Rumford LIHI Mid-term Review

Rumford Falls Hydroelectric Project
(FERC No. 2333; LIHI No. 38)

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May 2026

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ACRONYMS AND ABBREVIATIONS

A	
APE	area of potential effect
ATV	all-terrain vehicle
B	
Brookfield	Brookfield Renewable Partners L.P.
C	
cfs	cubic feet per second
Commission	Federal Energy Regulatory Commission
D	
DC-AC	direct current–alternating current
DO	dissolved oxygen
E	
EPA	Environmental Protection Agency
EPT	Ephemeroptera, Plecoptera, and Trichoptera
F	
ft	feet/foot
ft/s	feet per second
FERC	Federal Energy Regulatory Commission
H	
HPMP	Historic Properties Management Plan
I	
IPaC	Information for Planning and Consultation
K	
KOP	key observation point
L	
Licensee	Rumford Falls Hydro LLC
LIHI	Low Impact Hydropower Institute

M

MBPL	Maine Bureau of Parks and Lands
MDACF	Maine Department of Agriculture, Conservation, and Forestry
MDEP	Maine Department of Environmental Protection
MDIFW	Maine Department of Inland Fisheries and Wildlife
ME	Maine
MHPC	Maine Historic Preservation Commission
mg/L	milligrams per liter
msl	mean seal level
MW	megawatt(s)
MWh	megawatt-hour(s)

N

N/A	not applicable
National Register	National Register of Historic Places
No.	Number

P

PCB	polychlorinated biphenyl
Project	Rumford Falls Hydroelectric Project (FERC No. 2333)

R

RFH	Rumford Falls Hydro LLC
RM	River Mile

T

THPO	Tribal Historic Preservation Officer
TSI	Trophic State Indices

U

USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

W

WQC	Water Quality Certification

1.0 INTRODUCTION

The Rumford Falls Hydroelectric Project (Rumford Falls Project or Project) licensed under the Federal Energy Regulatory Commission (FERC or Commission) Project No. 2333 is owned and operated by Rumford Falls Hydro LLC (RFH or Licensee), an affiliate of Brookfield Renewable Partners L.P. (Brookfield). On February 9, 2026, RFH received an email from the Low Impact Hydropower Institute (LIHI) stating that a Mid-term Review of the Project (LIHI No. 38) was required due to receiving a new FERC license on January 22, 2026 (Accession No. 20260122-3074). The Project is discussed below following the outline criteria provided by LIHI in their LIHI Mid-Term Review – Applicant Submittal Outline (Revision 5, August 1, 2025) and the LIHI Handbook 2nd Edition – Revision 2.06.

RFH submitted an original LIHI application for the Project to LIHI on March 12, 2019, but the new FERC license constitutes a material change under Section 5.3.4 in the LIHI Handbook 2nd Edition – Revision 2.06. Additionally, on June 3, 2021, FERC approved a non-capacity amendment for the installation of a battery storage facility located along the transmission line adjacent to the Project substation (Accession No. 20210603-3027). The battery storage facility consists of 15 smaller battery enclosures with integrated heating/cooling and ventilation and have a rating of 372.7 kilowatt-hours each. The battery storage system also consists of direct current–alternating current (DC-AC) inverters, inverter step-up transformers, spill containment, and associated auxiliary equipment. This battery storage facility does not change any Project operations and/or have impacts on generating or water control capabilities of the dam or powerhouse. No other material changes have occurred for this Project. Any reference documents not linked in Table 3-1 appear in Appendix A.

The Project consists of two developments, the Upper Station Development and Lower Station Development (Upper Station and Lower Station, respectively), which are located less than 1 mile apart on the Androscoggin River in the Town of Rumford, Oxford County, Maine. The Upper Station consists of a dam (Upper Dam), forebay, impoundment (Upper Dam Impoundment), gatehouse, powerhouse, transmission lines, and appurtenant facilities. The Lower Station consists of a dam (Middle Dam), headgate structure, canal (Middle Canal), impoundment (Middle Dam Impoundment), gatehouse, powerhouse, transmission line, and appurtenant facilities. Based on the 2019 LIHI application, there are five Zones of Effect analyzed under the LIHI analysis (Figure 1-1).

Figure 1-1 Zones of Effect for the Rumford Falls Hydroelectric Project Based on the 2019 LIHI Application

2.0 RELICENSING CONSULTATION

Active stakeholders through the FERC relicensing process for the Project included the United States Fish and Wildlife Service (USFWS), National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Mi'kmaq Nation, Maine Department of Agriculture, Conservation and Forestry, Maine Department of Environmental Protection (MDEP), Maine Historic Preservation Commission (MHPC), Maine Department of Inland Fisheries and Wildlife (MDIFW), Maine Bureau of Parks and Lands (MBPL), Town of Rumford, American Whitewater, and Maine Council of Trout Unlimited. Comments from these active stakeholders were received on the Draft License Application, Draft Environmental Analysis, and Study Reports, which RFH took into consideration for the Final License Application. Additionally, MDEP and MDIFW were engaged with developing the relicensing studies.

Maine Council of Trout Unlimited and MBPL commented on the need for a shorter portage option in the FERC Environmental Assessment. FERC agreed, and Article 406 of the new license requires RFH to include a plan and schedule for developing a new Upper Dam Impoundment access and portage. The Town of Rumford, American Whitewater, and MBPL recommended enhanced whitewater boating opportunities by providing flows for a total of 10 days in the summer. The Project's Water Quality Certification (WQC) (Condition 3(B)) and the new FERC license (Article 407) both require whitewater flows be released on 10 weekend days annually. The Town of Rumford, MBPL, and Maine Council of Trout Unlimited made suggestions to RFH's proposed aesthetic flow releases in the Upper Dam bypass reach. The Project's WQC (Condition 3(C)) and new FERC license (Article 407) both require aesthetic flows to be released on 10 weekend days. The Town of Rumford also suggested increased lighting at the Upper Dam bypass reach during higher flows. FERC agreed, and the new license (Article 407) requires that flow lighting requirements be provided to the whitewater and aesthetic flow plans. The same article requires RFH to develop the flow plans in consultation with MDEP, the Town of Rumford, MBPL, American Whitewater, and Maine Council of Trout Unlimited.

2.1 Cultural Resources

On October 3, 2019, Commission staff invited the Penobscot Nation to meet and discuss any issues or concerns they may have about the Rumford Falls Project. Because there was no response from the Tribe, Commission staff made contact by phone with the Tribal Historic Preservation Officer (THPO) on November 19, 2019, inviting them to participate

in the relicensing process. FERC staff made additional attempts to see if the Tribe wanted a government-to-government consultation meeting on December 4, 2019, December 11, 2019, and January 7, 2020. To date, no members of the Tribe have requested a meeting with Commission staff.

RFH received a letter dated August 15, 2022, from the THPO of the Mi'kmaq Nation (formerly known as the Aroostook Band of Micmacs). The THPO specified that they did not have knowledge of any specific sites or cultural features that exist at the Project location but that the geographic area was historically utilized by members of the Mi'kmaq Nation and the other Wabanaki Tribes and requested the following of RFH: (1) if during the course of excavation/construction activities, human remains, artifacts, or any other evidence of Native American presence is discovered, that site activities in the vicinity of the discovery immediately cease, pending notification to the Mi'kmaq Nation; (2) if human remains, artifacts, or any other evidence of Native American presence is discovered, that the (a) human remains be reburied with the appropriate respect for the remains that is required at a distinctive and respectable site; (b) artifacts and other evidence of Native American discovery be documented with appropriate detail; and (c) items be analyzed for the precise period of the items and be documented by the THPO for the Mi'kmaq Nation; and (3) if the project results in wetland disturbances requiring mitigation, that RFH utilize the black ash (*Fraginus nigra*) as the principal wetland species for wetland restoration activities.

Commission staff invited the Mi'kmaq Nation to participate in the relicensing process on November 7, 2023. A follow-up email was sent to the Tribe on November 7, 2023. The Mi'kmaq Nation responded to the Commission on December 11, 2023, with the same information provided to RFH on August 15, 2022.

