FERC Committee Report - Steve Heinz September 18, 2025

Outreach. A webinar on the closed-loop pumped storage project Cianbro has proposed for Dixfield, Maine has been scheduled for Tuesday, November 18 from 9:00 to 12:00. Council members were invited. See Dixfield Project below.

Lower Kennebec Dams. Nothing new to report – deadline for MDEP to approve or reject WQC Application is October 21, 2025.

Rumford Falls Project. Here's what Matt sent out to our Legal Defense Fund donors:

> "Although the Maine Board of Environmental Protection (MBEP) last Thursday [July 17] decided to deny our request for a hearing and denied our appeal of Maine DEP's Water Quality Certification (WQC) for the Rumford Falls project, we learned more about the process, and reminded the board and MDEP about the harms of dewatering significant sections of river (the so-called bypass). That should serve us well in the future, since we will likely end up back before the board again with the West Branch relicensings.
>
> It appeared that the outcome was predetermined, and conducting the proceeding as oral arguments, rather than a hearing, kept out additional testimony that would only have made our case stronger and MDEP's look worse before the public. They made a case out of our standing, and a stricter interpretation of the rules on establishing it than we have ever seen before: that you have to show not only that the organization as a whole, but also that at least one specific member of the organization is personally harmed by the action, the WQC. They ruled that our usual statements of organizational standing were inadequate and did not let us introduce additional information. Given the five to one vote against us, we need to be prepared to appeal to the court system on similar situations in the future.
>
> [Attorney] Scott [Sells] represented us well. It was shocking that MDEP never acknowledged that there is low-gradient habitat in the bypass despite LIDAR data on the record showing that there is, something that would not stand up in court. On this project, though, without more than there is in the record, it would be difficult to win an appeal. This is not the hill we want to die on.
>
> We have gotten some press in the MST, Sun-Journal and I assume the Kennebec Journal. The Joe Charpentier article includes many of our key points, and ended with Steve's quote: "It's hard to imagine that this is what the majority of Maine's people would want here." We hope that Emmett Gartner of the Maine Monitor will write something more in-depth.
>
> Most of all, I want to say Thank You to all of you for your help and support. I see this as preparatory to the relicensings on the West Branch where we will now turn our attention. We trust that those who were part of our coalition will help us wage a more effective fight for the West Branch, especially regarding adequate minimum flows in Ripogenus Gorge and the reach below Stone Dam. We see more potential for an eventual appeal in the courts here, and will be proceeding with that plan in mind."

Aziscohos Project. We have received a Draft Memorandum of Agreement (MOA) for the Aziscohos Project that our attorney has reviewed and TU will approve. This will include binding terms and conditions that do NOT belong in the FERC license. Of additional note, Mac McGinley is helping the

Town of Wilson's Mills draft correspondence relating to the relicensing NOT as a TU action. The town has stayed out of negotiations to this point. Most of the town's concerns are more related to fishing regulations and enforcement and matters for MDIFW **NOT** FERC.

Ripogenus and Penobscot Mills Projects. Neal Hagstrom is wrapping up the survey and scale sampling study. A legal strategy session has been scheduled for September 22 that will include the principal stakeholders and four attorneys. TU submitted comments on two rounds of Brookfield responses to FERC Additional Information Requests (AIRs). The first also addressed yet another generator trip event at Ripogenus Dam that occurred on June 19. Council was also a signatory to a joint filing on recreational requirements. TU's issue is provisions for maintenance of pull-off parking for fishing spots like Holbrook and Steep Banked Pool. The TU filings are attached. *FERC granted Brookfield request for additional time to respond to June 19 trip event granted until October 20, 2025 with progress report by September 26, 2025. Brookfield report filed September 9, 2025 providing details of outage.*

Dixfield Project. Cianbro has proposed a closed-loop pumped storage project in Dixfield and has filed its initial application with FERC – attached. The project is a hydro-mechanical battery that is a net consumer of electricity. I recommend that Council decide if it wants to be on record opposing the project after the Webinar. My current thinking is that if NECEC with a much greater environmental footprint could not be stopped, there is no chance of stopping this project. TU can't oppose everything.

Legal Defense Fund. Please refer to the Treasurer's Report. Legal fees for the Rumford Falls MBEP Appeal were $16,275, and a legal review of the Draft Aziscohos MOA will need to be accomplished this year. Expenses will exceed revenues in 2025. Fund raising efforts will resume in December.

