of the project. Any right to use or occupy any Federal lands for those purposes must be obtained from the administering Federal land agencies. The Commission may accept a license application by any qualified license applicant and revoke this exemption, if any necessary right to use or occupy Federal lands for those purposes has not been obtained within one year from the date on which this exemption was granted.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

National Hydro

Project No. 3180-006

ORDER AMENDING EXEMPTION
(Issued December 1, 1998)

On October 13, 1998, National Hydro, exemptee for the Gregg's Falls Project, FERC No. 3180, filed as-built capacities for generator and turbine units to amend its exemption. The project is located on the Piscataquog River in Hillsborough County, New Hampshire.

BACKGROUND

On July 21, 1983, the Commission granted an exemption for the project. 1/ The exemption authorizes two generating units with a total installed capacity of 3,820 kW.

On September 1, 1998, the Commission's New York Regional Office performed an operation inspection of the project. The inspection found that the project's installed generating capacity is 3,474 kW. By letter dated October 2, 1998, the Commission requested the exemptee to provide information regarding the installed generating capacities and as-built project features.

REVIEW

In accordance with the Commission's March 22, 1995, rulemaking on Charges and Fees for Hydroelectric Projects, 2/ the project's authorized installed capacity is based on "... the lesser of the ratings of the generator (G) or turbine (T) units." The capacities of the generator and turbine units are listed in the following table, therefore, the project's authorized installed generating capacity is 3,479 kW.

Unit	Turbine Capacity (kW)	Generator Capacity (kW)	Generator Capacity (kW)
#1	2,195	2,169	2,169 (G)
#2	1,310	1,314	1,310 (T)
Total	3,505	3,483	3,479

1/ 24 FERC ¶62,076.

2/ See Order No. 576, 60 FR 15040 (March 22, 1995), FERC Stats & Regs. The order became effective on April 21, 1995.

DC-A-35

Gregg's Falls

602-6-1

5/6-1

Project No. 3180-006

-2-

In addition, when the exemption was issued, it authorized raising the concrete spillway crest by one foot and the installation of six-inch-high flashboards. The spillway crest was not raised one foot, instead, 1.5 feet flashboards were installed to achieve the authorized reservoir water level.

The exemptee's filing also reported that it had the existing concrete spillway crest elevation surveyed and found it to be 271.1 feet NGVD, instead of 271.5 feet as described in the exemption. Accordingly, the normal maximum surface elevation would be 272.6 feet NGVD, which is 0.4 foot lower than the authorized elevation of 273.0 feet NGVD.

Our review found that a minor decrease of the project's installed capacity or the substitution of flashboards for raising the spillway does not materially affect any terms and conditions of the exemption. This order also requires the exemptee to revise the exhibits B and G drawings (FERC Drawings 3180-1, 3180-2, and 3180-3) to reflect the as-built project condition, including the spillway crest and flashboards.

The Director orders:

(A) The exemption for the Gregg's Falls Project, FERC No. 3180, is amended as provided by this order, effective the first day of the month in which this order is issued.

(B) The Description of Project of the exemption in Appendix A is revised, in part, to read as follows:

j(6) an existing powerhouse containing 2 turbines and 2 new generators with a total installed capacity of 3,479 kW;

j(8) a new 100-foot-long transmission line. The concrete spillway crest elevation remains unchanged at 271.1 feet NGVD, and is topped by 1.5-foot-high flashboards which raise the normal maximum surface elevation to 272.6 feet NGVD and increase the reservoir's storage capacity to approximately 3,650 acre-feet.

(C) Within 90 days from the issuance date of this order, the exemptee shall file with the Commission an original and three copies of photographs showing the nameplates affixed to the Gregg's Falls Project's turbine and generator. The exemptee shall also send a copy of the photographs to the Commission's New York Regional Office.

(D) Within 120 days of the date of issuance of this order, the exemptee shall file with the Commission three copies of as-built exhibits B and G drawings for approval.

APPENDIX C

USFWS IPAC REPORT

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.

Project information

NAME

Gregg's Falls LIHI Application IPaC Report

LOCATION

Hillsborough County, New Hampshire



Local office

New England Ecological Services Field Office

☎ (603) 223-2541

📅 (603) 223-0104

70 Commercial Street, Suite 300
Concord, NH 03301-5094

<http://www.fws.gov/newengland>

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. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

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

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, 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
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Threatened

Flowering Plants

NAME	STATUS
Small Whorled Pogonia <i>Isotria medeoloides</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1890	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.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

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 [E-bird data mapping tool](#) (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 [below](#).

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

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
------	--

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.

<https://ecos.fws.gov/ecp/species/1626>

Breeds Oct 15 to Aug 31

Black-billed Cuckoo *Coccyzus erythrophthalmus*

Breeds May 15 to Oct 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9399>

Bobolink *Dolichonyx oryzivorus*

Breeds May 20 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Prairie Warbler *Dendroica discolor*

Breeds May 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Snowy Owl *Bubo scandiacus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wood Thrush *Hylocichla mustelina*

Breeds May 10 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

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 and understand the FAQ "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 (l)

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.

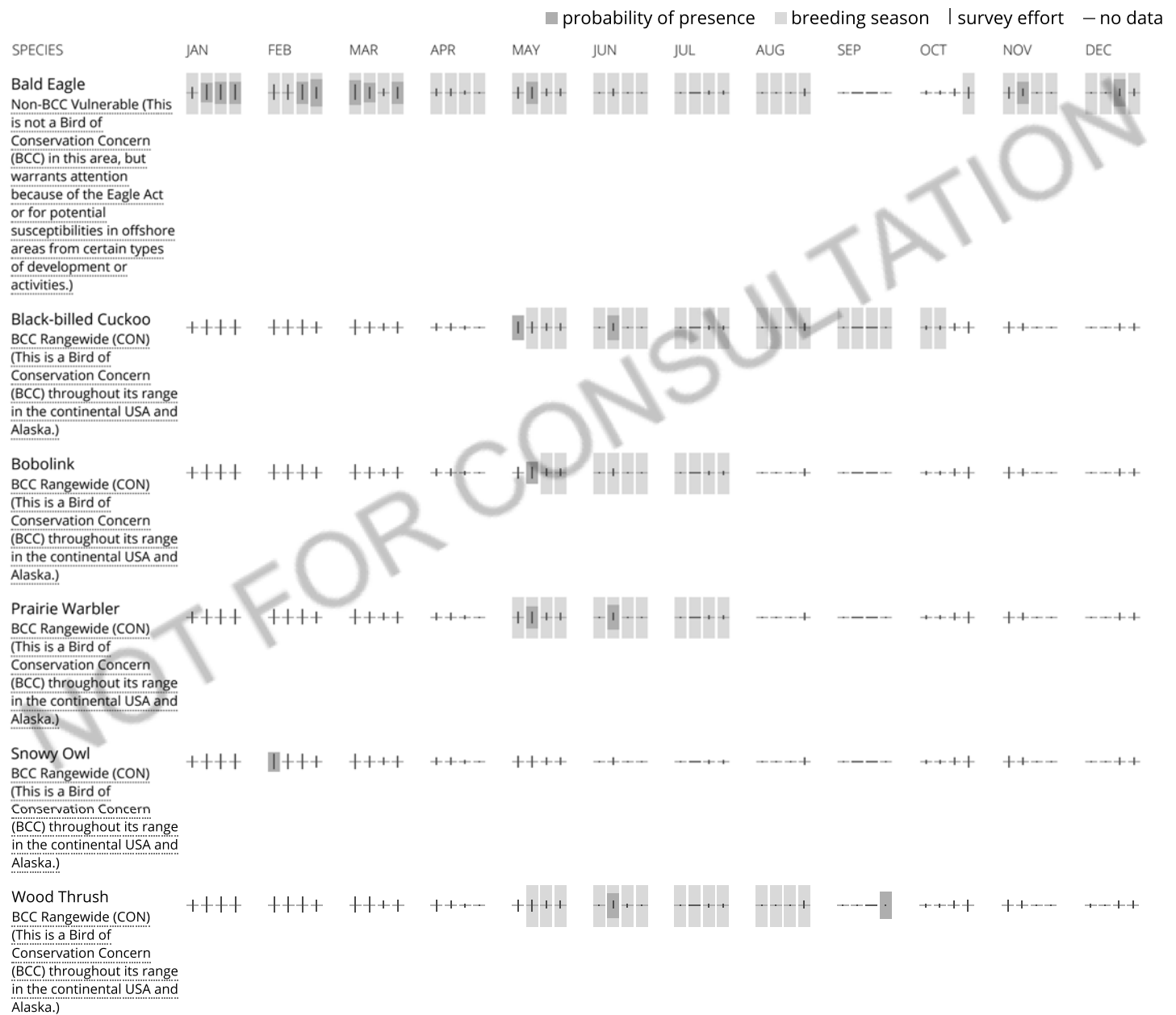
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

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.



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](#) and/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 migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) 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 [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) 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 ([Eagle Act](#) 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 [AKN Phenology Tool](#).