3.0 STANDARDS MATRIX

Table 3-1 Rumford Falls Project Facility Matrix

Item	Information Requested	Response – if applicable, include references or links to further details
Name of the Facility	Facility name (use FERC project name or other legal name)	Rumford Falls Hydroelectric Project (FERC No. 2333)
Reason for applying for LIHI Certification	1. To participate in state RPS program (specify the state and the total megawatts/megawatt-hours [MW/MWh] associated with that participation (value and % of facility total MW/MWh) 2. To participate in voluntary REC market (e.g., Green-e) 3. To satisfy a direct energy buyer's purchasing requirement 4. To satisfy the facility's own corporate sustainability goals 5. For the facility's corporate marketing purposes 6. Other (describe)	To participate in the voluntary REC market
	If applicable, the amount of annual generation (MWh and % of total generation) for which RECs are currently received or are expected to be received upon LIHI Certification	100%
Location	River name (United States Geological Survey [USGS] proper name)	Androscoggin River
	Watershed name - Select region, click on the area of interest until the 8-digit HUC number appears. Then identify watershed name and HUC-8 number from the map at: https://water.usgs.gov/wsc/map_index.html	Androscoggin Watershed – HUC 01040002
	Nearest town(s), county(ies), and state(s) to dam	Rumford, Oxford, Maine

Item	Information Requested	Response – if applicable, include references or links to further details
	River mile (RM) of dam above mouth	Middle Dam 0.9 mile above the Swift River, Androscoggin RM 90.7 Upper Dam 1.1 miles above the Swift River, Androscoggin RM 90.9
	Geographic latitude and longitude of dam	Upper Dam 44°32'19.77" N 70°32'41.96" W Middle Dam 44°32'33.78" N 70°32'46.25" W
Facility Owner	Application contact names	Kyle Murphy Senior Compliance Specialist – New England
	Facility owner company and authorized owner representative name. **For recertifications: If ownership has changed since last certification, provide the effective date of the change**	Rumford Falls Hydro LLC Representative: Kyle Murphy *No change since last certification.*
	FERC licensee company name (if different from owner)	N/A
Other Owners	If different from hydro facility owner, Provide the dam owner(s)/operator(s) entity names	N/A
Regulatory Status	FERC Project Number (e.g., P-xxxxx), issuance and expiration dates, or date of exemption	FERC P-2333, Issued: January 22, 2026, Expires: December 31, 2065
	FERC license type (major, minor, exemption) or special classification (e.g., "qualified conduit", "non-jurisdictional")	Major Hydroelectric Operating License
	Water Quality Certificate identifier, issuance date, and issuing agency name. Include information on amendments	L-024307-33-G-N Effective date: January 1, 2026 Issued by: State of Maine Department of Environmental Protection on August 16, 2024
	Hyperlinks to key electronic records on FERC eLibrary website or other publicly accessible data repositories[1] ***(or provide***	2026 FERC License Revised Exhibit A

[1] For example, the FERC license or exemption, recent FERC Orders, Water Quality Certificates, Endangered Species Act documents, Special Use Permits from the U.S. Forest Service or other agency, U.S. Army Corps of Engineers permits, and other regulatory documents, or permits or authorizations issued by a Tribal Nation, other third-party agreements including Memoranda of Agreement or Understanding about water

Item	Information Requested	Response – if applicable, include references or links to further details
	a separate list). If not electronically available, provide as appendices to the application	Revised Exhibit G Final Environmental Assessment Maine WQC for Rumford Falls Cultural Resources Report Initial Study Report Updated Study Report Final License Application 2023 Cultural Resource Report Recreation Study Reports AIR Response
Powerhouse	Date of initial operation (past or future for pre-operational applications)	Upper Station: 1918 Lower Station: 1954
	Total installed capacity (MW) **For recertifications: Indicate if installed capacity has changed since last certification**	Upper Station: 29.3 MW Lower Station: 15.2 MW *No change since last certification*
	Average annual generation (MWh) and period of record used **For recertifications: Indicate if average annual generation has changed since last certification**	Upper Station: 171,775 MWh Lower Station: 99,025 MWh Period of record: 2007–2021 *Upper Station decreased from 182,562 MWh to 171,775 MWh, and the Lower Station decreased from 108,975 MWh to 99,025 MWh. Both stations are expected to be about 10,000 MWh less per year due to higher required minimum flows in the new license.*

or land management, grants of right-of-way, water rights, and the like. If extensive, the list of hyperlinks can be provided separately in the application.

Item	Information Requested	Response – if applicable, include references or links to further details
	Mode of operation (run-of-river, peaking, pulsing, seasonal storage, diversion, etc.) **For recertifications: Indicate if mode of operation has changed since last certification**	Run-of-river *No change since last certification*
	Number, type, and size of turbine/generators, including maximum and minimum hydraulic capacity (in cubic feet per second [cfs]) and maximum and minimum output (in kilowatts or MW) of each turbine and generator unit	Upper Station (29.3 MW): Four Units: • One horizontal Francis unit at 4.3 MW • Two vertical Francis units at 8.1 MW • One vertical Francis unit at 8.8 MW Min–Max Hydraulic Capacity: 1,475–4,550 cfs Lower Station (15.2 MW): • Two vertical Francis units at 7.6 MW each Min–Max Hydraulic Capacity: 1,450–3,100 cfs
	Trash rack clear spacing (inches) for each trash rack	Upper Station: 3-inch open spaced Lower Station: 2.6-inch open spaced
	Approach water velocity (feet per second [ft/s]) at each intake if known	Unknown
	Dates and types of major equipment upgrades ***(or provide a separate list)*** **For recertifications: Indicate only those since last certification**	Installation of battery storage system completed in 2023 National control center moved to Queensbury, New York, in 2022
	Dates, purpose, and type of any recent operational changes ***(or provide a separate list)*** **For recertifications: Indicate only those since last certification**	Based on the new license, the following operational changes have been implemented at the Project: Increase of minimum flow from Middle Dam into Middle Dam bypass reach from 21 cfs to 200 cfs year-round per WQC requirements.

Item	Information Requested	Response – if applicable, include references or links to further details
		To protect the northern long-eared bat (*Myotis septentrionalis*) and tricolored bat (*Perimyotis subflavus*), avoid removing, destroying, or trimming any trees on Project land from April 15 through October 31 unless trees represent a safety hazard. Addition of whitewater boating and aesthetic flow releases (see Section 4.8). If sufficient flow is available, the Licensee must provide whitewater boating flow releases into the Middle Dam bypass reach with a target flow ranging from 1,200 cfs to 1,500 cfs for 10 days (total), June through August, 10 a.m. to 3 p.m. If sufficient flow is available, the Licensee must provide aesthetic flow releases into the Upper Dam bypass reach with a target flow ranging from 1,200 cfs to 1,500 cfs for 10 days (total), June through August, 10 a.m. to 4 p.m.
	Plans, authorization, and regulatory activities for any facility upgrades or license or exemption amendments ***(or provide a separate list)***	New Programmatic Agreement has been put into place. The following plans will be developed based on the new FERC license. • Operation Compliance Monitoring Plan • Recreation Management Plan • Whitewater Boating and Aesthetic Flow Plan • Historic Properties Management Plan (HPMP)

Item	Information Requested	Response – if applicable, include references or links to further details
Dam or Diversion	Date of original dam or diversion construction and description and dates of subsequent dam or diversion structure modifications	Upper Dam: 1918 Concrete gravity structure with pin-type breakaway flashboards and an Obermeyer spillway system Middle Dam: 1955 Rock-filled, wood-crib, gravity-type dam that has been capped and reinforced with concrete and topped with pin-type flashboards
	Dam or diversion structure length, height including separately the height of any flashboards, inflatable dams, etc. and describe seasonal operation of flashboards and the like	<u>Upper Dam Spillway</u> • 37 feet tall from bedrock • 464 feet long • 10-foot-wide ogee-type spillway • 30-inch-tall flashboards and a rubber Obermeyer spillway system <u>Middle Dam Spillway</u> • 20 feet tall from bedrock • 328.6 feet long • 16-inch-tall flashboards Flashboards at both spillways are designed to fail at high water levels
	Spillway maximum hydraulic capacity	78,645 cfs
	Length and type of each penstock and water conveyance structure between the impoundment and powerhouse	Upper Station: Four steel penstocks, three – 12-foot diameter, one – 13-foot diameter, 110 feet in length Middle Dam Canal: 2,400 feet long w/ typical width of 175 feet to the mid-canal, then 75 feet to Lower Station Gatehouse Lower Station: Two steel penstocks: 12-foot diameter, 815 feet long to surge tanks and an additional 77

