Upper Gorham Hydroelectric Project — LIHI Mid-Term Review

LIHI Certificate #175 | FERC No. P-2311

Androscoggin River, Berlin, Coos County, New Hampshire

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Project Information

1. Introduction

The current LIHI Certificate for the 4.8-MW Upper Gorham Hydroelectric Project (Upper Gorham Project or Project), LIHI #175, FERC Project Number P-2311, was issued to Great Lakes Hydro America, LLC (GLHA or Applicant), a subsidiary of Brookfield Renewable Energy Group effective August, 31, 2020, and expires on August 30, 2030. The Upper Gorham Project was first certified by LIHI in 2020. The current LIHI certificate includes Condition 1, requiring the Facility Owner to provide updates to LIHI on the ongoing status of Project relicensing (satisfied in 2026).

The Upper Gorham Project was recently relicensed by FERC on September 9, 2025, with a new 40-year license expiring September 1, 2065 (P-2311) (FERC 2025). In accordance with Section 5.3.4 of the 2nd Edition LIHI Handbook, issuance of a new license constitutes a "material change" and triggers a mid-term LIHI Certification review. A mid-term review application package was submitted to LIHI by GLHA on February 17, 2026 (Kleinschmidt Associates 2026). A new Certificate term may be granted if the Project continues to satisfy the LIHI criteria.

Note on shared context: The Upper Gorham Project is one of six LIHI Certified® hydroelectric projects within an 11-mile reach of the Androscoggin River between Berlin and Shelburne, New Hampshire (Table 1). Two non-LIHI projects, Riverside (FERC No. P-2423) and J. Brodie Smith (FERC No. P-2287), are located between the Sawmill and Cross Power projects.

Table 1. Nearby LIHI-Certified Hydroelectric Projects in the Upper Androscoggin River between Berlin and Shelburne, New Hampshire.

Facility Name	LIHI Certification Number	FERC Project Number	Project Owner	Location (RM)
Sawmill	173	P-2422	GLHA / Brookfield	~140
Cross Power	174	P-2326	GLHA / Brookfield	~138
Cascade	188	P-2327	GLHA / Brookfield	135.6

Facility Name	LIHI Certification Number	FERC Project Number	Project Owner	Location (RM)
Upper Gorham	175	P-2311	GLHA / Brookfield	~133
Gorham	153	P-2288	Patriot Hydro / LS Power	130.4
Shelburne	176	P-2300	GLHA / Brookfield	~129

Of the six certified projects in this stretch, the Upper Gorham Project and four others (Sawmill, Cross Power, Cascade, and Shelburne) are owned by GLHA, a subsidiary of Brookfield Renewable Energy Group. The Gorham Project (LIHI #153) is the only facility in this reach owned and operated by a different operator, Central Rivers Power NH, LLC (CRP), a subsidiary of LS Power/Patriot Hydro, LLC. The Upper Gorham Project is located downstream from the Cascade Project (LIHI #188) and upstream from the Gorham Project (LIHI #153). All six projects received new 40-year FERC licenses in 2025. The GLHA projects submitted a combined LIHI mid-term review application (Kleinschmidt Associates 2026). The Gorham Project submitted a separate LIHI mid-term review application.

The long-term, primary flow reference gage for this reach is USGS 01054000 (Androscoggin near Gorham), located upstream of the Gorham Hydroelectric Project, which has records back to the early 1900s (Table 2).

Table 2. Nearby USGS Stream Gages in the Upper Androscoggin River between Berlin and Shelburne, New Hampshire.

USGS Gage	Gage Name	Location (River Mile)	Nearest Project
01054000	Androscoggin R. near Gorham, NH	~131	Cascade (upstream) Upper Gorham (downstream)
01054500	Androscoggin R. at Rumford, ME	~141	Riverside (upstream) J. Brodie Smith (downstream)

Background information on watershed conditions, shoreline regulations, cultural resources, studies conducted for FERC relicensing on water quality, fish passage, threatened and endangered species, and recreation are inherently similar across all six projects. With this shared context, standard language will be used across each mid-term review report where applicable.

2. Facilities and Operations

The Upper Gorham Project is a 4.8-MW run-of-river hydroelectric facility located on the Androscoggin River at river mile 132.6 in Gorham, New Hampshire (Figures 1 and 2). The Project was originally constructed and completed in 1904. The annual average generation from 2016-2021 was 14,611 MWh.