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 [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

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, migrating or present year-round in my project 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 refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). 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 [Birds of Conservation Concern \(BCC\)](#) 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 [Eagle Act](#) 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 [Northeast Ocean Data Portal](#). 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 [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) 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 [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

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 Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

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

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

Impacts to NWI wetlands 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.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

PEM1E

FRESHWATER FORESTED/SHRUB WETLAND

PFO1E

PSS1E

FRESHWATER POND

PUBFx
PUBF
PUBHh

LAKE

L1UBHh

RIVERINE

R2UBH

R4SBC

R5UBH

R3UBH

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

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

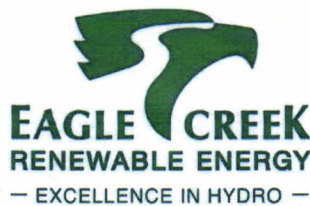
Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid 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.

APPENDIX D

**MEMORANDUM OF AGREEMENT BETWEEN
EAGLE CREEK RE MANAGEMENT AND THE U.S. FISH AND WILDLIFE SERVICE**



June 25, 2019

Tom Chapman
Supervisor, New England Field Office
United States Fish & Wildlife Service
70 Commercial Street, Suite 300
Concord, NH 03301

Ref: Interim Extension of Memorandum of Agreement
Fish Passage and Project Operations
Eagle Creek RE Management and the US Fish and Wildlife Service

Dear Mr. Chapman:

On August 14, 2014, the United States Fish and Wildlife Service (Service) and Eagle Creek RE Management, LLC (ECREM), collectively the "Parties", entered into a Memorandum of Agreement (Agreement), the purpose of which established a plan and schedule for addressing fish passage and minimum flow issues at ECREM's Hydroelectric Projects in New Hampshire ("the sites") that facilitated receipt of certification as low-impact hydroelectric projects from the Low Impact Hydroelectric Institute (LIHI), with support from the Service. The term of the Agreement was to remain in full force and effect for a period of five years from the date of the signed Agreement, i.e., August 14, 2019. After which time, by mutual consent, the Parties may extend the term of the Agreement.

Appendix A of the Agreement set forth a plan and schedule for environmental enhancement measures to be established in consultation with and approved by the Service. Additionally, the Agreement required the development of an Operations and Flow Monitoring Plan and a Fish Passage Facilities Operations and Maintenance Plan. Over the 5-year term of the Agreement, Appendix A continued to be updated based on changes to schedule and conceptual designs, however the premise of the Agreement remained the same, with the Parties continuing to work cooperatively to address fish passage and minimum flow issues at the sites. (Included for reference as Appendix 1 is the Agreement and the current version of the Appendix A, as initialed by the Service in August 2017). This Appendix will be updated to reflect current conditions and any new efforts during the term of the MOA.

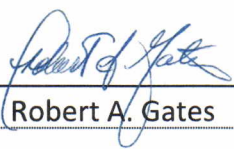
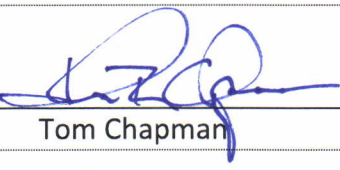
Based on recent conversations, and notwithstanding the second sentence of Article 1.1 of the Agreement, the Parties agree to extend the term of the current Agreement until the end of the first quarter of next year, March 31, 2020, as an interim measure, to allow the Parties to complete site visits this fall (2019), during the river herring downstream migration season, and conduct a bypass flow demonstration after completion of the partial removal of the Pembroke dam. The site visits will better allow the Parties to understand current conditions of each of the sites and agree to future measures, as needed. In this interim, the Service will continue to support LIHI certification of the sites encompassed under the Agreement.

June 25, 2019

Furthermore, as agreed to by the Parties, Lakeport and Mine Falls will be removed from the Agreement. Lakeport is currently in the midst of Federal Energy Regulatory Commission (FERC) relicensing. The Service is an active participant in Lakeport relicensing, and Lakeport related matters will be addressed during relicensing. For Mine Falls, the lease agreement between the City of Nashua and Mine Falls Limited Partnership, was terminated April 2017. Operations and maintenance of the Mine Falls Project are now the responsibility of the City of Nashua as the owner of the facility.

Except as modified herein, the terms of the Agreement remain in full force and effect.

The Parties hereby indicate their agreement to the terms above:

Eagle Creek RE Management, LLC	United States Fish and Wildlife Service
By:  Robert A. Gates	By:  Tom Chapman
Title: EVP Operations	Title Supervisor, New England Field Office
Date: June 26, 2019	Date: 11 July 2019

Interim Extension of Memorandum of Agreement

Appendix 1

- **Memorandum of Agreement, August 18, 2014**
- **Revised Appendix A, August 2, 2017**

FISH PASSAGE and PROJECT OPERATIONS

MEMORANDUM OF AGREEMENT

Eagle Creek RE Management and the U.S. Fish and Wildlife Service

1.0 INTRODUCTION

This Memorandum of Agreement (Agreement) is entered between the United States Fish and Wildlife Service (Service) and Eagle Creek RE Management, LLC (ECREM). ECREM is a Delaware limited liability company and is wholly owned by Eagle Creek Renewable Energy, LLC (ECRE). Individually, the above may be referred to as a "Party," collectively "Parties."

1.1 Term of the Agreement

This Agreement will remain in full force and effect for a period of five years from the date of the Agreement. After that time the parties can, by mutual agreement, extend the term of the contract for one or more subsequent five-year periods. Either party may also terminate this Agreement at the end of each five-year term without liability to any other party or any further obligations hereunder.

1.2 Purpose

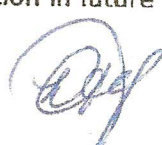
This Agreement establishes a plan and schedule for addressing fish passage and minimum flow issues at ECREM's hydroelectric projects in New Hampshire that will facilitate receiving certification as a low-impact hydroelectric project by the Low Impact Hydroelectric Institute (LIHI). Upon the execution of the Agreement, the Service will provide a supporting letter for the ECRE application to LIHI within three weeks of signing.

1.3 Agency Appropriations

Nothing in this Agreement shall be construed as obligating the Service to expend in any fiscal year any sum in excess of appropriations made by Congress to state or local legislatures or administratively allocated for the purpose of this Agreement for the fiscal year or to involve the Service in any contract or obligation for the future expenditure of money in excess of such appropriations or allocations.

1.4 Establishes No Precedents

The Parties have entered into the negotiations and discussions leading to this Agreement with the explicit understanding that all discussions relating thereto are privileged, shall not prejudice the position of any Party or entity that took part in such discussions, and are not to be otherwise used in any manner in connection with these or any other proceedings. The Parties understand and agree that this Agreement establishes no principles or precedents with regard to any issue which is not addressed herein or with regard to any Party's participation in future



relicensing proceedings unrelated to the agreements set forth herein and that none of the Parties to this Agreement will cite this as establishing any principles or precedents except with respect to the matters to which the Parties have herein agreed.

1.5 Binding Effect

This Agreement shall be binding on the Parties and on their successors and assigns.

1.6 Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

2.0 BACKGROUND

Various wholly owned subsidiary companies of ECRE have acquired the ownership interests in several of the hydroelectric generation projects located in the State of New Hampshire which were previously owned or leased by Algonquin Power Systems. These projects are Mine Falls Project (FERC No. 3442) on the Nashua River; Gregg Falls Project (FERC No. 3180) on the Piscataquog River; Webster-Pembroke Project (FERC No. 3185) on the Suncook River; and the Lakeport Project (FERC No. 6440), Lochmere Project (FERC No. 3128) and Stevens Mills Project (FERC No. 3760) (which includes both Stevens Mills and Riverbend facilities projects on the Winnepesaukee River [each a "Project" or "Facility" and collectively "Projects" or "Facilities"]). These purchases were consummated on June 29, 2013. ECRE is also in the process of evaluating the acquisition of the Clement Project (FERC No. 2966), also located on the Winnepesaukee River.

The Projects acquired by ECRE have either a License or an Exemption from Licensing issued by the Federal Energy Regulatory Commission (FERC). Those licenses and exemptions include various requirements for Project operations, including bypass flow releases, and for providing fish passage when needed. The Service has identified fish passage needs at many of the subject projects. In addition, in order to address low impact hydropower certification criteria established by LIHI, ECRE needs to consult with the Service on project operations and flow releases in addition to fish passage.

ECREM is the entity within the Eagle Creek group of companies that manages the operations on behalf of and as agent for various project companies owned by ECRE. Since the acquisition of these assets, ECREM has worked in cooperation with the Service and other agencies to improve fish passage and prevent fish kills at several of its hydro projects in New Hampshire and elsewhere.



ECREM leadership has had a long history of cooperation with the Service and other agencies regarding fish passage and is keenly aware of the benefits provided to the public from such enhancements. ECREM seeks to maintain a cooperative relationship with the Service, and therefore is entering into this Agreement in support of the program goals established by the Service and other resource agencies.