Item	Information Requested	Response – if applicable, include references or links to further details
		feet to powerhouse. Surge tanks 36-foot diameter and 50.5 feet tall.
	Designated facility purposes (e.g., power, navigation, flood control, water supply, etc.)	Hydroelectric generation
Conduit Facilities Only	Date of conduit construction and primary purpose of conduit	N/A
	Source water	N/A
	Receiving water and location of discharge	N/A
Impoundment and Watershed	Authorized maximum and minimum impoundment water surface elevations **For recertifications: Indicate if these values have changed since last certification**	Maximum: • Upper Dam Impoundment (w/ flashboards): 601.24 ft USGS • Middle Dam Impoundment (w/ flashboards): 502.74 ft USGS Minimum: • Upper Dam Impoundment: 600.24 ft USGS • Middle Dam Impoundment: 501.74 ft USGS *No change since last certification*
	Normal operating elevations and normal fluctuation range **For recertifications: Indicate if these values have changed since last certification**	The Project license requires run-of-river operation within 1 foot of the full pond elevation of 601.24 ft USGS at Upper Dam. Middle Dam shall be kept within 1 foot of 502.74 ft USGS. *No change since last certification*
	Gross storage volume and surface area at full pool **For recertifications: Indicate if these values have changed since last certification**	Surface area: • Upper Dam Impoundment: 419 acres • Middle Dam Impoundment: 21 acres

Item	Information Requested	Response – if applicable, include references or links to further details
		Gross Storage Volume: • Upper Dam Impoundment: 2,900 acre-feet • Lower Dam Impoundment: 141 acre-feet *No change since last certification*
	Usable storage volume and surface area **For recertifications: Indicate if these values have changed since last certification**	Usable storage volume is zero acre-feet as this is a run-of-river facility. *No change since last certification*
	Describe requirements related to impoundment inflow and outflow, elevation restrictions (e.g., fluctuation limits, seasonality) up/down ramping and refill rate restrictions	Run-of-river operation such that all water into the project impoundment is passed downstream through the powerhouses (and/or via spill) and is not reserved for storage or peaking. There are no ramping or refill rate restrictions as these are not applicable to run-of-river facilities.
	Upstream dams by name, ownership (including if owned by an affiliate of the applicant's company) and river mile. If FERC licensed or exempt, please provide FERC project number of these dams. Indicate which upstream dams have downstream migratory fish passage	<u>Androscoggin River</u> Errol Project (FERC No. 3133), Brookfield White Pine Hydro, RM 170.1; Pontook Project (FERC No. 2861), Pontook Operating Limited Partnership, RM 152.4; Sawmill Project (FERC No. 2422), Great Lakes Hydro, RM 139.2; Riverside Project (FERC No. 2423), Great Lakes Hydro, RM 138.8; J. Brodie Smith Project (FERC No. 2287), Central Rivers Power, RM 138.2;

Item	Information Requested	Response – if applicable, include references or links to further details
		Cross Project (FERC No. 2326), Great Lakes Hydro, RM 136.9; Cascade Project (FERC No. 2327), Great Lakes Hydro, RM 136.3; Upper Gorham Project (FERC No. 2311), Great Lakes Hydro, RM 133.2; Gorham Project (FERC No. 2311), Central Rivers Power, RM 130.4; Shelburne Project (FERC No. 2300), Great Lakes Hydro, RM 127.6 No fish passage at projects upstream of the Rumford Falls Project.
	Downstream dams by name, ownership (including if owned by an affiliate of the applicant's company), river mile and FERC number if FERC licensed or exempt. Indicate which downstream dams have upstream migratory fish passage	Riley Project (FERC No. 8277), Eagle Creek Renewable, RM 69.3; Jay (RM 66.6), Otis (RM 63.8), Livermore Falls (RM 61.2) (FERC No. 2375) Eagle Creek Renewable; Gulf Island (RM 35.4), Deer Rips & Androscoggin 3 (RM 33.6), Brookfield White Pine Hydro; Lewiston Falls Project (FERC No. 2302), Brookfield White Pine Hydro, RM 30.8; Worumbo Project (FERC No. 3428), Eagle Creek Renewable, RM 15.7; Pejepscot Project (FERC No. 4784), Topsham Hydro Partners, RM 12.5;

<table>
<tr><th>Item</th><th>Information Requested</th><th>Response – if applicable, include references or links to further details</th></tr>
<tr><td></td><td></td><td>Brunswick Project (FERC No. 2284), Brookfield White Pine Hydro, RM 8.0
Upstream migratory fish passage is provided at the Brunswick, Pejepscot, and Worumbo Projects.
Upstream American eel (Anguilla rostrata) passage is being considered at the Lewiston Project.</td></tr>
<tr><td></td><td>Operating agreements with upstream or downstream facilities that affect water availability and facility operation</td><td>1983 Androscoggin River Headwater Benefits Agreement</td></tr>
<tr><td></td><td>Area of land (acres) and area of water (acres) inside FERC project boundary or under facility control. Indicate locations and acres of flowage rights versus fee-owned property</td><td>Land: 81.7 acres of land

Water: 419 acres Upper Dam Impoundment
Water: 21 acres Middle Dam Impoundment</td></tr>
<tr><td>Hydrologic Setting</td><td>Average annual flow at the dam, and period of record used</td><td>4,410 cfs per USGS 2000 to 2021</td></tr>
<tr><td></td><td>Average monthly flows and period of record used</td><td><table><tr><th>Month</th><th>Mean flow (cfs)</th></tr><tr><td>January</td><td>3,735</td></tr><tr><td>February</td><td>3,518</td></tr><tr><td>March</td><td>4,625</td></tr><tr><td>April</td><td>9,296</td></tr><tr><td>May</td><td>6,957</td></tr><tr><td>June</td><td>4,371</td></tr><tr><td>July</td><td>3,158</td></tr><tr><td>August</td><td>2,679</td></tr><tr><td>September</td><td>2,263</td></tr><tr><td>October</td><td>3,715</td></tr><tr><td>November</td><td>4,253</td></tr><tr><td>December</td><td>4,353</td></tr></table>
Calculated using data from USGS Gage No. 01054500 for period of record of 2000 to 2021</td></tr>
<tr><td></td><td>Locations, names, and hyperlinks to the closest stream gaging stations above and below the facility</td><td>Above – USGS 01054000 Androscoggin River near Gorham, NH</td></tr>
</table>

Item	Information Requested	Response – if applicable, include references or links to further details
		Below – USGS 01054500 Androscoggin River at Rumford, ME
	Watershed area at the dam (in square miles). Identify if this value is prorated from gage locations and provide the basis for proration calculation	2,068 square miles
	Other facility specific hydrologic information (e.g., average hydrograph)	N/A
Designated Zones of Effect	Numbers and names of each zone of effect and river mile of upstream and downstream limits of each zone of effect (e.g., "Zone 1: Impoundment RM 6.3 to RM 5.1")	Zone 1 – Upper Dam Impoundment – RM 93.7 to RM 87.4 Zone 2 – Upper Dam Bypass Reach – RM 87.4 to RM 87.1 Zone 3 – Middle Dam Impoundment – RM 87.4 to RM 87.2 Zone 4 – Middle Dam Bypass Reach – RM 87.2 to RM 86.6 Zone 5 – Regulated Downstream River Reach – RM 86.6 to RM 86.3
Pre-Operational Facilities Only		
Expected Operational Date	Date generation is expected to begin	N/A
Dam, Diversion Structure or Conduit Modification	Description of modifications made to a pre-existing conduit, dam or diversion structure needed to accommodate facility generation. This includes installation of flashboards or raising the flashboard height. Date the modification is expected to be completed	N/A
Change in Water Flow Regime	Description of any change in impoundment levels, water flows or operations required for new generation	N/A

4.0 LIHI CRITERIA ANALYSIS

The proposed 2026 LIHI standards for the Rumford Falls Project are summarized in Table 4-1. The Rumford Falls Project has no significant changes to operations or new license requirements that would substantially affect Project resources; therefore, most of the proposed standards remain unchanged since the 2019 LIHI analysis. Under the Threatened and Endangered Species section, the standard was changed from F-1 to F-2 for all zones since there is now agency guidance on tree clearing for endangered bat species. Additionally, under the Recreational, Public, and Traditional Cultural section, both zone 1 and zone 2 standards were changed to H-2 from H-3 and H-1, respectively, due to new license conditions requiring further recreational improvements. Analysis for each resource topic can be found in the sections below.