The dam is a 775-foot-long, 31-foot-high structure consisting of a 133-foot-long earthen dike and a 300-foot-long timber-crib spillway with flashboards. It also features a 122-foot-long head gate section with an adjacent gatehouse and a 220-foot-long earthen dike on concrete core walls (Figure 2). A 3,350-foot long, 100-foot wide and 18-foot deep power canal conveys water to the powerhouse. The powerhouse contains four horizontal Francis turbines and generators. A 1,800-foot-long transmission line conveys power from the facility.

The Project operates in run-of-river mode, impounding a 45-acre reservoir over a six-inch range of headpond elevation (812.3 feet). The Project maintains a minimum off-season flow requirement of 200 cfs year-round and 400 cfs from March 1–June 15 for trout spawning.

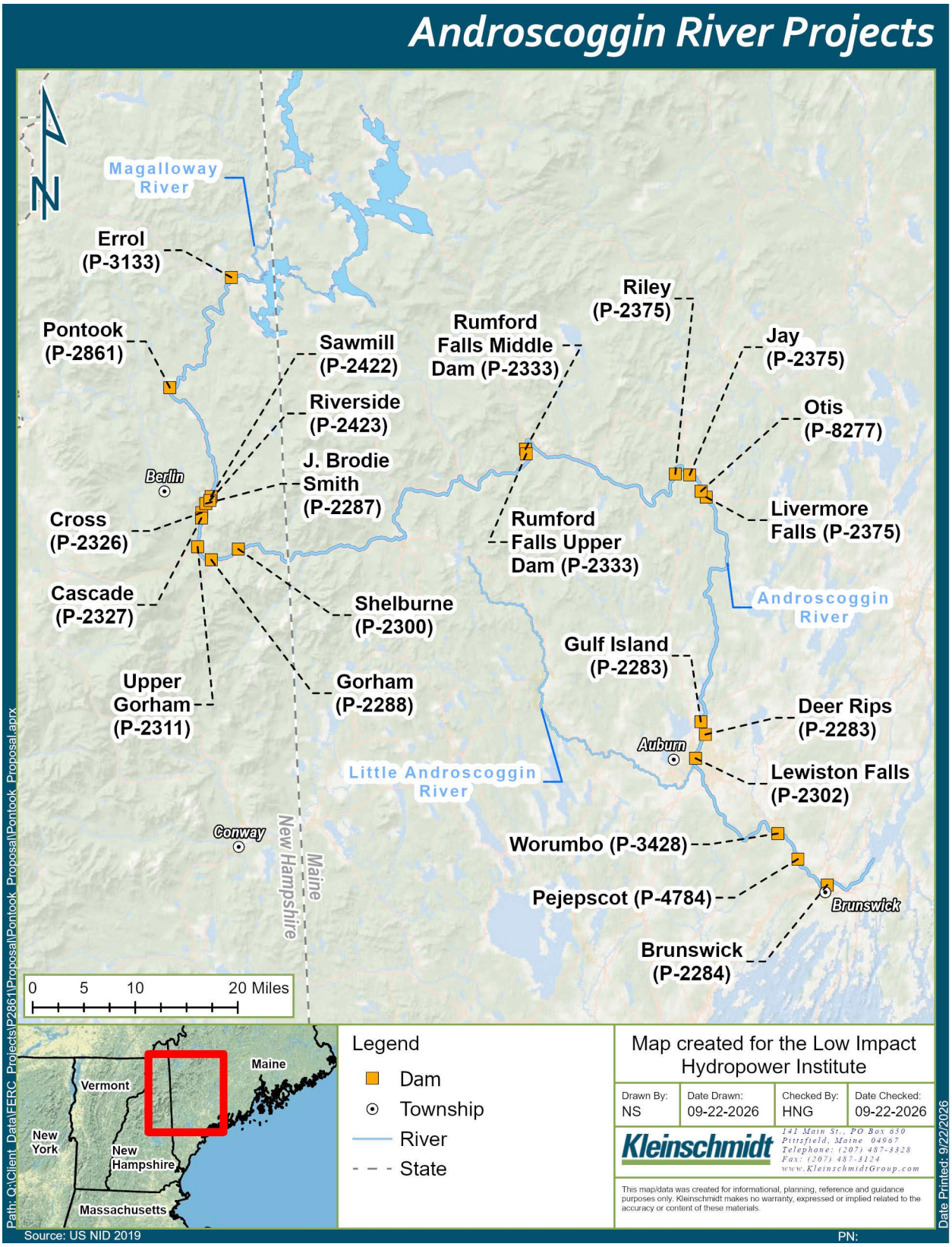

Figure 1 – Androscoggin River Watershed. Upper Gorham denoted by a red box (edited from original).