3.0 GENERAL AGREEMENTS OF THE PARTIES

3.1 Reopeners

The Parties agree that, except as provided herein, this Agreement is not intended to limit or restrict the ability of any Party to petition FERC pursuant to any reopener condition contained in any license, including any exercise by the Secretary of the Department of the Interior relating to her/his fishway prescription authority under §18 of the Federal Power Act. No such petition, including the exercise of §18 authority, may be filed without the filer's providing at least 60 days written notice of its intention to do so to all the other Parties and, promptly following the giving of notice, consulting with the other Parties regarding the need for and the purpose of the petition. In the event such a petition is filed, the filing Party shall include with its filing documentation of its consultation with the other Parties, a summary of their recommendations and of its response to those recommendations. The filing Party shall also serve a copy of its petition to all other Parties.

The Parties agree that nothing in this Agreement is intended to limit or restrict the ability of any Party to seek an amendment to this Agreement during the effective period of the license or as long as an exempted project is operated. Any Party proposing such an amendment to this Agreement shall provide all Parties with at least 60 days written notice of the proposed amendment using updated addresses as needed. If the amendment would require modification of the license or any other permit, the Licensee shall file all applications to amend any license or permits necessary to effectuate the agreed-upon changes, and the other Parties will support such efforts. An amendment to this Agreement shall be effective only upon the written consent of all Parties to this Agreement.

3.2 Compliance with the Endangered Species Act

As of July 1, 2014, the Service has determined that, based on the information available as of that date, except for occasional transient individuals, no Federally listed or proposed endangered or threatened species under the Service jurisdiction are known to exist in the Projects' impact areas. In addition, no habitat in the Projects' impact areas is currently designated or proposed "critical habitat" in accordance with provisions of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). Therefore, no further

Endangered Species Act coordination or consultation with the Service is required at this time. Should Project plans change, or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered.

4.0 ENVIRONMENTAL ENHANCEMENT MEASURES

4.1 Bypass Flows

ECREM shall, for the protection and enhancement of fish and aquatic habitat, provide continuous minimum flows to the bypass reaches of each Project as established in consultation with and approved by the Service, in accordance with the schedule in Appendix A. Once the Service has approved these flow regimes and the LIHI has formally approved Eagle Creek's LIHI application for the subject Facilities, ECREM will implement the agreed upon continuous minimum bypass flows. The flow requirements may be modified in the future as appropriate to address the effective operation of upstream fish passage facilities.

4.2 Flow Monitoring

ECREM shall, within six (6) months from the effective date of the Agreement, prepare and file for approval by the Service, an Operations and Flow Monitoring Plan for monitoring run-of-river operation and bypassed reach flow releases from the Projects. The Plan also should incorporate a description of the refill protocol that will be followed and how run-of-river operation and bypass flow releases will be provided during periods when the head pond is drawn down for dam maintenance. The Plan shall include a description and design of the mechanisms and structures that will be used, including any periodic maintenance and/or calibration necessary to ensure the devices work properly. In addition, a plan for recording data on Project operations to verify proper operations and minimum flow releases, and for maintaining such data for inspection by the Service and other resource agencies, also shall be filed. The operations and flow monitoring plan shall be developed in consultation with, and require approval by the Service.

4.3 Fish Passage

ECREM agrees to implement the activities related to fish passage at the Projects as described in Appendix A of this Agreement. The implementation of these activities will be performed in accordance with the schedule set forth in Appendix A or as mutually agreed upon between ECREM and the Service.

The proposed enhancements will consist of structural changes to provide for upstream passage at the Mines Falls Project, and exclusion and safe and effective downstream passage of river herring and/or American eel or seasonal Project shutdowns of the Project turbines, combined

A handwritten signature in blue ink, appearing to be "D. J. G.", is located in the bottom right corner of the page.

with a safe egress route, or potentially a combination of both measures at all Projects. For some of the Projects, the fish passage measures have been agreed to, whereas in others, the passage measures have yet to be proposed by ECREM or reviewed by the Service. For these, Appendix A establishes a process timeline to determine the appropriate passage measures.

For all proposed structural fish passage measures, ECREM shall provide the Service with functional design drawings of proposed facilities for its review and approval.

A. Upstream Passage at Mines Falls

ECREM will develop design plans and a construction schedule for the rehabilitation of and improvements to the Mines Falls fish lift system for Service approval and filing with FERC. Appendix A identifies the schedule for submittal of the plans and a proposed construction completion date. The target construction date is April 1, 2015. However, based on the timing of design plan development, time for review and Service approval, and the complexity and extent of necessary construction, that date may need to be adjusted based on mutual agreement between ECREM and the Service.

B. American Eel Silver Eel Passage

In general, the measures to protect adult silver eels during outmigration are either:

- (1) cessation of Project operation from dusk to dawn from August 15 through November 15, annually. Future refinement of the timing and other conditions (such as flow, weather conditions, etc.) that drive the downstream movement may be made by the Service, with concurrence by ECREM, as information on the behavior of migrants at the Projects is obtained. The nightly protocol at some Projects shall include closing or screening the headgates, as agreed upon with ECREM, to prevent eels from becoming trapped in the forebay. A downstream bypass sluice shall be opened to provide a minimum fish bypass flow (needed flows to be determined for each site); or
- (2) operation of a passage and protection system that meets the following criteria:
 - i. a full depth trashrack/screen system with ¾-inch-clear spacing and a desired approach velocity equal to or less than 1.5 feet per



second,¹ in conjunction with a bypass sluice or lower level gate of sufficient size and passing a sufficient flow (to be determined during the designing of the facilities); and

- ii. the downstream passage and protection system shall be designed in consultation with, and require approval by the Service and filed with FERC. The system shall operate annually from August 15 through November 15. Future refinement of the timing and other conditions (such as flow, weather conditions, etc.) that drive the downstream movement may be made by the Service, with concurrence by ECREM, as information on the behavior of migrants at the Projects is obtained.

C. River Herring Downstream Passage

ECREM shall construct, operate and maintain downstream fish bypass passage facilities for adult and juvenile river herring in all years when river herring have been stocked upstream of the Projects. The downstream fish passage measures for downstream river herring passage may be the same as measures implemented for American eels.

The downstream passage facilities shall consist of measures to protect downstream river herring from impingement and/or entrainment, as well as bypass facilities to assist fish in moving safely past the Projects. Final design and construction of the protection system shall occur in consultation with, and require approval by the Service and shall be filed with FERC.

If the downstream bypass facility is deemed ineffective based on evaluations by the Service and ECREM, ECREM shall be required to submit a proposal for amended designs or other measures for approval by the Service within six (6) months of the effectiveness determination.

D. Interim Passage Measures

In the interim periods between execution of the Agreement and the implementation of measures specified in the Agreement and Appendix A, interim passage measures for river herring and American eel will be implemented at the Projects as specified in Appendix A. Interim measures will consist of nighttime shutdowns on the day of and for three consecutive days after a rain event or river flow increase resultant from Lake Management activities by New Hampshire Department of Environmental Services. Initial operational shutdown periods will be from dusk to dawn during the passage season, but the Service and ECREM will cooperatively

¹ Site configuration and Project works of individual Projects may preclude the attainment of this criteria. In that event, the Service will consider a variance to this criteria based on review of the overall Project passage plan.

work together to determine the extent of nighttime shutdowns, taking into account downstream migrant needs and Project operations.

4.4 Fish Passage Facilities Operations and Maintenance Plans

ECREM shall develop and implement a Fish Passage Facilities Operations and Maintenance Plan for each Project with fish passage provisions identified in Appendix A. The plans shall detail how and when the upstream and downstream fishways will be operated and describe routine maintenance activities that will occur both during and outside of the fish passage seasons. The Plan shall be developed in consultation with, and require approval by the Service. The approved Plan shall be in effect prior to the first passage facilities coming on-line, and shall be updated as needed as new passage facilities are placed into service and based on information obtained from operation of the facilities.

4.5 Fish Passage Monitoring and Modifications

ECREM agrees to cooperate with the Service on the evaluation of the effectiveness of the adopted fish passage measures, and agrees to implement reasonable modifications to the passage facilities and their operation in order to provide for safe, timely and effective passage of diadromous fish.

5.0 SUPPORT OF LIHI CERTIFICATION

The Service agrees to support ECREM in its efforts to secure certification from LIHI for the Facilities. In the event that LIHI approval is not achieved for a specific site or sites, ECREM will be relieved of the non-fish passage Agreement obligations as they pertain to the specific site or sites. If ECREM fails to implement the provision of continuous bypass flows and/or fish passage enhancements for a specific site or sites to the satisfaction of the Service, the Service will notify ECREM of such failure, and ECREM will have 60 days to resolve the matter to the satisfaction of the Agencies. If the Service then determines that ECREM has not resolved the matter in question, the Service may terminate this Agreement, upon 10 days' notice to ECREM for the site that has failed to meet the approval of the Agencies. Upon such termination, no Party shall have any further obligation to any other Party with respect to the site in question.