Table 4-1 Rumford Falls Project Proposed 2026 Criteria Summary

Criteria Standard		Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
		Upper Dam Impoundment	Upper Dam Bypass Reach	Middle Dam Impoundment	Middle Dam Bypass Reach	Unregulated Downstream River Reach
A	Flow Regimes	1	2	1	2	1
B	Water Quality	2	2	2	2	2
C	Upstream Fish Passage	1	1	1	1	1
D	Downstream Fish Passage	1	1	1	1	1
E	Shorelines and Watershed	1	1	1	1	1
F	Threatened and Endangered Species	2	2	2	2	2
G	Cultural and Historic Resources	2	1	1	1	1
H	Recreational, Public, and Traditional Cultural Access	2	2	3	2	3

4.1 Flow Regimes

4.1.1 Changes in License, Regulatory Requirements, and Plans

Water level maintenance has not changed from previous licenses. The Upper Dam and Middle Dam impoundment water levels will be maintained within 1 foot of full pond elevation, 601.24 feet and 502.74 feet United States Geological Survey (USGS), respectively. These levels can be temporarily modified under certain conditions: (1) approved maintenance activities; (2) extreme hydrologic conditions; (3) emergency electrical system conditions; or (4) agreement between RFH, MDEP, and appropriate state and federal agencies.

Minimum flow requirements for the Upper Dam remain unchanged, with 1 cubic foot per second (cfs) or leakage from the Upper Dam required as minimum flow. However, minimum flow from Middle Dam into the Middle Dam bypass reach requirements increased from 21 cfs to 200 cfs per Section 7(2)(A) of the new Clean Water Act Section 401 WQC.

Recreation and aesthetic flows are now required by Section 7(3)(B) and (C) of the WQC. If sufficient flow is available, the Licensee must provide whitewater boating flow releases into the Middle Dam bypass reach with a target flow ranging from 1,200 cfs to 1,500 cfs for 10 days (total), June through August, 10 a.m. to 3 p.m. If sufficient flow is available, the Licensee must provide aesthetic flow releases into the Upper Dam bypass reach with a target flow ranging from 1,200 cfs to 1,500 cfs for 10 days (total), June through August, 10 a.m. to 4 p.m.

4.1.2 Study Results

Two studies were conducted that influenced the changes in flow regimes, the Aesthetic Flow Study and Whitewater Boating Study. As these studies were conducted in consideration of recreation, these studies are described in Section 4.8.2.

4.1.3 LIHI Criteria and Zones of Effect

Zone	2019 LIHI Standard	2026 LIHI Recommended Standard	Rationale
Zone 1 – Upper Dam Impoundment	A-1	A-1	The Project is operated in run-of-river mode with minimal impoundment fluctuations.
Zone 2 – Upper Dam Bypass Reach	A-2	A-2	There is a very short reach (approximately 650 ft) downstream of the Upper Dam that is bypassed by the forebay and powerhouse. The FERC-required minimum flow, provided by leakage, is 1 cfs in this reach, which is ledge bedrock and devoid of significant aquatic habitat.
Zone 3 – Middle Dam Impoundment	A-1	A-1	The Project is operated in run-of-river mode with minimal impoundment fluctuations.
Zone 4 – Middle Dam Bypass Reach	A-2	A-2	There is a short reach (approximately 3,500 ft) downstream of the Middle Dam that is bypassed by the forebay and powerhouse. The FERC required minimum flow is 200 cfs in this reach.
Zone 5 – Unregulated Downstream River Reach	A-1	A-1	This reach receives run-of-river flows from the Project.

4.2 Water Quality

4.2.1 Changes in License, Regulatory Requirements, and Plans

There are no significant changes in water quality requirements under the new license, as the Project continues to meet the Standard Conditions as described in the Standard Conditions attachment of the WQC. If the Standard Conditions are no longer being met, and MDEP determines that the Rumford Falls Project is contributing to the decline in water quality or non-attainment of water quality standards, MDEP may consider requiring modifications to the certification or additional conditions to ensure that the Project does not cause or contribute to any decline in water quality or non-attainment of water quality standards, per Condition 4 of the WQC. While the reach of the Androscoggin River in the vicinity of the dam is identified as impaired for polychlorinated biphenyls (PCBs), as stated

in the 2019 LIHI application, the cause of impairment was identified as a legacy pollutant unrelated to the Project.

4.2.2 Study Results

Water Quality Study

RFH completed a comprehensive Water Quality Study from June 2020 to October 2020 to support relicensing of the Project. The study was completed in accordance with the FERC-approved Revised Study Plan and applicable MDEP protocols. The primary objective was to evaluate whether Project operations comply with Maine Class C water quality standards, with particular focus on dissolved oxygen (DO), temperature, nutrient conditions, and aquatic biological health.

Continuous data loggers were used in the Middle Dam bypass reach and Middle Canal (adjacent to the intake at the Lower Station powerhouse) to record hourly water temperature and DO from July 2020 to September 2020, to coincide with summer low-flow and high-temperature conditions. Water temperatures followed natural season patterns with no thermal stratification in either impoundment. DO levels consistently exceeded water quality standards (i.e., ≥5.0 milligrams per liter [mg/L] instantaneous, ≥6.5 mg/L 30-day average, and ≥60 percent saturation). Continuous monitoring confirmed high DO levels during peak summer temperatures.

The deepest locations of the Upper Dam Impoundment and Middle Dam Impoundment were sampled twice monthly from June 2020 to September 2020, to determine the trophic state of the impoundments. Water temperature and DO vertical profiles were documented, a Secchi disk was used to determine water clarity, and a water sample was taken to measure chlorophyll *a*, total phosphorus, apparent color, pH, alkalinity, and other selected nutrients/metals. Maine Trophic State Indices (TSI) were calculated using chlorophyll *a* concentration and Secchi depth to characterize trophic condition. Calculated TSI place both impoundments within the mesotrophic range, indicating a low to moderate biological productivity. Nutrient data did not indicate eutrophic or impaired conditions. No exceedances of applicable Maine water quality standards were observed for regulated parameters such as iron or chloride. Aluminum results were inconclusive due to laboratory reporting limits but showed no evidence of impairment.

Rock baskets for macroinvertebrate sampling were deployed for an approximately 28-day colonization period during summer low flows. Organisms were preserved and identified

in a certified laboratory to the lowest practical taxonomic level. Total and Ephemeroptera, Plecoptera, and Trichoptera (EPT) taxa richness values, relative abundance, Hilsenhoff Biotic Index, and Shannon Diversity values were calculated. Sixty taxa were identified. EPT taxa (pollution-sensitive groups) comprised approximately 83 percent of the community. The Hilsenhoff Biotic Index rated the site as "excellent." MDEP's biological assessment determined that the Middle Dam bypass reach attained Class A aquatic life standards, exceeding the applicable Class C designation.

The Water Quality Study demonstrates that the Rumford Falls Project meets, and sometimes exceeds, Maine Class C water quality standards and that Project operations are not having an adverse effect on water quality or aquatic biological resources. DO and temperature conditions are protective, impoundments exhibit moderate productivity typical of regional systems, and biological indicators reflect healthy, high-quality aquatic habitat.

4.2.3 LIHI Criteria and Zones of Effect

Zone	2019 LIHI Standard	2026 LIHI Recommended Standard	Rationale
Zone 1 – Upper Dam Impoundment	B-2	B-2	The Project is operated as a run-of-river facility with minimal fluctuation under a FERC- and agency-approved Operation Compliance Monitoring Plan (to be filed by July 22, 2026) and meets all water quality standards for Class C waters pursuant to the Project's WQC.
Zone 2 – Upper Dam Bypass Reach	B-2	B-2	The Upper Dam bypass reach is subject to minimum flow requirements, and the Project meets all applicable water quality standards.
Zone 3 – Middle Dam Impoundment	B-2	B-2	The Project is operated as a run-of-river facility with minimal fluctuation under a FERC- and agency-approved Operation Compliance Monitoring Plan (to be filed by July 22, 2026) and meets all water quality standards for Class C waters pursuant to the Project's WQC.
Zone 4 – Middle Dam Bypass Reach	B-2	B-2	The Middle Dam bypass reach is subject to minimum flow requirements, and the Project meets all applicable water quality standards.

Zone	2019 LIHI Standard	2026 LIHI Recommended Standard	Rationale
Zone 5 – Unregulated Downstream River Reach	B-2	B-2	This reach receives run-of-river flows from the Project, and the Project meets all applicable water quality standards.

4.3 Upstream Fish Passage

4.3.1 Changes in License, Regulatory Requirements, and Plans

There is no upstream fish passage at the Rumford Falls Project, as there are no anadromous fish present at the Project. Two major cascades in the lower Androscoggin River, Lewiston Falls and Rumford Falls, are natural barriers for anadromous fishes (Wippelhauser et al. 2017). Article 403 of the license reserves the Commission's authority to require fishways that may be prescribed by the Secretary of the Interior pursuant to Section 18 of the Federal Power Act for the Rumford Falls Project.