Figure 2 – Upper Gorham Project on the Androscoggin River in Gorham, Coos County, NH.

Under the new license, the Project continues to operate in substantially the same manner as before, with an additional notification and reporting requirement to FERC for planned and unplanned deviations (Article 402) (Table 3) (GLHA 2025).

Table 3. Articles from the 2025 Upper Gorham Project (FERC No. 2311) license order:

Article	Title	Summary
401	Commission Approval, Reporting, and Filing of Amendments	Plans and reports required under the water quality certification must be filed with FERC for approval; amendments require FERC application.
402	Project Operation	Licensee must operate run-of-river per NH DES certification condition E-7; additional notification and reporting requirements apply for operational deviations.
403	Reservation of Authority (Fishways)	FERC reserves authority to require fishways as may be prescribed by the Secretary of the Interior under FPA section 18.
404	Protection of Northern Long-Eared Bat and Tricolored Bat	No tree removal of any size on project land from April 15–October 31, except for public/project safety hazards; emergency removal requires notification to NH FGD and FWS.

Article	Title	Summary
405	Programmatic Agreement and Historic Properties Management Plan	Licensee must implement the December 12, 2024 PA with the NH SHPO and file a new HPMP for FERC approval within one year of license issuance.
406	Recreation Facilities	Licensee must notify FERC if the non-project facilities, which provide recreational access to the Project, cease operation.
407	Use and Occupancy	Licensee may grant permission for minor uses and occupancies of project lands without prior FERC approval, provided they are consistent with protecting scenic, recreational, and environmental values.

3. Scope of the Mid-Term Review

This review evaluates the Upper Gorham Project's continued compliance with the current LIHI criteria and standards in consideration of the new FERC license, the 2024 New Hampshire Department of Environmental Services (NHDES) Water Quality Certificate (WQC), and other regulatory and operational requirements (FERC 2025, Appendix A). This review includes a comparison of the prior and new FERC licenses, the FERC Environmental Assessment, the NHDES WQC, annual LIHI compliance submittals, and the supporting studies prepared for FERC relicensing.

Public notice of the mid-term review was made on April 28, 2026, on the LIHI webpage, to LIHI email subscribers in New Hampshire and to agencies and stakeholders provided by GLHA. The 60-day public comment period closed on June 27, 2026 and no comments were received. Due to the completeness of information in the application and recent relicensing documents, the reviewer did not need to reach out to any resource agencies or interested parties.

4. Zones of Effect

In the mid-term review application, GLHA selected the exact same four Zones of Effect (ZoEs) as in their current LIHI Certificate. Zone 1 is the impoundment extending upstream from the dam approximately 2.9 miles to the Cascade Project tailrace, and Zone 2 is the bypassed reach extending downstream from the dam approximately 1 mile. Zone 3 is the tailrace extending approximately 0.2 miles to the confluence with the bypassed reach and Zone 4 is the 0.3-mile-long regulated river reach downstream.

The Applicant stated that the proposed standards remain unchanged from the 2020 LIHI review because the new license does not create significant changes in operations or other

requirements that would substantially affect Project resources. However, the reviewer disagrees with the selections for some criteria and changes to the selected standards are noted in **red** in Table 4 and discussed in Section 5.

Table 4: Selected LIHI Standards

Zone of Effect:		Zone 1 Impoundment	Zone 2 Bypassed Reach	Zone 3 Tailrace	Zone 4 Regulated River Reach Downstream
River mile at upper and lower extent of Zone:		RM 135.5 – 132.6	RM 132.6– 131.6	RM 131.6 – 131.4	RM 131.4 – 131.1
Criterion		**Standard Selected**			
A	Flow Regimes	~~1,~~ **2**	2	2	2
B	Water Quality	~~3,~~ **2**	~~3,~~ **2**	~~3,~~ **2**	~~3,~~ **2**
C	Upstream Fish Passage	1	1	1	1
D	Downstream Fish Passage	1	1	1	1
E	Shorelines and Watershed	3	3	3	3
F	Threatened and Endangered Species	2	2	2	2
G	Cultural and Historic Resources	2	2	2	2
H	Recreational, Public, and Traditional Cultural Access	2	~~1,~~ **2**	2	1