Mousam Project. Nothing new to report. Sebago TU working with members of the Mousam – Kennebunk Alliance in support of dam removal incident to license surrender. Issuance of Environmental Analysis (EA) delayed until October 2, 2025.

Worumbo Project (lower Androscoggin). Consultations continue between Eagle Creek, USFWS, and NMFS to develop fishway prescriptions. FERC granted Eagle Creek's 05/31/2024 request to delay issuance of the Ready for Environmental Analysis notice until after 12/04/2025. NMFS was supportive, American Rivers was not, TU did not comment.

Royal River Dams. Project proceeding toward 2026 dam removals. Town working with American Rivers to find matching funds.

Lewiston Falls Project. Steve working with Cities and other NGOs involved. Council submitted coordinated Motion to Intervene with Protests on March 26. Deadline for new Water Quality Certification from MDEP Is July 8, 2026. MDMR asking for eel passage with monitoring and adaptive management to ensure achievement of eel passage goals. City of Auburn mitigation request included:

- New pedestrian bridges
- Improved river access, including a boat launch and parking area at Switzerland Road and Gulf Island Avenue
- Establishing a practice of monitoring and maintaining temperature, DO and sediment levels during releases, to support the reclassification upgrade of the Androscoggin River.

- Fund the routine maintenance costs for the boat launch and parking located at 509 Lincoln Street which was part of the prior mitigation licensing.
- Fund the ongoing maintenance costs for any new mitigation projects.

And additionally: A minimum of 40 aesthetic flow releases per year should be required, scheduled in consultation with Auburn and Lewiston. Releases should include evening hours and summer weekends, especially during community events. The proposed six daytime events are inadequate.

Dundee Project / Eel Weir Project. Maine Council filings resulted in FERC issuing license violations for the Dundee Project impoundment dewatering and failure to obtain permission to remove trash racks at the Eel Weir Project resulting in downstream mortality to landlocked salmon. A Council letter to LIHI resulted in these projects having their LIHI certification suspended. Despite this, FERC approved Relevate's request to upgrade capacity of protects' generators. Sebago Chapter forming coalition to address future action. Friends of the Presumpscot River are presenting Matt and Steve their Chief Polin Award for their efforts at their Annual Three Sisters Harvest Celebration and Dinner on September 27.

Cataract Project. (First dam on the Saco) Sebago TU working with Saco River Restoration Alliance (SSRA): Robb Cotiaux and Erik Heumiller. Initial Study Plan submitted, Sebago TU worked with Saco Salmon Restoration Alliance to produce study plan comments.

Skelton Project. (Next Project above Cataract) LIHI awarded conditional certification over TU objections.

Hiram Project. Furthest upstream Brookfield dam on the Saco) Mark Woodruff from Saco Salmon Restoration Alliance submitted the eel report with the data Sebago TU's Patty Barber collected at Hiram Dam and Erik Heumiller helped organize, goal: preventing Brookfield from delay installation of improved passage any further. Brookfield responded alleging trespass and threatening legal action. Brookfield threats likely illegal. Nothing new to report.

Green Lake Project. EA issued May 21. Comment deadline extended to August 6, 2025. TU did not submit comments. NMFS requested Endangered Species Act consultation in August. WQC issued by MDEP on May 9, 2025, EA issued May 21, 202. WQC provides for upstream and downstream eel passage including fishways and trash racks. Provides for fish passage for Atlantic salmon, American shad, alewives and blueback herring if/when effective fish passage achieved downstream at Ellsworth and Graham Lake Dams.

Brush Mill Dam (Buckfield on the Nezinscot). MMBTU pursuing this excellent removal opportunity. Town approved going forward with removal. Chapter working to obtain financing. Gene McKenna, MMBTU POC is working with Andy Fisk of American Rivers who are expected to provide significant financial support.

Mayo Mill Dam (Dover Foxcroft). In June, the town voted to reject the plan to spend $9M to fix the ailing dam. This should eventually lead to dam removal.

Hacket Mills Project (Little Androscoggin). Maine TU Council filed to intervene and protested the relicensing of this uneconomic project. MDMR recommended: "installing eel passage no later than 2029 and upstream anadromous fish passage in 2031. This timeframe would complement restoration efforts for sea-run fish at other projects in the watershed."

Ellsworth Project (Union River). In June, Brookfield filed a new Water Quality Certification application in June that included "that Target water levels in Graham Lake will be maintained within an operational buffer between the elevations of 100.1 feet msl and 103.0 feet msl". This is a major improvement over the current license. MDMR filed comments containing significant recommendations, including construction of fish new fish passage at the Ellsworth and Graham Lake Dams, performance standards got anadromous fish passage and adaptive management provisions. DSF comments supported. Downeast Chapter filed for TU.