4.3.2 Study Results

No fish passage studies were conducted.

4.3.3 LIHI Criteria and Zones of Effect

Zone	2019 LIHI Standard	2026 LIHI Recommended Standard	Rationale
Zone 1 – Upper Dam Impoundment	C-1	C-1	There is no upstream fish passage in this reach, as migratory species such as alewife (*Alosa pseudoharengus*), blueback herring (*A. aestivalis*), striped bass (*Morone saxatilis*), sea lamprey (*Petromyzon marinus*), American eel, and American shad (*A. sapidissima*) are diadromous fish species and were known not to be present in this river reach given the downstream Lewiston Falls and Rumford Falls.
Zone 2 – Upper Dam Bypass Reach	C-1	C-1	
Zone 3 – Middle Dam Impoundment	C-1	C-1	
Zone 4 – Middle Dam Bypass Reach	C-1	C-1	
Zone 5 – Unregulated Downstream River Reach	C-1	C-1	

4.4 Downstream Fish Passage

4.4.1 Changes in License, Regulatory Requirements, and Plans

There is no downstream fish passage at the Rumford Falls Project, as there are no catadromous fish present at the Project. Article 403 of the license reserves the Commission's authority to require fishways that may be prescribed by the Secretary of the Interior pursuant to Section 18 of the Federal Power Act for the Rumford Falls Project.

4.4.2 Study Results

No fish passage studies were conducted.

4.4.3 LIHI Criteria and Zones of Effect

Zone	2019 LIHI Standard	2026 LIHI Recommended Standard	Rationale
Zone 1 – Upper Dam Impoundment	D-1	D-1	There is no downstream fish passage in this reach; catadromous fish species are not known to be present.
Zone 2 – Upper Dam Bypass Reach	D-1	D-1	
Zone 3 – Middle Dam Impoundment	D-1	D-1	
Zone 4 – Middle Dam Bypass Reach	D-1	D-1	
Zone 5 – Unregulated Downstream River Reach	D-1	D-1	

4.5 Shorelines and Watershed

4.5.1 Changes in License, Regulatory Requirements, and Plans

The Upper Dam Impoundment has a surface area of approximately 419 acres with a normal maximum headwater elevation of 601.24 feet USGS that is maintained within 1 foot of that elevation. The Middle Dam Impoundment has a surface area of approximately 21 acres with a normal maximum headwater elevation of 502.74 feet USGS

that is also maintained within 1 foot of that elevation. Lands within the Project Boundary are limited to those required for operational activities or recreation. A shoreline buffer zone in the Upper Dam Impoundment ranges from 10 feet to 800 feet in width and extends 1 mile upstream from the Upper Dam. There are no significant changes in shoreline requirements under the new license.

4.5.2 Study Results

No shoreline or watershed studies were conducted.

4.5.3 LIHI Criteria and Zones of Effect

Zone	2019 LIHI Standard	2026 LIHI Recommended Standard	Rationale
Zone 1 – Upper Dam Impoundment	E-1	E-1	Lands within the Project Boundary are limited to those required for Project operations and recreation facilities. None have significant environmental or recreational value. Nevertheless, a shoreline buffer zone of between 10 and 800 feet in width runs along both shorelines of the Upper Dam Impoundment approximately 1 mile upstream.
Zone 2 – Upper Dam Bypass Reach	E-1	E-1	Lands within the Project Boundary are limited to those required for Project operations and recreation facilities. None have significant environmental or recreational value.
Zone 3 – Middle Dam Impoundment	E-1	E-1	
Zone 4 – Middle Dam Bypass Reach	E-1	E-1	
Zone 5 – Unregulated Downstream River Reach	E-1	E-1	

4.6 Threatened and Endangered Species

4.6.1 Changes in License, Regulatory Requirements, and Plans

The USFWS Information for Planning and Consultation (IPaC) system shows that the federally listed endangered Atlantic salmon (*Salmo salar*), the federally listed endangered northern long-eared bat (*Myotis septentrionalis*), the proposed endangered tricolored bat (*Perimyotis subflavus*), and the proposed threatened monarch butterfly (*Danaus plexippus*) have the potential to occur in within the Project Boundary (FERC 2024). There is no proposed or designated critical habitat for the Maine Distinct Population Segment Atlantic salmon, monarch butterfly, or either bat species in the Project Boundary. Analysis within the FERC Environmental Assessment concluded that there would be no effect on the monarch butterfly from the Project. With staff recommended measures, the Project is not likely to adversely affect the Gulf on Maine Distinct Population Segment of Atlantic salmon (FERC 2024). These measures include minimizing unnatural fluctuations in the Androscoggin River downstream of the powerhouses, maintaining aquatic habitat, and maintaining water quality conditions that could support salmon in the future. This is accomplished by raising the minimum flow from 21 cfs to 200 cfs in the new FERC license. FERC recommended that tree-cutting restrictions be put into place to protect the bat species, which is reflected in Article 404 of the new FERC license. Per Article 404, the Licensee must avoid removing trees of any size on Project land from April 15 through October 31, unless emergency tree removal for public safety is necessary. If emergency tree removal is required, the Licensee shall notify USFWS as soon as practicable following the tree removal. With the seasonal restriction on tree removal and trimming in place, the FERC Environmental Assessment concluded that the Project may affect, but is not likely to adversely affect, either bat species (FERC 2024).

4.6.2 Study Results

No threatened and endangered species studies were conducted.

4.6.3 LIHI Criteria and Zones of Effect

Zone	2019 LIHI Standard	2025 LIHI Recommended Standard	Rationale
Zone 1 – Upper Dam Impoundment	F-1	F-2	The Project would have no effect on the Atlantic salmon or monarch butterfly. Article 404 provides protections for northern long-eared bat and the tricolored bat. The Licensee conducted consultation with appropriate resource agencies to identify potential impacts. Resource agencies determined there would be no effect or not likely to adversely affect listed species.
Zone 2 – Upper Dam Bypass Reach	F-1	F-2	
Zone 3 – Middle Dam Impoundment	F-1	F-2	
Zone 4 – Middle Dam Bypass Reach	F-1	F-2	
Zone 5 – Unregulated Downstream River Reach	F-1	F-2	

4.7 Cultural and Historic Resources

4.7.1 Changes in License, Regulatory Requirements, and Plans

The previous license required the Licensee to follow a Cultural Contingency Plan, which included annual monitoring erosion of archeological sites eligible for listing in the National Register of Historic Places (National Register). A lack of documented erosion allowed a shift to a biennial cycle for monitoring. According to RFH, the shoreline of the Upper Dam Impoundment is well vegetated, and RFH has found no evidence of shoreline erosion over a decade of monitoring.

Article 409 of the new license requires the Licensee to implement a Programmatic Agreement between FERC and MHPC. Pursuant to the Programmatic Agreement, the Licensee must develop a Historical Properties Management Plan (HPMP) within 1 year of license issuance. The HPMP will contain (1) a description of each historic property; (2) a description of the potential effect on each historic property; (3) proposed measures for avoiding or mitigating adverse effects; (4) documentation of nature and extent of consultation; (5) a schedule for implementing mitigation; (6) a protocol for consulting the Mi'kmaq Nation if human remains, artifacts, or any other evidence of Native American

presence is discovered; (7) consultation protocol with the MHPC if and when additional work is proposed within the eligible historic district that has potential to affect historic properties; and (8) a description and protocol for conducting biennial monitoring for Project-induced erosion of the archaeological sites, in consultation with MHPC.

No land-disturbing activities are proposed or contemplated in the area of the archeological or architectural sites that would result in adverse effects. Because the Project operates as run-of-river and limits reservoir fluctuations, shoreline erosion in the Upper Dam Impoundment is likely the result of high river flows rather than Project operations. While erosion in the Upper Dam Impoundment historically threatened these sites, recent monitoring indicates that erosion is becoming less of a concern due to vegetated shoreline. RFH's continued biennial erosion monitoring would determine if protection measures may be warranted in the future.

4.7.2 Study Results

Historic Architectural Survey

RFH completed a Historic Architectural Survey of the agreed-upon area of potential effects (APE) in October 2020. The APE includes 21 resources that are 45 years of age or older as of 2020. Nine were previously recorded, and 12 were newly recorded for the Project. Of the nine previously recorded resources, seven were previously determined to be eligible for National Register listing, and two were determined to be ineligible. As a result of the survey, five of the previously recorded resources were recommended as contributing resources to the Rumford Falls Project, and four are non-contributing. All nine resources have been determined or are recommended as National Register eligible, either individually or as contributing resources. Of the 12 newly recorded resources, 8 are recommended as eligible either individually or as contributing resources to the National Register-eligible Rumford Falls Hydro and Canal District. In total, 17 resources in the APE have either been determined to be individually eligible or are recommended as eligible. According to a letter to RFH dated November 10, 2021, MHPC concluded that the Project would have no adverse effect upon historic properties—contingent on the development of an HPMP for the Project.