The parties hereby indicate their agreement to the terms above:

Eagle Creek RE Management, LLC

By: 

Title: SVP Operations

Date: 8-14-14

United States Fish and Wildlife Service

By: 

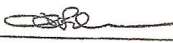
Title: Assistant Field Supervisor

Date: 8/14/14


EAGLE CREEK RE, LLC

APPENDIX A

FINAL MOA

USFWS Signature: 

Date: 8/14/14



ECREM Signature: 

Date: 8/14/14

FACILITY	IMPLEMENT DOWNSTREAM PASSAGE*	IMPLEMENT UPSTREAM PASSAGE	COMPLETE MINIMUM FLOW REVIEW	TARGET SPECIES	PROPOSED ENHANCEMENTS**
LAKEPORT	2014	REVIEW IN 2020	Adequate Flows	AMERICAN EEL	3/4-Inch rack overlays w/eel collection box & discharge pipe to plunge pool. Consult w/FWS on permanent racks.
			Exist	RIVER HERRING	None Needed.
LOCHMERE	2015	REVIEW IN 2020	2014	AMERICAN EEL	3/4-inch exclusionary trashracks at the canal headworks with open sluice gate at dam and plunge pool.
				RIVER HERRING	3/4-inch rack and bypass structure for eels. Additional angled floating diversion boom ~ 3 foot skirt.
					Secondary Intake trashrack and diversion box and pipe to tailrace. Existing facility to be modified.
				BYPASS FLOWS	Perform study of habitat and river needs for bypass reach by December 1, 2014.
CLEMENT	2015	REVIEW IN 2020	2015	AMERICAN EEL	Exclusionary trashracks at headworks (ECREM will evaluate 3/4-inch rack spacing), bypass sluice and plunge pool.
				RIVER HERRING	Exclusionary trashracks at dam headworks (ECREM will evaluate 3/4-inch rack spacing), an angled floating
					diversion boom ~ 3 foot skirt, bypass sluice and plunge pool.
RIVERBEND	2015	REVIEW IN 2020	2015	AMERICAN EEL	Evaluate required trashrack length for hydro operations. 3/4-inch exclusionary trashrack overlays or angled racks.
				RIVER HERRING	Modify trashgate at dam, set flow requirement and provide plunge pool as needed.
STEVENS MILLS	2015	REVIEW IN 2020	2014	AMERICAN EEL	3/4-inch exclusionary trashracks. Modify trashgate at dam & set flow requirement. Plunge Pool as needed.
				RIVER HERRING	3/4-inch exclusionary trashracks. Angled surface diversion boom.
PEMBROKE	See Detail	REVIEW IN 2020	2014	RIVER HERRING	2014 - operate sluice gate at trashracks during outmigration in consult with FWS and NHFGD & review bypass gate, intake velocities & trashracks for permanent passage measure. Modifications to facilities as needed by September 1, 2015.
				AMERICAN EEL	Eel downstream passage measures within 48 months of notification by NHFGD and/or USFWS.
				BYPASS FLOWS	Perform study of habitat and river needs for bypass reach by December 1, 2014.
GREGG'S FALLS	See Detail	REVIEW IN 2020	2014	RIVER HERRING	Discontinue use of salmon smolt downstream fishway.
				AMERICAN EEL	Eel Downstream Passage measures within 48 months of notification by NHFGD and/or USFWS.
					Continue Instantaneous Run of River Operations. Set allowable water level fluctuations.
				BYPASS FLOWS	Minimum flows from dam not likely needed. Verify adequacy of flows below dam in 2014.
MINES FALLS	2015	2015	2014	RIVER HERRING	Provide downstream diversion boom either at the canal headworks or at the intake. Provide a plunge pool for downrunning fish if released out of trash sluice. Move or eliminate downstream pipe.
					Fish lift drawings to USFWS by 11-1-14. Construction target April 1, 2015, but no later than September 1, 2015.
	2016			AMERICAN EEL	Downstream eel passage measures will be needed. Review eel downstream passage alternatives with Agencies in 2014.

* Intermittent eel passage measures for Lakeport, Lochmere, River Bend and Stevens Mills will consist of nighttime shutdowns from dusk to dawn (or as agreed upon with the USFWS) for three consecutive days after release event or after increased flows during the eel migration period (August 15 through November 15).

** Identified structural passage measures for eels may be replaced by operational shutdowns after analysis of information. All fish passage facilities and other measures to be designed in consultation with and be approved by the USFWS. Operational shutdowns will be evaluated based on the following criteria: Species, Time of Year, Economics, Weather Conditions.

EAGLE CREEK RE, LLC APPENDIX A REVISED FINAL MOA					USFWS Signature: 	ECREM Signature: 
FACILITY	IMPLEMENT DOWNSTREAM PASSAGE*	IMPLEMENT UPSTREAM PASSAGE	COMPLETE MINIMUM FLOW/ BYPASS FLOW	TARGET SPECIES	PROPOSED ENHANCEMENTS**	
LAKEPORT	Completed 7/29/2015	REVIEW IN 2020	Adequate Flows	AMERICAN EEL	3/4" trash rack overlays w/eel collection box & discharge pipe to plunge pool. Consult w/FWS on permanent racks - Eel collection box was installed and operational during the 2015 eel passage season. ECREM will continue to work in cooperation with Service / NH F&G in 2017 to improve or make modifications to the operation of the eel passage and trapping facilities. Per discussion with Service/NHF&G discharge pipe and plunge pool are not required at this time. Based on input from Service/NHF&G gaps in existing racks and overlay panels were repaired/closed by ECREM in Fall 2015. Overlay racks are in an aged condition. ECREM plans to replace the existing racks and overlay panels with new rack panels with 3/4" clear openings within the normal capital program (not an MOA driven item).	
				RIVER HERRING	None Needed	
LOCHMERE	Completed 8/2016	REVIEW IN 2020	2015	AMERICAN EEL	Design change based on consultation with Service/ NH F&G includes 3/4" exclusionary trash racks within the canal to transition chute from opening in racks to new gate at existing penetration in canal wall to new pool and HDPE pipe to former auxiliary unit tailrace. NHDES Wetland Permit received 11/2015, purchased/delivered fabricated pieces 2015 & 2016, FERC approval received 4/2016, completed pre-bid meeting 4/27/2016, construction bids due 5/10/2016, construction planned for June/July 2016 and are planned to be operational by August 15, 2016	
				RIVER HERRING	3/4" rack and bypass structure for eels See above for modified scope of work for American eel and river herring	
			Completed 7/29/2015	BYPASS FLOWS	Perform study of habitat and river needs for bypass reach by December 1, 2014. Performed flow demonstration with Service/NHF&G and agreed existing bypass flows of 35 cfs (10/1 to 3/31) and 50 cfs (4/1 to 9/30) are sufficient.	
CLEMENT	Completed 8/2016	REVIEW IN 2020	Adequate Flows	AMERICAN EEL	Exclusionary trash racks at dam headworks (ECREM will evaluate 3/4" rack spacing), bypass sluice and plunge pool. Agreed up on final design with USFWS & NHF&G includes exclusionary trash racks with 3/4" spacing at unit intake, modifications to waste gate at spillway, plunge pool and conveyance channel to be installed, NHDES Wetland Permit received 1/2016, purchased/delivered fabricated pieces 2015/2016, FERC approval received 4/2016, exclusionary trash rack installation to be completed 5/2016, remainder of items to be completed and operational by 8/15/16.	
				RIVER HERRING	Exclusionary trash racks at dam headworks (ECREM will evaluate 3/4" rack spacing) Final design approved based on discussions with Service / NH F&G, see above	
					Install boom with 4 foot skirt	