Salmon Habitat Recovery Unit Meeting (SHRU). Meeting held May 1, Steve Brooke attended. NOAA hierarchy being functionally reduced as senior staff is taking buyout options or retirement. Orland Hatchery is understaffed, volunteers sought to help cover the shortfall. Meeting reviewed accomplishments of last five years. Five Year Plan needs to be updated to deal with existing realities and expected further resource cuts. The Annual SHRU meeting will be held on October 15 at the Penobscot Indian Nation offices (12 Wabanaki Way, Indian Island), and will review the draft plan.

Maine State Wildlife Action Plan. Ad hoc committee provided comments for Maine Council that may be viewed at https://docs.google.com/document/d/1RGxBXquBZbg3vJnJ4JjDPghv5zJ89s9g/edit It came to me directly from the State and I realized too late that I should have forwarded it to the Advocacy Committee for action. My apologies for this – it will not happen again. Thanks to all who participated especially Rob Packie, and Ed Robinson of MMBTU.

Androscoggin Reclassification. A public hearing will be held as part of the Triennial Review to consider upgrading most of the Androscoggin above Lisbon and below New Hampshire from Class C to Class B. The hearing will be held at the Augusta Civic Center on October 16 starting at 9:00. All are invited to come and show their support. The Friends of Merrymeeting Bay have been collecting DO data for years and are the prime supporters of this.

Maine FERC Active Project Status Report. Report attached.

Attachments

Maine TU Council filing dated June 30, 2025
Maine TU Filing dated August 27, 2025
Cianbro FERC filing
Maine FERC Active Project Status Report dated September 18, 2025

June 30, 2025

Cameron Dufour, Biologist - Field Services and Enforcement Team
Laura Paye, Hydropower & Dams Program Coordinator
Bureau of Land Resources
Maine Department of Environmental Protection
17 State House Station
Augusta, ME 04333-0017

Transmitted via email

Subject: **Report of Fish Kill and Forest Fire**

Dear Mr. DuFour and Ms. Paye,

Maine DEP Enforcement said that I should direct this correspondence to you.

Attachment A is a FERC filing made recently by Maine Council of Trout Unlimited (TU). Starting on page 3, it describes the June 17, 2025 trip event that occurred at McKay Station dewatering the West Branch of the Penobscot killing hundreds of fish and starting a forest fire. Details as reported by Brookfield Renewable (Brookfield) are included as Attachment B. Additional information should be forthcoming from Brookfield soon that more fully describes the event in order to meet FERC flow excursion reporting requirements.

TU did not report this immediately to MDEP due to the remote location, because the damage had already been done, and prior flows restored through the Ripogenus Dam crest gates. As stated in our FERC filing, it is well established by prior studies conducted incident to the current FERC relicensing effort that generator trip events kill hundreds of fish, predominantly landlocked salmon parr. As our report states, it would have been be dangerous to try to go to the areas identified by the studies as stranding areas when the time of flow restoral is unknown, but even so, the filing does include images of a dead yellow perch and a stranded crawfish. This is the tip of the iceberg.

Despite FERC efforts to find even a short-term solution to the mortality associated with trip events at McKay Station, they have been unsuccessful to date. We have attached a portion of their recent filing in which explains Brookfield's position as Attachment C. We find their filing less than credible, and state our reasons in Attachment A.

TU requests that MDEP look further into the incident to determine if a Water Quality Certification violation occurred and to take appropriate action if one did.

Given that the cross-arm failure also resulted in a forest fire, this might also be a subject for inquiry as to other violations as well. As our filing notes, this is not the first time a Brookfield cross-arm failure has resulted in a forest fire.

Very respectfully submitted,

Stephen G. Heinz
Maine TU Council FERC Coordinator

Attachments:

A – Maine TU Council letter dated June 30, 2025, Subject: Additional Information Requests (AIRs) Regarding Relicensing of the Ripogenus Project (P-2572) and the Penobscot Mills Project (P-2458)
B – Kevin Bernier (Brookfield) email dated June 18, 2025, Subject: West Branch flow excursions and forest fire
C – Pages from Brookfield letter dated May 29, 2025, Subject: Response to Additional Information Requests on the Final License Application

Electronic Copies to: Tim Obrey, MDIFW; Brian Cavanah, Robert Wood, MDEP; Andrea Claros – FERC Compliance