4.7.3 LIHI Criteria and Zones of Effect

Zone	2019 LIHI Standard	2026 LIHI Recommended Standard	Rationale
Zone 1 – Upper Dam Impoundment	G-2	G-2	Pursuant to Article 409 of the Project FERC license, a Programmatic Agreement and HPMP for the Project will be developed within 1 year of the new license issuance. Continued Rumford Falls Project operations are not expected to affect historic or cultural resources, and resource sites will be monitored biennially. Should any future site be identified, the HPMP will be in place to manage the properties and findings with appropriate resource agencies.
Zone 2 – Upper Dam Bypass Reach	G-1	G-1	
Zone 3 – Middle Dam Impoundment	G-1	G-1	
Zone 4 – Middle Dam Bypass Reach	G-1	G-1	
Zone 5 – Unregulated Downstream River Reach	G-1	G-1	

4.8 Recreational, Public, and Traditional Cultural Access

4.8.1 Changes in License, Regulatory Requirements, and Plans

Article 405 of the new license requires the Licensee to continue to operate and maintain the Carlton Bridge boat launch, the West Viewing Area, the Rumford Falls Trail, the Rumford Public Library access, the Rumford Town Hall access, and the Upper Dam Impoundment boat access and portage.

Article 406 of the new license requires the Licensee to file a Recreation Management Plan to the Commission within 6 months of license issuance, to include the following provisions:

1) A plan and schedule for completing the following measures at the West Viewing Area within 2 years of license issuance: (a) reopening the West Viewing Area; (b) patching and repairing the concrete surfaces at the facility; (c) relocating security fencing; (d) adding a public gravel parking area for four cars; (e) relocating the flood lights used to light the falls from the top of the banister to below the banister to improve public safety and viewing opportunities; (f) installing a Project/history

kiosk, two picnic tables, and a bench; and (g) installing a separated concrete walkway along the powerhouse driveway to the West Viewing Area.

2) A plan and schedule for completing the following improvements to the Rumford Falls Trail within 2 years of license issuance: (a) firming the trail bed and adding wood crib steps where appropriate; (b) installing a removable bollard or swing gate at the elevated segment of the alternate trail to prohibit unauthorized vehicle access; (c) installing a bench and kiosk at the falls overlook; (d) adding signage at the trail entrances with maps of the trail; and (e) securing the necessary easements with ND Paper Inc. before the expiration of the current agreement for the license term.

3) A plan and schedule for: (a) constructing the Rumford Public Library access and the Rumford Town Hall access; (b) a detailed description of all improvements, including stairs and railings, that will be installed; (c) a schedule for installing the improvements within 2 years of license issuance; and (d) conceptual drawings and maps identifying parking, signage, and locations of amenities.

4) A plan and schedule for developing an Upper Dam Impoundment boat access and portage, near the Upper Dam boat barrier and the Rumford Falls Trail, including: (a) a detailed description of the proposed new location and improvements; (b) a schedule for installing the new access and improvements within 2 years of license issuance; and (c) conceptual drawings and maps identifying the new location, parking, and signage. Signage should include directional signage for boaters to access the new Project portage route.

5) A plan and schedule for maintaining the Project recreation sites identified in Article 405.

6) A schedule for monitoring recreation at the Project and updating the Recreation Management Plan every 10 years as needed and based on the monitoring results.

The Recreation Management Plan must be developed in consultation with the Town of Rumford, MBPL, MDIFW, American Whitewater, and Maine Council of Trout Unlimited. The Licensee must document consultation, allow at least 30 days for review, and justify any recommendations not adopted.

Article 407 requires the Licensee to file a Whitewater Boating and Aesthetic Flow Plan within 6 months of license issuance to FERC. The plan should include whitewater boating and aesthetic flow release requirements set forth in the MDEP WQC Condition 3 with the following additional provisions:

1) Lighting the falls from the Upper Station between evening civil twilight (i.e., sunset) and 12 a.m. when flows exceed 6,000 cfs;

2) Protocols and schedule for determining which days boating and aesthetic flows will be released and for communicating the flows to the public via SafeWaters or other comparable system; and

3) Releasing the required aesthetic and boating flows on 10 weekend days.

The Licensee must prepare the plan after consultation with MDEP, the Town of Rumford, MBPL, American Whitewater, and Maine Council of Trout Unlimited. The Licensee must document consultation, allow at least 30 days for review, and justify any recommendations not adopted.

4.8.2 Study Results

Angler Creel Study

The angler creel survey included instantaneous counts and 101 angler interviews across 12 sites (6 at Upper Dam Impoundment, 3 at Middle Dam bypass reach, 3 downstream) over 26 days from April 2022 to November 2022. Counts estimated angler use, while interviews assessed angler success (harvest and catch rates), collected biometric data, and evaluated fishery status.

Angler use was primarily shore-based, with the highest activity at Chisholm Overlook, followed by the Maine Department of Agriculture, Conservation, and Forestry (MDACF) boat launches in Rumford and Mexico, Maine. Most fish were caught at the Rumford boat launch (47 percent), with J. Eugene Boivin Park and Chisholm Overlook contributing 33 percent of the total catch. Smallmouth bass (*Micropterus dolomieu*) was the dominant species caught. Catch rates (the number of fish per hour) based on angler interviews were 0.2 for rainbow trout (*Oncorhynchus mykiss*), <0.01 for brown trout (*Salmo trutta*), 0.3 for brook trout (*Salvelinus fontinalis*), and 0.8 for smallmouth bass.

Whitewater Boating Study

RFH evaluated whitewater boating feasibility between the Middle Dam and the MDACF boat launch in Mexico, Maine, using Whittaker et al. (2005) at flows of 800, 1,500, and 2,000 cfs. Historical information about whitewater boating use is limited. The Middle Dam bypass reach drops from 479 feet mean seal level (msl) to 423 feet msl (3,121 feet long; 1.8 percent gradient), while the downstream reach drops from 423 feet msl to 410 feet msl (10,534 feet long; 0.1 percent gradient).

Initial put-ins at the Middle Dam and J. Eugene Boivin Park were deemed unsafe due to nearby Class V rapids that could not be seen from the Middle Dam. Access was shifted downstream to the Rumford Public Library and Rumford Town Hall.

The Middle Dam bypass reach can be divided into an upper and lower reach. The upper reach contains Class IV-V rapids for expert paddlers; the lower reach has Class I–III rapids suitable for a wide range of users. According to survey participants, minimum boatable flow for the upper reach is 800 cfs, with optimal flows of 800–1,800 cfs. For the lower reach, minimum acceptable flows are generally 1,200 cfs, with optimal flows typically 1,200–3,000 cfs depending on skill and craft. Participants identified 1,500 cfs as the optimal flow for the entire reach.

Of evaluated access points, the Rumford Public Library and Rumford Town Hall sites are preferred put-ins, and the MDACF boat launch in Mexico is the preferred take-out.

Recreation Study

RFH conducted a Recreation Study during peak 2022 season; the study included a facility inventory and condition assessment, stakeholder engagement, recreation observations (spot counts), and an online survey (98 participants). Objectives were to inventory and assess facilities, characterize use and demand, and gather user feedback.

A Focus Group Stakeholder meeting was held on August 19, 2022, to discuss and visit 14 of the recreational facilities to determine condition. The Focus Group Stakeholders assessed all but two facilities, Logan Brook Access and West Viewing Area, as adequate to excellent for current suitability for use of existing resources. Logan Brook Access was deemed dangerous due to parking near the road and erosion issues, and the group suggested removal of Logan Brook Access as an informal area or relocation of Logan Brook. The Focus Group Stakeholders suggested reopening the West Viewing Area and

would like any repairs to be done in-kind to maintain the same historical character of the existing viewing area.

Spot counts were conducted at the recreational facilities located within or in the vicinity of the Project Boundary for 20 days between late May and early September 2022. A total of 884 visitors were observed across all 20 spots, with the most popular activities being hiking/walking (227 people), followed by remaining in the car (183 people), and riding off-road vehicles (e.g., all-terrain vehicle [ATV], dirt bike) (128 people).