5. Detailed Criteria Review

A. Flow Regimes

Goal: *The flow regimes in riverine reaches affected by the facility support habitat and other conditions suitable for healthy fish and wildlife resources.*

Assessment of Criterion: Standard A-2, Resource Agency and Tribal Government Recommendations is appropriate for all zones as discussed below. The minimum flow regime was developed based on results of an Instream Flow Study conducted during the prior FERC licensing, a Bypass Reach Aquatic Habitat Study conducted in November 2020 and in consultation with US Geological Survey (USGS), US Fish and Wildlife Service (USFWS), the NH Fish and Game Department (NHFG) and the NHDES (FERC 1993, Kleinschmidt Associates 2026). Minimum flow requirements were determined to provide suitable protection for resident aquatic species, including trout, and their habitat. The Bypass Reach Aquatic Habitat Study conducted by GLHA observed a fully wetted river channel with diverse aquatic habitats at

existing minimum flows (GLHA 2021). In November 2021, an Instream Flow Study was conducted to confirm that the 200 cfs and 400 cfs minimum flows were still appropriate (Kleinschmidt Associates 2026).

Under the new license, the Project continues to operate in a run-of-river mode, maintaining a minimum flow of 200 cfs at all times into the 1-mile long bypassed reach and the Project is also required to provide a minimum flow of 400 cfs into the bypassed reach during trout spawning season (March 1 – June 15) (FERC 2025).

An Operations Compliance Monitoring Plan (OCMP) is required under Article 402 and Condition E-9 of the Water Quality Certificate (NHDES 2024, FERC 2025, Appendix A) which changes the selected standard A-1 to A-2 in the impoundment zone. The Project is now also subject to notification and reporting in the event of flow or impoundment level deviations (Condition E-8 of the WQC). GLHA is additionally required to protect aquatic resources downstream under Condition E-7 for emergency or maintenance "Impoundment Refill Procedures" to discharge 90 percent of inflow using 10% of inflow for refill (FERC 2025, Appendix A).

There were no reported flow or impoundment-level deviations identified in the FERC eLibrary. The flow regime has not changed under the new license, and the Project continues to provide a stable hydraulic environment consistent with prior operations. Therefore, the Project continues to satisfy the flow regimes criterion with the condition recommended in Section 7 to implement the OCMP.

B. Water Quality

Goal: Water quality is protected in waterbodies directly affected by the facility, including downstream reaches, bypassed reaches, and impoundments above dams and diversions.

Assessment of Criterion: Standard B-2, Resource Agency and Tribal Government Recommendations for all zones is appropriate, given the recent Water Quality Certification (WQC) although Standard B-3, Site Specific Studies could also be appropriate because the Project completed a water quality study during relicensing which confirmed that it does not contribute to existing water quality impairments (GLHA 2025). The Project reach is designated Class B by NHDES and is impaired for mercury, low dissolved oxygen, and pH.

The Project continues to meet surface water quality standards consistent with the Androscoggin Rivers Class B designation and the Water Quality Certificate issued by NHDES on September 19, 2024 (NHDES 2024, FERC 2025, Appendix A). The Project does not adversely affect water quality under Condition E-1 of the WQC and the new license does not impose a different water quality regime. A 10-week water quality study conducted by GLHA between June and September of 2020, observed pH and dissolved oxygen (concentration and percent saturation) exceeded or were within the range of attainment for Class B standards during the monitoring period (FERC 2024). Similar to the other projects on the river, pH occasionally fell below 6.5 during times of cooler water temperatures and higher flows following rain events. Chlorophyll-a and total

phosphorus values indicated overall low productivity, consistent with oligotrophic conditions, and no presence of nuisance algal blooms (FERC 2024).

The new license preserves compliance obligations addressed during relicensing under Conditions E-10 and E-11 of the WQC, which requires GLHA to provide a Water Quality Improvement Plan to NHDES within 120 days of notice if the Project is determined to be contributing to a violation. Although there remain legacy impairments in this reach of the Androscoggin River unrelated to Project operations, the Project continues to satisfy the water quality criterion.

C. Upstream Fish Passage

Goal: The facility allows for the safe, timely, and effective upstream passage of migratory fish.