Attachment A

June 30, 2025

Ms. Debbie-Anne Reese, Esq.
Secretary Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Via online submission to: http://www/ferc.gov

Subject: **Additional Information Requests (AIRs) Regarding Relicensing of the Ripogenus Project (P-2572) and the Penobscot Mills Project (P-2458)**

Dear Secretary Reese,

Maine Council of Trout Unlimited ("TU") submits these comments regarding the May 29, 2025 response submitted by Brookfield Renewable U.S. (Brookfield) for Great Lakes Hydro America, LLC to your Issuance of February 28, 2025. For the reasons stated below, TU continues to have the serious concerns that we stated in the Non-government Organization's letter of March 21,2025 letter that additional AIRs and further additional studies will be required for the project to meet FERC information requirements and be Ready for Environmental Analysis (REA). This latest Brookfield filing heightens our concerns. Going back to the Pre-application Document (PAD), Brookfield said that most of required studies needed for relicensing had been accomplished when the projects were licensed some thirty years ago, and that the Project Mitigation and Enhancement (PM&E) measures in place were adequate. This is despite the fact that the project was then operated by Great Northern Paper (GNP) to power its paper mills in East Millinocket. Since then, GNP spun off its hydro operations into GLHA, sold GLHA to Brookfield after which GNP closed its paper mills. Much has changed since the last relicensing, and the NGOs jointly stated their concerns with Brookfields approach formally.[1] FERC's Study Plan Determination subsequently required 24 studies or studies with modifications,[2] yet the numbers of AIRs and incomplete studies contained in FERC's latest issuance is still substantial. Part of this is due to delays in studies brought on by failure of two generators at the Ripogenus Project caused by improper maintenance procedures by Brookfield following the July 7, 2023 generator trip event that caused a significant fish kill and was a matter of special concern to FERC's Division of Hydropower Administration and Compliance. Continued failure of Brookfield to provide informative responses to FERC AIRs will cause further delays. TU notes that delays to the issuance of a new license are in Brookfield's financial interest because some generation is bound to be lost from the Penobscot Mills project to water the over 5-mile dewatered section of the West Branch below Stone Dam, or Stone Dam dry way, that Maine Department of Environmental Protection (MDEP) is sure to require flow restoration in a Water Quality Certification (WQC) for the project.

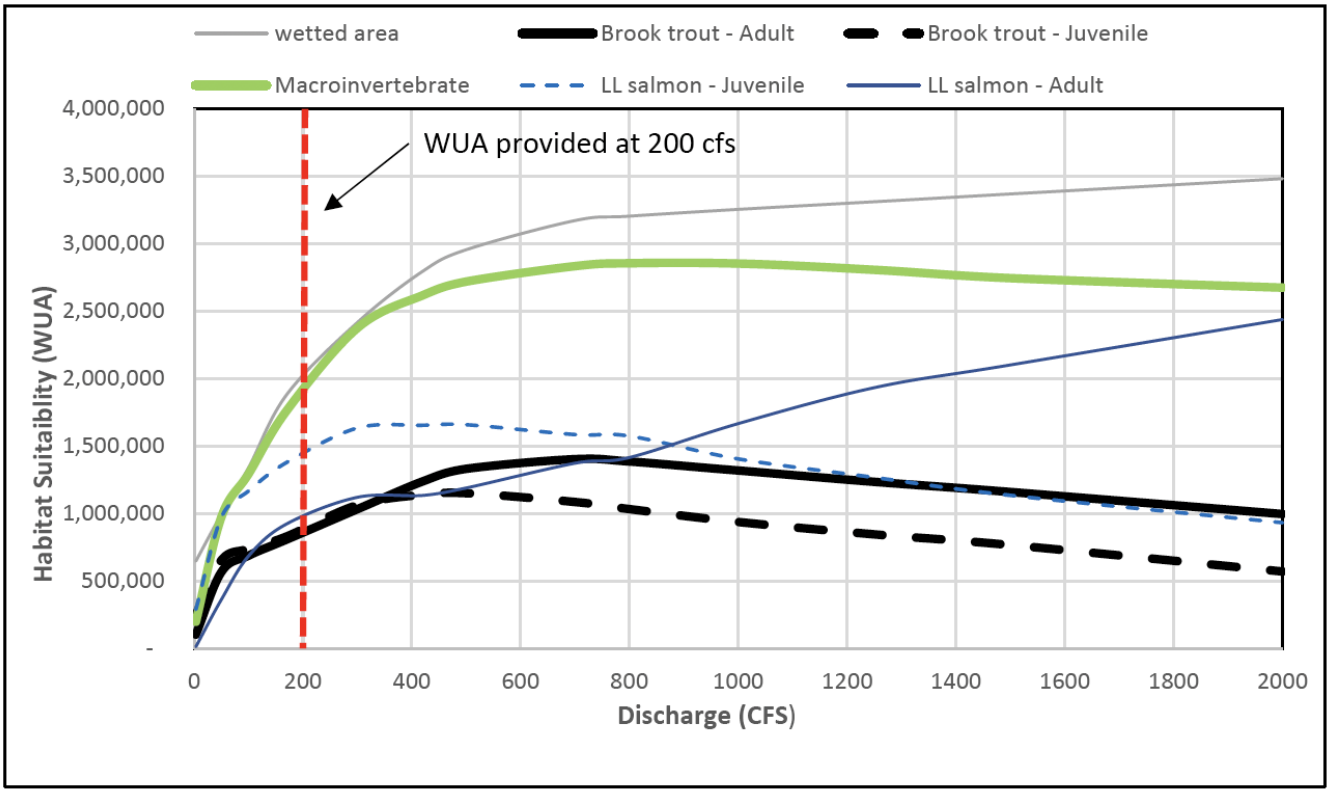
[1] NGO Preliminary Comments on the Proposed Study Plan (PSP) for the Ripogenus Project (P-2572) and the Penobscot Mills Project (P-2458) dated February 10, 2022.