The visitor and online survey completed between late May and early September 2022 demonstrated that the most popular activities were walking (35 people), relaxing (25 people), picnicking (20 people), and hiking (19 people). Few respondents reported fishing (six by boat, five shoreline). About half (43) used hand-carried watercraft, with minimal reported access issues (2 users). Facilities assessed included ATV trails, boat launches, parks, overlooks, trails, and access points. Most facilities were in good condition, though Logan Brook Access, West Viewing Area, and Rumford Falls Trail need improvements. Overall, 70 percent of respondents rated facilities as acceptable or better.

The most visited sites were the Rumford Information Center and J. Eugene Boivin Park, followed by Rumford Falls Trail. Logan Brook Access had low visitation, and the West Viewing Area was closed. Low use was attributed to closure and limited amenities. Visitors were primarily local (60 percent from Rumford, Mexico, and Bethel). The study concluded that existing facilities meet current demand and are expected to meet future needs given stable or declining population trends.

Aesthetic Flow Study

In 2021 and 2022, RFH conducted an Aesthetic Flow Study to characterize the aesthetic character and conditions over Rumford Falls, identify key observation points (KOP), and evaluate acceptable aesthetic flows. Study participants evaluated four controlled flow releases (500 cfs, 1,000 cfs, 1,500 cfs, and 2,000 cfs) from three KOPs: West Viewing Area, Rumford Falls Trail, and J. Eugene Boivin Park.

Participants rated the overall aesthetics at each KOP under each flow using the 7-point Likert scale. The average attribute scores ranged from 5.2 to 6.8 ("slightly appealing" to "very appealing") at all flows and KOPs, except at flows of 500 cfs at the Rumford Falls Trail and J. Eugene Boivin Park, where the participants found the flow too low to be appealing. The average scores increased with flow at all sites until 2,000 cfs, at which point

values declined at all KOPs. All participants indicated that they would like aesthetic flows provided in July and August, followed by June, September, and October, with slightly less interest in April and May and very little during the rest of the year. Generally aesthetic flow releases would be preferred on the weekend (i.e., Friday, Saturday, and Sunday) and from midday, afternoon, and evening.

4.8.3 LIHI Criteria and Zones of Effect

Zone	2019 LIHI Standard	2026 LIHI Recommended Standard	Rationale
Zone 1 – Upper Dam Impoundment	H-3	H-2	The new license has new requirements for this area, which resulted in a change from H-3 to H-2 standard. Most of the recreational use at the Project occurs at the Upper Dam Impoundment, which is served by the Logan Brook Access, an unimproved boat launch located along the south shore of South Rumford Road; a trailered boat launch located along the north shore of U.S. Route 2; and a canoe portage. RFH was instructed to develop a new Upper Dam Impoundment access and portage near the boat barrier and the Rumford Falls Trail.
Zone 2 – Upper Dam Bypass Reach	H-1	H-2	The new license has new requirements for this area, which resulted in a change from H-1 to H-2 standard. Aesthetic flow releases are now required with a target flow ranging from 1,200–1,500 cfs to be released for 10 days throughout the summer.
Zone 3 – Middle Dam Impoundment	H-3	H-3	Recreational use of the Middle Dam Impoundment is limited to informal shoreline fishing near the Rumford Information Center.
Zone 4 – Middle Dam Bypass Reach	H-2	H-2	Recreational use of the bypass reach will have designated flows (1,200–1,500 cfs) for whitewater boating for 10 days in the summer in addition to shoreline fishing access.

Zone	2019 LIHI Standard	2026 LIHI Recommended Standard	Rationale
Zone 5 – Unregulated Downstream River Reach	H-3	H-3	Recreation use of the reach downstream is limited to shoreline fishing along the western shoreline.

5.0 EXISTING LIHI CONDITIONS

There are no conditions in the 2019 LIHI Certificate.

6.0 CROSSWALK TABLE

Table 6-1 Rumford Falls Project Crosswalk

Resource Area	Topic	Previous License Requirement	FERC License Requirement	401 WQC Requirement	Change from Existing License
Aquatics	General Operations	Run-of-river operations Maintain the Middle Dam Impoundment water levels within 1 foot of full pond elevation, 502.74 ft USGS, and maintain the Upper Dam Impoundment water levels within 1 foot of full pond elevation, 601.24 ft USGS.	Run-of-river operations Maintain the Middle Dam Impoundment water levels within 1 foot of full pond elevation, 502.74 ft USGS, and maintain the Upper Dam Impoundment water levels within 1 foot of full pond elevation, 601.24 ft USGS.	Run-of-river operations Maintain the Middle Dam Impoundment water levels within 1 foot of full pond elevation, 502.74 ft USGS, and maintain the Upper Dam Impoundment water levels within 1 foot of full pond elevation, 601.24 ft USGS.	No change
	Minimum Flows	Provide a year-round minimum flow of 1 cfs or leakage from the Upper Dam into the Upper Dam bypass reach and 21 cfs from the Middle Dam into the Middle Dam bypass reach.	Provide a year-round minimum flow of 1 cfs or leakage from the Upper Dam into the Upper Dam bypass reach and 200 cfs from the Middle Dam into the Middle Dam bypass reach.	Provide a year-round minimum flow of 1 cfs or leakage from the Upper Dam into the Upper Dam bypass reach and 200 cfs from the Middle Dam into the Middle Dam bypass reach.	Increase of minimum flow from the Middle Dam into the Middle Dam bypass reach from 21 cfs to 200 cfs year-round per WQC requirements.

Resource Area	Topic	Previous License Requirement	FERC License Requirement	401 WQC Requirement	Change from Existing License
	Operations Compliance	Develop a plan to report Project operations.	Develop an Operation Compliance Monitoring Plan.	None	Develop an Operation Compliance Monitoring Plan.
Water Quality	Water Quality Plan	Meet conditions of WQC.	Meet conditions of WQC.	Comply with all Standard Conditions for Class C waters.	None
Terrestrial	Wildlife Habitat & Wetlands	None	Remove the 82 acres of land along the western and eastern shore of the Upper Dam Impoundment that extends above the normal maximum water surface elevation of the impoundment and the 0.3-acre parcel of land located between the Middle Canal and Route 108 from the Project Boundary.	None	Remove land not directly associated with Project operations or recreation sites from the Project Boundary.

Resource Area	Topic	Previous License Requirement	FERC License Requirement	401 WQC Requirement	Change from Existing License
Threatened & Endangered Species	Listed Bat Species	None	To protect the northern long-eared bat and tricolored bat, the license requires Rumford Falls Hydro LLC to avoid, among other things, removing, destroying, or trimming any trees on Project land from April 15 through October 31 unless trees represent a safety hazard.	None	To protect the northern long-eared bat and tricolored bat, avoid removing, destroying, or trimming any trees on Project land from April 15 through October 31 unless trees represent a safety hazard.
Recreation	Public Access	Prepare and implement the canoe access facility plan.	Refer to WQC Conditions 3 Recreational Access and Use.	Provide formal and informal access to the Project waters upstream and downstream of the Project dam for the purpose of recreation in and on the water, for fishing, and for navigation to the extent possible. If sufficient flow is available, provide whitewater boating	Addition of whitewater boating and aesthetic flow releases.

Resource Area	Topic	Previous License Requirement	FERC License Requirement	401 WQC Requirement	Change from Existing License
				flow releases into the Middle Dam bypass reach with a target flow ranging from 1,200 to 1,500 cfs for 10 days (total), June through August, 10 a.m. to 3 p.m., to be determined based on consultation with the Town of Rumford and American Whitewater. If sufficient flow is available, provide aesthetic flow releases into the Upper Dam bypass reach with a target flow ranging from 1,200 to 1,500 cfs for 10 days (total), June through August, 10 a.m. to 4 p.m., to be determined based on consultation with the Town of Rumford.	

Resource Area	Topic	Previous License Requirement	FERC License Requirement	401 WQC Requirement	Change from Existing License
	Recreation Management Plan	None	Develop a Recreation Management Plan. Develop a Whitewater Boating and Aesthetic Flow Plan.	None	Develop a Recreation Management Plan. Develop a Whitewater Boating and Aesthetic Flow Plan.
	Recreation Enhancements	Develop two additional canoe access facilities at Carlton Bridge and Rumford Point.	1) Install a grade-separated sidewalk along the Upper Station powerhouse driveway; 2) Include a plan and schedule for improving river access at the Rumford Public Library and Rumford Town Hall; 3) Include a plan and schedule to develop a new Upper Dam Impoundment access and portage near the boat barrier and the Rumford Falls Trail; 4) Include a plan and schedule for ongoing maintenance of Project recreation	None	Update sidewalk at the Upper Station powerhouse, create a plan for improved river access, create a plan/schedule to develop a new Upper Dam Impoundment access, include a plan/schedule for routine recreation site maintenance.