Assessment of Criterion: Standard C-1, Not Applicable/De Minimis Effect, remains appropriate for all zones. The upper Androscoggin River is not accessible to diadromous species in the Project area due to natural and human made barriers downstream in the Maine section of the river (Wippelhauser et al. 2017, Yoder 2006). As such, there is no upstream migratory fish passage at the Project, and the new license does not impose a current operational requirement for fish passage (FERC 2025). No fish passage studies were requested or conducted during FERC re-licensing, and no upstream fish passage structures are currently required per the new FERC license.

Although there are no anadromous fish present in the Project area, the new license preserves FERC's authority to require fishways that may be prescribed by the Secretary of the Interior pursuant to section 18 of the Federal Power Act through Article 403 (FERC 2025). Based on the absence of migratory fish in the reach and the lack of any passage structures required by the new license, the Project continues to satisfy the upstream fish passage criterion.

D. Downstream Fish Passage

Goal: The facility allows for the safe, timely, and effective downstream passage of migratory fish and minimizes loss of resident fish from impoundments.

Assessment of Criterion: Standard D-1, Not Applicable/De Minimis Effect, remains appropriate for all zones. There are no catadromous or other migratory fish requiring downstream passage at the Project (FERC 2025). Downstream passage for resident fish occurs through spillage, low-level gate releases, and turbine flow through the trashracks. Resident fish species include stocked trout, fallfish, smallmouth bass, white sucker, and longnose dace (FERC 2024).

Article 406 of the prior FERC license required the licensee to provide functional designs of downstream fish bypass facilities, including plans for operations and maintenance. However,

FERC terminated this order upon appeal, by an order issued January 9, 2003.[1] The original requirement was premised on the proposed construction of a new development, Pulsifer Rips, associated with the upstream Cascade Project which would have created a significantly enhanced salmonid habitat in the new development's 1.5-mile-long bypassed reach. In addition, a proposed increase in hydraulic capacity at the Upper Gorham Project would have increased flows to the powerhouse. Both of these proposals were seen by FERC staff as increasing the entrainment risk to stocked land locked salmon and trout. Neither of these proposals were implemented and therefore, FERC determined in 2003 that, with the bypass reach minimum flows at these projects, there was no additional need for further downstream passage protection measures.

During relicensing, GLHA conducted a desktop entrainment/impingement study and created estimates of turbine passage survival for juvenile and adult life stages of resident fish species using the USFWS Turbine Blade Strike Analysis model (Towler and Pica 2020). Results indicated low entrainment and impingement risk in addition to a baseline lack of quality aquatic habitat due to legacy impairments in this riverine reach (although there is more habitat here than at the other projects) and the absence of migratory fish species.

The Project's operational and structural characteristics were also determined by FERC's EA to create little downstream passage concern for the resident species present (FERC 2024). Resource agencies did not identify downstream passage measures that were required as part of the new license. Therefore, the Project continues to satisfy the downstream passage criterion.

E. Shorelines and Watershed Protection

Goal: The facility has demonstrated that sufficient action has been taken to protect, mitigate, or enhance the condition of soils, vegetation, and ecosystem functions on shoreline and watershed lands associated with the facility.

Assessment of Criterion: Standard E-3, Enforceable Protection, remains appropriate for all zones. All projects on the river are subject to the New Hampshire Shoreland Water Quality Protection Act (SWQPA), which governs shoreland uses within a 250-foot buffer of the high-water mark. The SWQPA establishes minimum standards for the subdivision, use and development of shorelands adjacent to the state's public water bodies. It includes limits on impervious surfaces, a provision for waterfront and natural woodland buffers in which vegetation removal is limited, shoreland protection, and the establishment of a permit requirement for many new construction, excavation and filling activities within the Protected Shoreland.

The prior license required a Shoreline Protection Plan, for which FERC approved adoption of the New Hampshire Comprehensive Shoreland Protection Act in July of 2000. That Act has since

[1] https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20030109-3025&optimized=false&sid=75347f00-12e7-46f1-98d9-b609e783622d

been superseded by the SWQPA. The new license does not require a Project-specific shoreline management plan in lieu of the SWQPA.

The Project lands are limited to the area occupied by Project infrastructure in the City of Berlin and there are no lands of ecological significance. Currently, shoreline protection is maintained through compliance with the SWQPA. The Project continues to operate in a run-of-river mode that minimizes shoreline erosion and negative impacts of reservoir fluctuation. Therefore, the Project continues to satisfy the shoreline and watershed criterion.