FACILITY	IMPLEMENT DOWNSTREAM PASSAGE*	IMPLEMENT UPSTREAM PASSAGE	COMPLETE MINIMUM FLOW/ BYPASS FLOW	TARGET SPECIES	PROPOSED ENHANCEMENTS**
RIVERBEND (river left- looking downstream)	Completed 8/2016	REVIEW IN 2020	Adequate Flows	AMERICAN EEL	Agreed upon final design with Service / NHF&G includes exclusionary trash rack overlay panels at Unit 1 intake, blocking racks perpendicular to flow at Unit 3 intake, modifications to existing sluice gate, plunge pool and conveyance channel to be installed, NHDES Wetland Permit received 1/2016, purchased/delivered fabricated pieces 2015/2016, FERC approval received 4/2016, to be completed by 8/15/16.
					Modify trash gate at dam, set flow requirement and provide plunge pool as needed. See above.
				RIVER HERRING	Modify trash gate at dam & set flow requirement. Plunge Pool as needed See above.
STEVENS MILLS (river right)	Completed 8/2016	REVIEW IN 2020	Adequate Flows	AMERICAN EEL	3/4" Exclusionary trash racks. See Riverbend above.
				RIVER HERRING	3/4" Exclusionary trash racks. See Riverbend above for trash racks. The potential need for an angled surface boom will be evaluated based on observations of the operation of the new fish passage facilities.
PEMBROKE	See Detail	REVIEW IN 2020	2015	RIVER HERRING	2016 - Based on consultation and agreement with USFWS, installed a plunge pool and discharge on the downstream side of the wastegate adjacent to the trashracks at the end of the canal similar to the arrangement used in years past to accommodate downstream herring passage. 2017- Review trash gate, intake velocities and trash racks for permanent passage measures.
				AMERICAN EEL	Eel Downstream Passage measures within 48 months of notification by NHFGD and/or USFWS
			Initial Review Completed 7-29-15 2nd Assessment by Sept 2017	BYPASS FLOWS	Perform study of habitat and river needs for bypass reach by December 1, 2014. On 7-29-2015, based on field testing and observations with Service /NHF&G, the minimum flow was changed from FERC license required 10 cfs to 25 cfs, no further modifications are required pending additional assessment of flow to be completed by Nov 2016 with use of 8x8 drain gate and the repaired Obermeyer gate. Due to drought conditions, delay completion of flow assessment to September 2017.
GREGG'S FALLS	See Detail	REVIEW IN 2020	Completed 7/29/15	RIVER HERRING	Discontinue use of Salmon Smolt downstream fish way Use of Salmon Smolt Downstream Fish way officially discontinued 7/29/2016.
				AMERICAN EEL	Eel Downstream Passage measures within 48 months of notification by NHFGD and/or USFWS
					Continue Instantaneous Run of River Operations. Set allowable water level fluctuations. ECREM is monitoring operations to ensure instantaneous run of river operations.
				BYPASS FLOWS	Minimum flows from dam not likely needed - Verify adequacy of flows below dam in 2014. Existing 20 cfs min flow is adequate based on 7/29/2015 site visit with Service / NHF&G.

APPENDIX E

AGENCY CONSULTATION RECORD



September 10, 2019

VIA E-MAIL

Distribution List

Low Impact Hydropower Institute Recertification
Gregg's Falls Hydroelectric Project LIHI #120 Recertification Application

Dear Resource Agency:

Kleinschmidt Associates (Kleinschmidt), on behalf of Eagle Creek Renewable Energy, LLC (ECRE), is assisting with the environmental review and resource agency consultation associated with the Low Impact Hydropower Institute Recertification (LIHI) of the Gregg's Falls Hydroelectric Project (FERC No. 3180), located along the Piscataquog River in New Hampshire.

The Gregg's Falls Hydroelectric Project (Project) is located Hillsborough County, southeast New Hampshire, in the community of Goffstown. The Project is located on the Piscataquog River, approximately 6 river miles upstream at river mile (RM) 30 of its confluence with the Merrimack River. The Piscataquog River is approximately 37 miles long from its headwaters, which is a headpond of approximately 136 acres that is a part of the Glen Lake recreational waterway. Project works include a 60-foot-tall earthfill and concrete dam that spans 1,360 feet. The Project dam supplies approximately 53 feet of head. Project Figures can be found in Attachment A.

The Project is owned by ECRE and was exempt from FERC licensing on July 21, 1983 which was owned at the time by the New Hampshire Water Resources Board and Gregg's Falls Hydroelectric Associates. On June 29, 2013, Eagle Creek Renewable Energy, LLC (ECRE) acquired the Project.

The LIHI recertification process requires the applicant to consult with agencies and receive agency agreement that the continued use of the Project does not have a negative impact on resources. Therefore, ECRE is requesting confirmation that the Project is, to your knowledge, being operated consistent with the FERC license and Section 401 Water Quality Certificates (if applicable).

We respectfully request your confirmation of compliant operations within 30 days so that it may be included and considered in the recertification application to LIHL.

Thank you for your assistance in this matter. If you have questions, please contact me at 971-266-5395 or Nuria.Holmes@KleinschmidtGroup.com.

Sincerely,

KLEINSCHMIDT ASSOCIATES

A handwritten signature in black ink that reads "Nuria Holmes". The signature is fluid and cursive, with the first name "Nuria" and last name "Holmes" clearly distinguishable.

Nuria Holmes
Regulatory Coordinator

NVH:mjm

cc: Distribution List
Attachment A: Project Figures

DISTRIBUTION LIST

Julianne Rosset
Fish & Wildlife Biologist
julianne_rosset@fws.gov
USFWS New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301

Mr. Sean McDermott
Fisheries Biologist
National Marine Fisheries Service
Sean.Mcdermott@noaa.gov
55 Great Republic Drive
Gloucester, MA 01930

Gregg Comstock, P.E.
Supervisor, Water Quality Planning Section
gregg.comstock@des.nh.gov
NH Department of Environmental Services
29 Hazen Drive, P.O. Box 95
Concord, NH 03302-0095

Carol Henderson
Environmental Review Coordinator
Carol.Henderson@wildlife.nh.gov
New Hampshire Fish and Game Department
11 Hazen Drive
Concord, NH 03301

Nadine Miller
Deputy State Historic Preservation Officer
Nadine.Miller@dcr.nh.gov
NH Division of Historical Resources
19 Pillsbury Street – 2nd Floor
Concord, NH 03301-3570

ATTACHMENT A

PROJECT FIGURES

Figures were removed.
Identical figures can be seen
in the LIHI application.

Request for NHB Review of "Potential Impacts" from the NHB DataCheck Tool

NHB File Number: NHB19-3419

Data Requested: 10/23/2019

Requested By:

Name: susan giansante
65 Madison Avenue, Suite 500,
Morristown, NJ 07960
E-mail: susan.giansante@eaglecreekre.com
Phone: 860-620-4527

Project Location:

Town: Goffstown
Tax Map(s)/Lot(s): unknown

Payment Information. These fields MUST be filled out.

Check Number: 22820
Name of Account: Kleinschmidt Associates
(as printed on the check)

Enclose this completed form with a check in the amount of \$25, made out to "Treasurer, State of NH".

Send the check and the completed form to the following address:

DRED - NHB
NHB Reviews
172 Pembroke Road
Concord, NH 03301

From: [Rosset, Julianne](#)
To: [Nuria Holmes](#)
Cc: [Sean.Mcdermott@noaa.gov](#); [gregg.comstock@des.nh.gov](#); [Carol.Henderson@wildlife.nh.gov](#); [Nadine.Miller@dcf.nh.gov](#); [Andy Qua](#)
Subject: Re: [EXTERNAL] Gregg's Falls Hydro LIHI recertification review [response requested]
Date: Wednesday, October 02, 2019 7:31:37 AM

Dear Ms. Holmes,

The United States Fish and Wildlife Service (Service) has received your request for feedback regarding compliance of the Gregg's Falls Hydroelectric Project (FERC No. 3180; Project) with the requirements of its exemption.

The Service has reviewed the Project file and is not aware of any compliance issues at this time. However, there is no information in the Gregg's Falls file regarding upstream or downstream American eel passage and protection measures. According to the New Hampshire Fish and Game Department (NHFGD), American eel are present upstream, and downstream, of the Project. Due to the presence of eels in the Piscataquog River, the Service recommends that any LIHI recertification for the Project contains a condition requiring Eagle Creek to conduct an upstream eel passage siting survey within the project boundary to determine areas of eel concentration so that a permanent upstream passage facility (or facilities) can be properly sited. Additionally, the Service recommends Eagle Creek develop changes to project structures or operation, in consultation with the natural resource agencies, to protect downstream migrating eels. Potential changes may include performing nighttime shutdowns during the adult American eel egress period or installing narrower trashracks that exclude migratory and resident fish from becoming entrained. Either alternative would necessitate operation of a fish bypass with an adequate fish bypass flow to provide a safe egress route past the Project.

Additionally, while Gregg's Falls does not currently have anadromous passage measures, such measures may be needed in the future. The Service intends to prescribe anadromous fish passage facilities at Kelley's Falls Hydroelectric Dam (FERC No. 3025), the dam downstream of Gregg's Falls, in the context of relicensing and there has been continued improvement of upstream and downstream anadromous facilities at projects located on the Merrimack River. Therefore, as part of this LIHI recertification process, the Service would like a commitment from Eagle Creek to implement anadromous passage measures, if necessary, in the future. Those measures would likely include an upstream fish passage facility and downstream passage measures. Implementation would require consultation with and approval of facilities by the Service and passage measures implemented within three years after notification.

Thank you for this opportunity to comment. If you have any questions, please feel free to call or email me.

Kind regards,
Julianne

Julianne Rosset
Fish & Wildlife Biologist
USFWS New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301
603-227-6436
julianne_rosset@fws.gov

On Tue, Sep 10, 2019 at 4:18 PM Nuria Holmes <Nuria.Holmes@kleinschmidtgroup.com> wrote:

Good afternoon,

Kleinschmidt Associates, on behalf of Eagle Creek Renewable Energy, LLC (ECRE), is assisting with the environmental review and resource agency consultation associated with the recertification for the Low Impact Hydropower Institute of the Gregg's Falls Hydro Project (FERC No. 3180) (LIHI #120) located along the Piscataquog River in New Hampshire. The LIHI certification process requires the applicant to consult with agencies and receive agency agreement that the continued use of the Project does not have a negative impact on resources.