Resource Area	Topic	Previous License Requirement	FERC License Requirement	401 WQC Requirement	Change from Existing License
			facilities (e.g., weekly trash removal, mowing, and snow removal).		
Cultural	HPMP	Implement the Programmatic Agreement.	Implement the Programmatic Agreement and develop an HPMP.	None	New Programmatic Agreement and develop an HPMP.

7.0 CONTACT TABLES

7.1 Applicant-related Contacts

Facility Owner:	
Name and Title	Kyle Murphy, Senior Compliance Specialist – New England
Company	Rumford Falls Hydro LLC
Phone	207-458-5861
Email Address	Kyle.Murphy@brookfieldrenewable.com
Mailing Address	460 Civic Center Drive, Maine, 04330
Consulting Firm / Agent for LIHI Program (if different from above):	
Name and Title	Karen Bishop, Licensing Coordinator
Company	Kleinschmidt Associates
Phone	860-581-5877
Email Address	Karen.Bishop@kleinschmidtgroup.com
Mailing Address	35 Pratt Street, Suite 201, Essex, CT 06426
Compliance Contact (responsible for LIHI Program requirements):	
Name and Title	Kyle Murphy, Senior Compliance Specialist – New England
Company	Rumford Falls Hydro LLC
Phone	207-458-5861
Email Address	Kyle.Murphy@brookfieldrenewable.com
Mailing Address	460 Civic Center Drive, Maine, 04330
Party Responsible for Accounts Payable:	
Name and Title	Judith Charette Senior Manager, Accounts Payable, Finance & Accounting
Company	Brookfield Renewable
Phone	819-561-8099
Email Address	Judith.Charette@brookfieldrenewable.com
Mailing Address	41 Victoria, Gatineau, QC, Canada J8X2A1

7.2 Federal, State, and Local Resource Agency Contacts with Knowledge of the Facility

- Include federal and state fish and wildlife agencies and federal agencies owning project lands or having oversight of the project; state agencies responsible for environmental protection, WQC, natural heritage, and historic preservation; and local and regional agencies with project oversight or interest.
- If applicable, also include at least one contact for each agency involved in each active project working group and identify the working group name.

Contact Name and Agency	Title	Email	Phone	Resource Area(s) of Interest, from the List Below
John Spain, FERC	Regional Engineer, D2SI NY Region	john.spain@FERC.gov	212-273-5954	A, B, C, D, E, F
Harold Peterson, U.S. Bureau of Indian Affairs	Natural Resources Officer	Harold.Peterson@bia.gov		G
Timothy Timmermann, U.S. Environmental Protection Agency (EPA)	Director of EPA Region 1's Office of Environmental Review	Timmermann.Timothy@epa.gov		B
Dave Simmons, USFWS	Hydropower Program Coordinator	david_simmons@fws.gov	603-333-5440	C, D, F
Benjamin German, NOAA	Marine Resources Management Specialist and Hydropower Coordinator	benjamin.german@noaa.gov	978-281-9353	C, D

Contact Name and Agency	Title	Email	Phone	Resource Area(s) of Interest, from the List Below
Mark Prout, U.S. Forest Service	Forest Fish Biologist	mark.prout@usda.gov		C, D, E
Catherine Brown, U.S. National Park Service	Hydro Program Coordinator	catherine_brown@nps.gov		H
Kathleen Leyden, MDACF	Director of Maine Coastal Program	Kathleen.Leyden@maine.gov	207-287-5254	A, E
Rob Wood, MDEP	Director of Bureau of Land Resources	robert.wood@maine.gov	207-855-8361	A, B, C, D, E
Laura Paye, MDEP	MDEP Hydropower Coordinator	Laura.paye@maine.gov	207-446-2642	A, B, C, D, E
James Pellerin, MDIFW	Regional fisheries Biologist	James.pellerin@maine.gov	207-657-5765	G
Kirk Mohney, MHPC	Director	Kirk.mohney@maine.gov	207-287-3811	G
Jim Vogel, MBPL	Senior Planner	Jim.Vogel@maine.gov		H

Resource Areas (LIHI Criteria):

- **A.** Flow regimes
- **B.** Water quality
- **C.** Upstream fish passage
- **D.** Downstream fish passage and protection
- **E.** Shorelines and watershed
- **F.** Threatened and endangered species
- **G.** Cultural and historic resources
- **H.** Recreation

7.3 Tribal Government and Tribal Agency Contacts

- Include federally recognized Tribes, state-recognized Tribes, and non-recognized Tribal entities.
- If applicable, also include at least one contact for each Tribe involved in each active project working group and identify the working group name.

Contact Name and Tribal Affiliation	Title	Email	Phone	Resource Area(s) of Interest, from the List Below
Jenny Gaenzle, Mi'kmaq Nation	Tribal Historic Preservation Officer	jgaenzle@micmac-nsn.gov	207-764-1972 ext. 161	All resources may be of interest

Resource Areas (LIHI Criteria):

A. Flow regimes
B. Water quality
C. Upstream fish passage
D. Downstream fish passage and protection
E. Shorelines and watershed
F. Threatened and endangered species
G. Cultural and historic resources
H. Recreation

7.4 Currently Engaged External Interested Party Contacts

Contact Name and Organization	Title	Email	Phone	Resource Area(s) of Interest, from the List Below
Mark Zakutansky, Appalachian Mountain Club	Director of Conservation Policy Engagement	mzakutansky@outdoors.org		A, B, C, D, E, F, R
Bob Nasdor, American Whitewater	Northeast Stewardship and Legal Director	bob@americanwhitewater.org		A, B, H
Stephen G. Heinz, Maine Council of Trout Unlimited	Maine Council of Trout Unlimited FERC Coordinator	heinz@maine.rr.com		A, B, C, D, E, F, R
Town of Rumford			207-364-4576	A, B, C, D, E, F, R
Scott Reed, ND Paper Inc.	Environmental and Public Affairs	scott.reed@us.ndpaper.com	207-369-2203	A, B, C, D, E, F, R
John Preble, Friends of Richardson Lake	Treasurer	jmpreble69@gmail.com		A, B, C, D, E, F, R
Landis Hudson, Maine Rivers	President, Board of Directors	landis@mainerivers.org		A, B, C, D, E, F, R
Sean Mahoney, The Conservation Law Foundation	Vice President, Maine Advocacy Center	smahoney@clf.org		A, B, C, D, E, F, R

Resource Areas (LIHI Criteria):

- **A.** Flow regimes
- **B.** Water quality
- **C.** Upstream fish passage
- **D.** Downstream fish passage and protection
- **E.** Shorelines and watershed
- **F.** Threatened and endangered species
- **G.** Cultural and historic resources
- **H.** Recreation

8.0 ATTESTATION AND WAIVER FORM

B.3 Attestation and Waiver Form

ATTESTATION

As an Authorized Representative of Rumford Falls Hydro LLC (RFH or Licensee), an affiliate of Brookfield Renewable Partners L.P. (Brookfield) *the Undersigned attests that the material presented in the application is true and complete.*

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

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

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

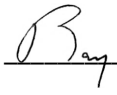
FOR PRE-OPERATIONAL CERTIFICATIONS:

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

Authorized Representative:

Name: Randall Dorman

Title: Senior Compliance Manager – Northeast and Rest of Country (LA, NC, TN)

Authorized Signature: 

Date: May 4, 2026

9.0 REFERENCES

Federal Energy Regulatory Commission (FERC). 2024. Final Environmental Impact Assessment for Hydropower License. Rumford Falls Hydroelectric Project FERC Project No. 2333-094. August 2024. Accession No. 20240813-3008.

Whittaker, D., B. Shelby, and J. Gangemi. 2005. Flow and Recreation: A guide to studies for river professionals. Hydropower Reform Coalition and National Park Service.

Wippelhauser, G. S., J. Sulikowski, G.B. Zydlewski, M.A. Altenritter, M. Kieffer, and M.T. Kinnison. 2017. Movements of Atlantic Sturgeon of the Gulf of Maine inside and outside of the geographically defined Distinct Population Segment. Marine and Coastal Fisheries 9(1):93–107. https://doi.org/10.1080/19425120.2016.1271845.

APPENDIX A

REFERENCE DOCUMENTS

Attached Separately