F. Threatened and Endangered Species

Goal: The facility does not negatively impact federal or state listed species or tribal trust species.

Assessment of Criterion: Standard F-2, Finding of No Negative Effect, remains appropriate for all zones. Based on the USFWS IPaC online tool, the federally endangered northern long-eared bat, the federally threatened Canada lynx, the federally proposed endangered tricolored bat, and the federally proposed threatened monarch butterfly have the potential to occur within the Project boundary (FERC 2024). No critical habitat for either bat species, Canada lynx, or monarch butterfly is proposed or designated within the Project area. An extensive botanical survey was conducted at all GLHA projects in 2021; no federal or state threatened or endangered plant species were documented at the Upper Gorham Project. In an August 23, 2024 letter to FERC, the USFWS indicated that the Project would have no effect on Canada lynx and any effect on bats would be "insignificant and/or discountable". [2]

Article 404 of the new FERC license implements protection for the northern long-eared bat and tricolored bat on Project land by imposing a seasonal tree-cutting restriction from April 15 through October 31 (FERC 2024, 2025). Operation under the new license is not expected to create significant impacts. Therefore, the Project continues to satisfy the threatened and endangered species criterion. Therefore, the Project continues to satisfy the threatened and endangered species criterion.

G. Cultural and Historic Resources

Goal: The facility does not adversely impact cultural or historic resources associated with the facility's lands and waters, including archaeological sites, historic era sites, traditional cultural landscapes, traditional cultural properties, and other tribal trust resources.

Assessment of Criterion: Standard G-2, Approved Plan, remains appropriate for all zones. Article 405 of the new license requires implementation of a new Programmatic Agreement between FERC and the New Hampshire State Historic Preservation Office for managing cultural and

[2] https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20240826-5026&optimized=false&sid=81cecaab-53b3-48d9-8053-ab3eaccbf6e0

historic resources pursuant to which GLHA must develop a Historic Properties Management Plan (HPMP) within one year of license issuance (FERC 2025).

There are no known archaeological resources within the Project boundary. The dam, gatehouse, powerhouse, and machinery were previously determined eligible for National Register of Historic Places listing (FERC 2024). FERC designated GLHA as its non-federal representative for Section 106 consultation in 2019. No Native American lands, known as traditional cultural properties, or NRHP-eligible tribal resources are present within the Project boundary.

There are no state or federal recognized tribes in New Hampshire, but three local tribes[3] were notified of the LIHI mid-term review application. No comments were received from any tribal interests. Therefore, the Project continues to satisfy the cultural and historic resources criterion with the condition recommended in Section 7 to implement the HPMP.

H. Recreational, Public, and Traditional Cultural Access

Goal: The facility accommodates recreational activities and provides recreational, public, and traditional cultural access to associated lands and waters without fee or charge.

Assessment of Criterion: Standard H-1, Not Applicable/De Minimis Effect, remains appropriate for the regulated downstream reach since there is no viable access to the river in that reach. Standard H-2, Resource Agency and Tribal Government Recommendations remains appropriate for the impoundment and tailrace zone and is appropriate for the bypassed reach.

There are no recreation facilities at the Project; however, access is available via non-Project lands. Recreation opportunities at the Upper Gorham impoundment include hiking/walking, picnicking, kayaking, fishing, scenic viewing, dog walking, and swimming. The impoundment access area is on land owned and maintained by the New Hampshire Department of Transportation and amenities including a picnic shelter, two picnic tables, dam safety signage, and hand carry boat access on land owned by and operated and maintained by the Trinity Assembly of God. The bridge across the river leading to the powerhouse (crossing the bypassed reach) is part of the Mahoosuc Trail, maintained by the Appalachian Mountain Club, and joins the Appalachian Trail on the north side of the river.

The Appalachian and Mahoosuc Trail lands are owned by both GLHA and the State of New Hampshire. The footbridge (Black Trestle Bridge) is also owned by the State of New Hampshire, and the parking area is owned by the Town of Gorham. The access into the bypassed reach includes a parking area and kiosk that provides information on the history of the river and the Project. In 2012, FERC authorized GLHA to grant a recreational right-of-way to Coos Cycling Club for the development and maintenance of a non-motorized bicycle trail on Power Island, named the Power Island Loop Trail. Recreationists have access to the trails on the island between Route

[3] Abenaki Nation of New Hampshire, Koasek Abenaki Nation, and Pennacook New Hampshire Tribe

16 and the Upper Gorham Project power canal through agreements between GLHA, the State of New Hampshire, and the Coos Cycling Club.