Please see the attached request for confirmation that the Projects are, to your knowledge, being operated consistent with the FERC License and Section 401 Water Quality Certificate. We respectfully request your confirmation within 30 days so that it may be included into the application.

If you have any questions about this request, please do not hesitate to contact me.

[Nuria V. Holmes, M.S.](#)

Regulatory & Licensing Project Manager

Office: 971.266.5395

Cell: 503.380.9888



www.KleinschmidtGroup.com

Providing practical solutions for complex problems affecting energy, water, and the environment.

Please mail the completed form and required material to:

New Hampshire Division of Historical Resources
State Historic Preservation Office
Attention: Review & Compliance
19 Pillsbury Street, Concord, NH 03301-3570

RECEIVED

AUG 19 2013

DHR Use Only

R&C #

5143

Log In Date

9/23/13

Response Date

9/30/13

Sent Date

10/7/13

Request for Project Review by the New Hampshire Division of Historical Resources

☒ This is a new submittal

☐ This is additional information relating to DHR Review & Compliance (R&C) #:

GENERAL PROJECT INFORMATION

Project Title Gregg's Falls Hydroelectric Facility

Project Location 55 Mast Road on the Piscataquog River

City/Town Goffstown

Tax Map 5 Lot # 15-2

NH State Plane - Feet Geographic Coordinates: Easting 308099 Northing 57286
(See RPR Instructions and R&C FAQs for guidance.)

Lead Federal Agency and Contact (if applicable) Federal Energy Regulatory Commission
(Agency providing funds, licenses, or permits)

Permit Type and Permit or Job Reference # FERC Exempt No. 3180

State Agency and Contact (if applicable)

Permit Type and Permit or Job Reference #

APPLICANT INFORMATION

Applicant Name Essex Power Services, Inc.

Mailing Address 55 Union Street, 4th Floor

Phone Number (617) 367-0032

City Boston

State MA

Zip 02108

Email sjh@essexhydro.com

CONTACT PERSON TO RECEIVE RESPONSE

Name/Company Essex Power Services, Inc.

Mailing Address 55 Union Street, 4th Floor

Phone Number 6173670032

City Boston

State MA

Zip 02108

Email sjh@essexhydro.com

Thank you

This form is updated periodically. Please download the current form at www.nh.gov/nhdhr/review. Please refer to the Request for Project Review Instructions for direction on completing this form. Submit one copy of this project review form for each project for which review is requested. Include a self-addressed stamped envelope to expedite review response. Project submissions will not be accepted via facsimile or e-mail. This form is required. Review request form must be complete for review to begin. Incomplete forms will be sent back to the applicant without comment. Please be aware that this form may only initiate consultation. For some projects, additional information will be needed to complete the Section 106 review. All items and supporting documentation submitted with a review request, including photographs and publications, will be retained by the DHR as part of its review records. Items to be kept confidential should be clearly identified. For questions regarding the DHR review process and the DHR's role in it, please visit our website at: www.nh.gov/nhdhr/review or contact the R&C Specialist at christina.st.louis@dcr.nh.gov or 603.271.3558.

SEP 23 2013

Project Boundaries and Description

- ☐ Attach the Project Mapping *using EMMIT or relevant portion of a 7.5' USGS Map. (See RPR Instructions and R&C FAQs for guidance.)*
- ☐ Attach a detailed narrative description of the proposed project.
- ☒ Attach a site plan. The site plan should include the project boundaries and areas of proposed excavation.
- ☐ Attach photos of the project area (overview of project location and area adjacent to project location, and specific areas of proposed impacts and disturbances.) *(Informative photo captions are requested.)*
- ☐ A DHR records search must be conducted to identify properties within or adjacent to the project area. Provide records search results via EMMIT or in Table 1. *(Blank table forms are available on the DHR website.)*
- EMMIT or in-house records search conducted on / /

Architecture

Are there any buildings, structures (bridges, walls, culverts, etc.) objects, districts or landscapes within the project area? ☐ Yes ☐ No

If no, skip to Archaeology section. If yes, submit all of the following information:

Approximate age(s):

- ☐ Photographs of *each* resource or streetscape located within the project area, with captions, along with a mapped photo key. (Digital photographs are accepted. All photographs must be clear, crisp and focused.)
- ☐ If the project involves rehabilitation, demolition, additions, or alterations to existing buildings or structures, provide additional photographs showing detailed project work locations. (i.e. Detail photo of windows if window replacement is proposed.)

Archaeology

Does the proposed undertaking involve ground-disturbing activity? ☐ Yes ☐ No

If yes, submit all of the following information:

- ☐ Description of current and previous land use and disturbances.
- ☐ Available information concerning known or suspected archaeological resources within the project area (such as cellar holes, wells, foundations, dams, etc.)

Please note that for many projects an architectural and/or archaeological survey or other additional information may be needed to complete the Section 106 process.

DHR Comment/Finding Recommendation *This Space for Division of Historical Resources Use Only*

☐ Insufficient information to initiate review. ☐ Additional information is needed in order to complete review.

☒ No Potential to cause Effects ☐ No Historic Properties Affected ☐ No Adverse Effect ☐ Adverse Effect

Comments: **RECORDS SEARCH WAS REVIEWED BY DHR IN 2013. AS A REMINDER, THIS IS AN UNEVALUATED RESOURCE. IF IN THE FUTURE PLANS INVOLVE ALTERATIONS TO THE FACILITY, INCLUDING GROUND DISTURBING ACTIVITY, SURVEYS MAY BE REQUIRED. PLEASE ACCOMPANY FUTURE SUBMISSIONS WITH A REQUEST FOR PROJECT REVIEW FORM.**

If plans change or resources are discovered in the course of this project, you must contact the Division of Historical Resources as required by federal law and regulation.

Authorized Signature: Nicki Miller, DSHPO

Date: 9/19/19

July 10, 2017

Shannon Ames, Executive Director
Low Impact Hydropower Institute
34 Providence Street
Portland, Maine 04103

RE: Water Quality Status of the Piscataquog River for Low Impact Hydropower Institute Certification of the Gregg's Falls Hydroelectric Project (FERC Exemption No. 3180) Gregg's Falls Hydroelectric Project

Dear Ms. Ames:

Essex Hydro Associates (EHA) is applying on behalf of Eagle Creek Renewables L.L.C. (ECR) for Low Impact Hydropower Certification from the Low Impact Hydropower Institute (LIHI) for the Gregg's Falls Hydroelectric Project (FERC Exemption No. 3180), on the Piscataquog River in Goffstown, NH. We understand that to receive LIHI certification, you require a statement from the New Hampshire Department of Environmental Services (NHDES) stating that the project is in compliance with state water quality standards. On August 2, 2013, NHDES sent EHA a letter outlining what would be needed to determine if the Piscataquog River in the vicinity of the Gregg's Falls Hydroelectric Project was or was not attaining water quality standards. The letter stated that "In order for NHDES to determine if the subject hydroelectric project is causing or contributing to water quality standard violations, additional monitoring and information is needed. In general, data / information is needed to address the following water quality concerns that are typically associated with hydropower projects:

1. Impact on ambient water quality criteria and thresholds;
2. Impact of pond fluctuations on aquatic habitat;
3. Maintenance of adequate minimum flows to protect downstream aquatic life; and
4. Adequate upstream and downstream fish passage."

The purpose of this letter is to provide you with our assessment of the data and information received from EHA in response to our letter of August 2, 2013 and, our conclusions as to whether or not the Gregg's Falls Hydroelectric Project is causing or contributing to New Hampshire surface water quality standard violations in the Piscataquog River.

Water quality data was collected for dissolved oxygen, water temperature, total phosphorus, and chlorophyll-a. Monitoring locations in the impoundment (GLEGOF-DAMLIN) and in the downstream section of the river (04-PQG) were monitored continuously for a 10 day period in September 2016 for water temperature and dissolved oxygen using multi-parameter dataloggers. NHDES specified that the multi-parameter continuous water quality data should be collected under critical low flow ($< 3 \times 7Q_{10}$) and higher water temperature conditions ($> 23^{\circ} \text{C}$). There is a USGS stream gage on the South Branch of the Piscataquog River in Goffstown, NH approximately three miles upstream of the Gregg's Falls Hydroelectric Project. NHDES uses this gage as a surrogate to estimate low flow conditions in the vicinity of the project. During the datalogger deployment the flows were below the target conditions of $3 \times 7Q_{10}$ (2070 cfs) for greater than 95% of the time. The daily average water temperature in the Piscataquog River was below the target of 23°C during portions of the deployment. NHDES acknowledges that the water temperature during the time of the datalogger deployment is acceptable and is typical of the expected water temperatures in this section of the Piscataquog River during September (although it can be higher). EHA has stated that during the collection of the continuous water quality data the Gregg's Falls Hydroelectric Project was operating under normal operating procedures. Between July

and September 2013, EHA also collected ten weekly samples of total phosphorus and chlorophyll-a at stations GLEGOF-DAMLIN and 04-PQG.