GLHA conducted recreation user intercept surveys during the 2022 recreation season. Respondents reported good or excellent conditions and adequate facilities. Respondents recommended recreational improvements to water access but most users on the site participated in hiking and walking, followed by water activities (fishing, swimming and boating). Article 406 requires GLHA to notify FERC if parking or other non-Project facilities cease operations (FERC 2025).

In the final license application GLHA proposed enhancing the impoundment access area by grading the boat access and replacing the picnic tables when appropriate. The Town of Gorham supported the proposals, but FERC did not require them in the license.

The Project continues to provide free public access where it is safe to do so, and therefore continues to satisfy the recreation, public and traditional cultural access criterion with the condition recommended in Section 7. Since FERC did not include the proposed improvements in the license this review finds that GLHA should still implement the enhancements and consult on the need to enhance the boat launch as an off-license and LIHI condition.

6. Current Certificate Conditions

The current LIHI certificate includes one condition. Condition 1 required the Facility Owner to provide updates to LIHI on the ongoing status of Project relicensing, including studies, FERC filings, resource agency consultation, prescriptions and recommendations, and agency comments on study results. This condition was fully satisfied with the issuance of the new FERC license in September 2025 and the submission of the mid-term review application (Kleinschmidt Associates 2026).

7. Conclusion and Recommendation

This review determined that the Project continues to satisfy the LIHI criteria and that a new 10-year Certificate term can be granted. The Project's new FERC license formalizes existing operational practices and establishes compliance reporting structures and monitoring requirements for continued resource protection. However, the following conditions are recommended to ensure completion of post-license requirements related to the LIHI criteria:

Condition 1: The Facility Owner shall submit the final Operational Compliance Monitoring Plan (OCMP) to LIHI once it has been approved by resource agencies and FERC. In annual compliance submittals to LIHI the Facility Owner shall submit a summary of all planned and unplanned operational deviations that occurred during the year along with evidence of resource agency consultation and comments received.

Condition 2: The Facility Owner shall submit the final Historic Properties Management Plan (HPMP) to LIHI once it has been approved by the SHPO and FERC. In annual compliance submittals to LIHI, the Facility Owner shall report on any consultation that occurred during the year related to ground-disturbing or other activities subject to the HPMP.

Condition 3: The Facility Owner shall work with the NH Department of Transportation on improvements to the boat access area, and with the Trinity Assembly of God on picnic table replacement when replacement is needed. The Facility Owner shall report to LIHI on the status of the improvements in annual compliance submittals.

Appendix A — License Crosswalk

Resource Area	Previous License Requirement	Change from Existing License
Flow Regimes	Articles 401, 402 and 403 included restrictions on run-of-river operations, minimum bypass flows, and an operational compliance monitoring plan.	Articles 401, 402 and WQC Conditions E-7 – E-9 require an updated operational compliance monitoring plan including deviation reporting and drawdown/refill operations.
Water Quality	Article 405 required developing a water quality monitoring plan.	Article 401 and WQC Conditions E-10 and E-11 require a water quality improvement plan and reporting, if NHDES determines that the project is contributing to non-compliance with state water quality standards.
Fish Passage	Article 404 retained FERC's Section 18 reservation of authority to prescribe fishways. Article 406 required design and construction of a resident fish bypass facility (later removed upon appeal).	Article 403 preserves FERC's authority to require fishways.
Shorelines and Watershed Protection	No shoreline protection measures.	The new license does not require a shoreline management plan; annual shoreline inspections continue and the project is subject to restrictions under the state Shoreline Water Quality Protection Act.
Threatened and Endangered Species Protection	No species-specific protection measures.	Article 404 requires avoidance of tree removal, trimming from April 15 through October 31.
Cultural and Historic Resources	Article 407 required implementation of the Programmatic Agreement with NH SHPO providing annual monitoring and reporting of repair and improvement activities.	Article 405 requires implementation of the new PA and development of an updated historic properties management plan.
Recreation	Article 408 required developing a recreation management plan.	Article 406 requires notification to FERC if non-project facilities cease operations but does not require a recreation management plan.

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