NHDES has assessed the water quality data collected in 2013 and 2016, and based on this assessment concludes that the water quality in the impoundment and downstream section of the Piscataquog River, under the project operating conditions and flow conditions during which the data was collected, is meeting existing water quality criteria or thresholds for dissolved oxygen and chlorophyll-a. The impoundment of the Greggs Falls Dam is potentially not supporting for total phosphorus given the trophic class of the waterbody. In May of 2015 EHA collected additional total phosphorus samples at station 04-PQG downstream of the impoundment and at three stations upstream of the impoundment. The total phosphorus concentrations were higher in the three upstream stations, including in the free flowing section of river upstream of the impoundment, than at station 04-PQG.

In the August 2, 2013 letter NHDES provided the assessment status for the parameters of concern for the reaches of the Piscataquog River upstream and downstream of the Greggs Falls Hydroelectric Project. Table 1 provides an update to the current assessment status of the river reaches in question for the parameters collected in 2013 and 2016. The assessments are based on the methodology described in the NHDES Consolidated Assessment and Listing Methodology (CALM)¹. Please note that the assessment status listed in Table 1 could change if water quality criteria or thresholds change and/or if additional data indicate water quality violations. For example, data collected at lower flows and/or higher temperatures might result in a different assessment.

Table 1. Assessment Status for Water Quality Monitoring Parameters – Greggs Falls Hydroelectric Project

Assessment Unit and Monitoring Station	Location	Parameter	Designated Use	Assessment Status based on 2013-2016 sampling
NHLAK700060607-01-01 GLEGOF-DAMLIN	Gregg's Falls Hydroelectric Project Impoundment Glen Lake	Dissolved Oxygen (mg/L)	Aquatic Life	Fully Supporting
		Dissolved Oxygen (% Sat.)	Aquatic Life	Fully Supporting
		Chlorophyll-a	Primary Contact Recreation	Fully Supporting
			Aquatic Life	Fully Supporting ^A
		Total Phosphorus	Aquatic Life	Potentially Not Supporting ^A
		Water Temperature	Aquatic Life	No numeric criteria ^C
NHRIV700060607-17 04-PQG	Downstream of Gregg's Falls Hydroelectric Project	Dissolved Oxygen (mg/L)	Aquatic Life	Fully Supporting
		Dissolved Oxygen (% Sat.)	Aquatic Life	Fully Supporting
		Chlorophyll-a	Primary Contact Recreation	Fully Supporting
		Total Phosphorus	Aquatic Life	No numeric criteria ^B
		Water Temperature	Aquatic Life	No numeric criteria ^C

^A NHDES does have numeric water quality thresholds for the aquatic life designated use for total phosphorus and chlorophyll-a in lakes/ponds and impoundments with characteristics similar to lakes/ponds but it can only be applied to waterbodies where the trophic class is known. For waterbodies where the trophic class is known the median total phosphorus and chlorophyll-a value is used to make the threshold comparison. The aquatic life designated use nutrient and chlorophyll-a thresholds are depicted below with the median values for each parameter for the data collected at station GLEGOF-DAMLIN in assessment unit NHLAK700060607-01-01 and station 04-PWG in assessment unit NHRIV700060607-17 during the summer of 2014. The impoundment NHLAK700060607-01-01 is classified by NHDES as likely mesotrophic

	TP (ug/L)	Chl-a (ug/L)
Median GLEGOF-DAMLIN (2013)	14.1	3.95
Median 04-PGQ (2013)	16.0	2.09
Oligotrophic	< 8	< 3.3
Mesotrophic	≤ 12	≤ 5
Eutrophic	≤ 28	≤ 11

^B NHDES does not have numeric water quality criteria for nutrients in rivers or streams. The narrative criteria states that "Class B waters shall contain no phosphorus or nitrogen in such concentrations that would impair any existing or designated uses, unless naturally occurring."

^C Although there is currently no numerical water quality criteria for water temperature, NHDES is in the process of collecting biological and water temperature data that will contribute to the development of a procedure for assessing rivers and stream based on water temperature and its corresponding impact to the biological integrity of the waterbody.

In May 2017 EHA provided NHDES with detailed information regarding the physical structure of the facility, minimum flows and pond fluctuations at the Greggs Falls Hydroelectric Project. EHA confirmed that the facility is operated as a run of river project and that the project does not draw down the impoundment or store water for purposes of power generation. Any pond level fluctuations are the result of operation of upstream hydroelectric projects, inflow that exceeds turbine capacity, or maintenance drawdowns. The Greggs Falls Hydroelectric Project is required by the FERC to maintain a minimum flow release of 20 cfs or inflow, whichever is greater. EHA has provided NHDES with 5 years of their minimum flow compliance reports to the FERC.

On August 14, 2014 ECR and USFWS signed a memorandum of agreement (MOA) to establish a plan and schedule for addressing flow management issues at the Greggs Falls Hydroelectric Project that would facilitate fulfilling the requirements for LIHI certification. Per this MOA, ECR will prepare an operational flow monitoring plan to verify the project is being managed as a run-of-river operation. This operational plan will include a plan for recording operational data to verify the proper management of the project as a run-of-river facility.

The MOA signed in 2014 also addresses the issue of fish passage at the Greggs Falls Hydroelectric Project. ECR and the USFWS have agreed to a schedule for implementing downstream fish passage enhancements to specifically target American eel and river herring. The proposed enhancements will consist of exclusion and safe and effective downstream passage of river herring and American eel or seasonal project shutdown of turbines, combined with safe egress routes. The parties have agreed to review upstream fish passage issues in 2020.

Per the MOA, ECR agrees to construct, operate and maintain downstream fish bypass passage facilities for adults and juvenile river herring in all years when river herring have been stocked upstream of the project. The downstream fish passage measures for downstream river herring passage may be the same as measures implemented for American eel. The downstream passage facilities will consist of measures to protect downstream river herring from impingement and/or entrapment as well as bypass facilities to assist fish in moving safely past the projects. For all proposed structural fish passage measures, ECR will provide the USFWS with functional design drawings of the proposed changes for its review and approval.

In summary, based on the current operation of the facility, current water quality standards, water quality data information provided to NHDES by EHA, the Piscataquog River immediately upstream and downstream of the Greggs Falls Hydroelectric Project is meeting water quality standards under the conditions during which the data was collected. As previously noted, the above water quality assessment

could change in the future should a change in water quality criteria or thresholds and/or new data indicate water quality violations or the potential for water quality violations. It could also change if the NHDES, USFWS and/or NHFG conclude in the future that the project is not in compliance with upstream or downstream fish passage requirements or flow requirements.

Should you have any questions or require additional information please contact me at (603)271-2083 or ted.walsh@des.nh.gov.

Sincerely,

Ted Walsh, Surface Water Monitoring Coordinator
NHDES Watershed Management Bureau

Cc (via email):

Elise Anderson, Essex Hydro Associates, LLC
Andrew Locke, Essex Hydro Associates, LLC
Carol Henderson, NHFG
John Magee, NHFG
John Warner, USFS



New Hampshire Fish and Game Department

11 Hazen Drive, Concord, NH 03301-6500
Headquarters: (603) 271-3421
Web site: www.WildNH.com

TDD Access: Relay NH 1-800-735-2964
FAX (603) 271-1438
E-mail: info@wildlife.nh.gov

Glenn Normandeau
Executive Director

August 27, 2014

Mr. Stephen Hickey
Essex Power Services, Inc.
Agent for Eagle Creek Renewable Energy
55 Union Street, 4th Floor
Boston, MA 02108

RE: Eagle Creek Renewable Energy Projects – LIHI Certification

Dear Mr. Hickey:

NH Fish and Game concurs with the recommendations and proposed actions, as outlined in the Memorandum of Agreement (MOA) signed by the US Fish and Wildlife Service (USFWS) and Eagle Creek Renewable Management, LLC (ECREM) on August 14th, 2014, regarding several hydroelectric facilities located in New Hampshire. These facilities include Mine Falls (FERC#3442) on the Nashua River, Gregg Falls (FERC# 3180) on the Piscataquog River, Webster-Pembroke (FERC# 3185) on the Suncook River and the Lakeport (FERC#6440), Lochmere (FERC# 3128), Clement (FERC# 2966) and Steven Mills (FERC# 3760) facilities on the Winnepesaukee River.

The Department appreciates the work that has been completed by the USFWS, ECREM and others to reach the actions outlined in the MOA, in order to advance the enhancement and protection of fish and habitat. In addition, the Department agrees that the Low Impact Hydropower Institutes (LIHI) should include a provision acknowledging the applicants concurrence with implementing minimum flows and fish passage measures for herring and/or American eel as prescribed in the MOA, and to undertake such consultations, design development and construction in a timely manner.

If you have any further concerns or questions, please do not hesitate to contact Carol Henderson, Environmental Review Coordinator at carol.b.henderson@wildlife.nh.gov or by phone at 603-271-3511. Thank you.

Sincerely,

Glenn Normandeau
Executive Director

cc. John Warner, USFWS
Ted Walsh, DES
December 2019

APPENDIX F

LIHI INTAKE REVIEW REPORT



November 20, 2019

Robert A. Gates, Sr. Vice President Operations
Eagle Creek Renewable Energy, LLC
63 Madison Avenue, Suite 500

Via email: bob.gates@eaglecreekre.com

Subject: Stage I Recertification Review for the Gregg's Falls Hydroelectric Project (ME)

Dear Mr. Gates,

This letter is to inform you that LIHI has completed the first stage review of the recertification application for the Gregg's Falls Hydroelectric Project (LIHI #120). I conducted the review for this application. We are processing this application under the 2nd Edition LIHI Certification Handbook. As explained in Section 6 of that Handbook, this first stage of the recertification review focuses on three primary questions:

- Is there any missing information in the application for recertification?
- Have there been any material changes at the facility during the term of the previous certification?
- Have there been any material changes in the LIHI criteria or certification process since the facility was originally certified?

While the LIHI certification process has changed, there have not been any material changes at the project, and there is very little additional information needed to complete the review. The application is sufficiently complete to be posted for public comment. You could send to me a brief application supplement via email that responds to the requests for information in the attached Stage I review report.

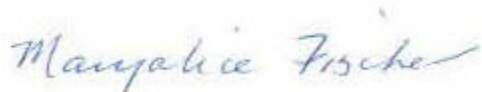
We have previously invoiced you for \$2,000 for the first stage recertification review. **Because we will be doing a Stage II review, an additional application fee of \$1,000 will be due before we can complete the recertification.** This Stage II fee is substantially reduced since no third-party reviewer is being used. An invoice for this Stage II fee will be sent separately upon your agreement to proceed.

Once we receive the Stage II fee, we will post the application for the 60-day public comment period and will proceed with the full recertification process as you gather the additional requested information. At that point, Jean may contact resource agencies and other potentially interested parties to alert them that the application is undergoing review by LIHI, and to solicit any additional comments they may have. You will have a chance to respond to any comments we receive, if you wish. Both comments and any responses will also be posted to our website. Jean will prepare a final reviewer's report, including a recertification decision recommendation. The recertification report and recommendation for recertification will be forwarded to the LIHI Executive Director for her decision on whether or not the project continues to meet the current Low Impact criteria.

After a decision has been made on a new certification, there will be a 30-day appeal period during which any public commenters may appeal that decision to an independent Appeals Panel. If the preliminary decision is not to certify, you will have an opportunity to appeal the decision or to correct any deficiencies.

On behalf of the LIHI Governing Board, I want to reiterate LIHI's appreciation for your interest in the LIHI Certification Program. Please let me know if you have any questions or concerns about any of this. I can be reached at (603) 664-5097 or at mfischer@lowimpacthydro.org.

Sincerely,

A handwritten signature in blue ink that reads "Maryalice Fischer". The signature is fluid and cursive, with the first name "Maryalice" and the last name "Fischer" clearly legible.

Maryalice Fischer
LIHI Certification Program Director

cc: Shannon Ames, LIHI Executive Director
susan.giansante@eaglecreekre.com

encl. Gregg's Falls Recertification Stage I Report



LOW IMPACT HYDROPOWER INTAKE REVIEW

Name of Project/Facility:	Gregg's Falls Hydroelectric Project
FERC License or Exemption # (or N/A):	3180, exempt
Date Application Submitted to LIHI:	November 15, 2019
Name of Reviewer:	Maryalice Fischer
Date Review Completed:	November 20, 2019

Note to applicant: This review is a preliminary review only. The application reviewer may have additional questions or request additional information to fill data gaps identified during the full application review.

General Review Comments: This Stage I recertification review is for the Gregg's Falls Hydroelectric Project (Project). The review indicates that:

- All conditions in the current certification have been satisfied.
- Only a little additional information or clarifications are needed. These can be provided in an email supplement.
- A signed sworn statement will be needed.
- The application is sufficiently complete to allow posting for the 60-day public comment period upon receipt of the Stage II review fee.

I: BACKGROUND INFORMATION REVIEW

<i>Information Type</i>	<i>Complete? (Y, N, NA)</i>	<i>Missing Information</i>
<i>Name of the Facility:</i>	Y	
<i>Location:</i>	Y	
<i>Facility Owner:</i>	Y	
<i>Regulatory Status:</i>	Y	
<i>Characteristics of the Power Plant:</i>	Y	
<i>Characteristics of the Dam or Diversion:</i>	Y	
<i>Characteristics of Conduit:</i>	NA	This is not a conduit facility.
<i>Characteristics of Reservoir and Watershed:</i>	N	Please clarify the approximate acreage within the project boundary on land vs. in water. The application states 185 acres – is that land only and the impoundment is another 136 acres or is the land 185-136 = 49 acres?
<i>Hydrologic Setting:</i>	Y	"The area of land and water inside the FERC Project Boundary is
<i>Designated Zones of Effect:</i>	Y	approximately 185 acres" (pg. 1-11). As stated, this is an approximate
<i>Additional Contact Information:</i>	Y	calculation, but includes the land and water.
<i>Photographs of the Facility</i>	Y	
<i>Map/aerial of facility and location of nearby dams</i>	Y, but...	A project boundary map or aerial would be helpful if available. Nearby dams are indicated in Figure 1-2 (page 1-2). An aerial of the Project Facilities is provided in Figure 1-4 (page 1-15) and 2-1 (page 2-2).

II. CRITERIA INFORMATION REVIEW

General Criteria Comments: The Project has two ZOE's – impoundment and tailrace

A. Ecological Flow Regime

Zone of Effect	Standard selected	Complete? (Y or N)	Information needed to complete the review	Initial issue identification and standards recommendations
1-Impoundment	1	Y, but...	Please provide the updated Operations and Flow Monitoring Plan when it becomes available. Noted.	No issues expected
2-Tailrace	1	Y	None	

B. Water Quality Protection

Zone of Effect	Standard selected	Complete? (Y or N)	Information needed to complete the review	Initial issue identification and standards recommendations
1-Impoundment	3	Y	None	No issues expected
2-Tailrace	3	Y	None	

C. Upstream Fish Passage

Zone of Effect	Standard selected	Complete? (Y or N)	Information needed to complete the review	Initial issue identification and standards recommendations
1-Impoundment	2	Y	None	The Stage II review will suggest that the impoundment can use standard C-1. Updated.
2-Tailrace	2	Y	None	

D. Downstream Fish Passage and Protection

Zone of Effect	Standard selected	Complete? (Y or N)	Information needed to complete the review	Initial issue identification and standards recommendations
1-Impoundment	2	Y	None	No issues expected
2-Tailrace	2	Y	None	The Stage II review will suggest that the tailrace can use standard D-1. Updated.

E. Watershed and Shoreline Protection

Zone of Effect	Standard selected	Complete? (Y or N)	Information needed to complete the review	Initial issue identification and standards recommendations
1-Impoundment	1	Y	None	The Stage II review may suggest that E-3 is the more appropriate standard given NH protected river status and NH Shoreland Water Quality Protection Act buffer requirements. Updated.
2-Tailrace	1	Y	None	

F. Threatened and Endangered Species Protection

Zone of Effect	Standard selected	Complete? (Y or N)	Information needed to complete the review	Initial issue identification and standards recommendations
1-Impoundment	1	N	<ul style="list-style-type: none"> Please submit a data request with NH Natural Heritage Bureau (https://www2.des.state.nh.us/nhb_datacheck/signin.aspx) to confirm the presence/absence of state-listed species and describe how the facility does not impact those species if present. Please confirm either that roosting habitat for bats does not exist, or that the facility would abide by the 4(d) rule for Northern long-eared bat. Please also provide the response from NHFG if/when it becomes available. 	<p>No Issues expected, pending data check results</p> <p>Data request has been submitted.</p> <p>Confirmed on page 3-17.</p>
2-Tailrace	1	N	See above	

G. Cultural and Historic Resource Protection

Zone of Effect	Standard selected	Complete? (Y or N)	Information needed to complete the review	Initial issue identification and standards recommendations
1-Impoundment	1	Y	None	No issues expected
2-Tailrace	1	Y	None	

H. Recreational Resources

Zone of Effect	Standard selected	Complete? (Y or N)	Information needed to complete the review	Initial issue identification and standards recommendations
1-Impoundment	3	Y, but...	Please clarify if the stone stairway and/or October recreational water release are required in the MOA or other requirements, or if these actions are voluntary. If voluntary, make a case for the PLUS standard.	<p>The facility may be able to request a PLUS standard if these actions are voluntary.</p> <p>We have added H-PLUS.</p>
2-Tailrace	3	Y, but...	See above	