[2] Study Plan Determination for the Ripogenus Hydroelectric Project and the Penobscot Mills Hydroelectric Project, Appendix A.

Administrative Note: Lack of coherent page numbers complicates referencing specifics in the document. Pdf page numbers have been used to provide clarity where needed.

Specific Comments:

Schedule A. Habitat Suitability Page A-16 (pdf page 27). The "corrected" graph below still shows best flows for macroinvertebrates and adult brook trout and landlocked salmon at ~ 700 cfs. This is a flow that Brookfield did not include in the Wadability/fishability study despite repeated TU requests. Some modeling has been done, page 12 (pdf page 23) but this is deceptive because Brookfield only looks at the reaches that they selected that are so low that it was possible to wade across the river. At higher flows, additional watered area is available for fishing.



Revised Figure 6.6-24

Please continue to note that 700 cfs is the optimal flow for adult brook trout and within the optimal range for macroinvertebrates. Adult landlocked salmon would benefit further from higher flows. The manner contained in TU's USR Comments remains valid, including our objections to the 30-foot casting distance used that FERC Staff has questioned:

> "Study assumed 30 ft fly casting distance. This is an unrealistically shortened distance and reduced the useable/castable area by 50%. Spin fishing would also be possible there with even longer casting distances. The reaches at the flows sampled provided a fishing opportunity more appropriate to a smaller tributary, not the main stem of the West

Branch of the Penobscot River where the bulk of recreational fishing is known to occur."[3]

In addition to the invalid nature of the casting distance assumption, the study did not account for the fact that the fishing zones were the deepest pools and runs in the section. Immediately upstream of the fishing zones were shallow riffles that were more wadable at all the flows tested. These shallow sections give anglers access to the far bank, easily doubling the castable area of the river available to anglers at the flows tested.

Brookfield's report is misleading and deceptive. Its conclusion that lower flows provide more, better fishing habitat defy logic as they are looking at only a small percentage of the 3440 cfs 50% median duration flows measured a short distance downstream at the West Branch Penobscot River gaging station near Medway, ME.[4] These flows are more appropriate to a nursery area, and Brookfield's Revised Figure 6.6-24 continues to demonstrate that.

Appendix A - Water Quality Study Report Addendum 2023 North Twin Impoundment Macroinvertebrate Sampling - Expected to meet MDEP criteria and did - page 12 (pdf page 55).

Appendix B - 2024 Macroinvertebrate Sampling of Six Sites in the West Branch Penobscot River Downstream of the Ripogenus and Penobscot Mills Projects (starts pdf page 189). "The LDM biocriteria results from the MDEP were not available as of this report." page 17 (pdf page 207). TU reserves comment until the publication of this finding.

Appendix C - Fish Stranding Mitigation Study Report (starts at pdf page 221). The Brookfield response is unresponsive to the AIR, presents nothing new of consequence, and is only designed to justify the status quo. It ignores both FERC Compliance efforts to at least find even temporary measures to lessen the severity of generator trip events, and TU's proposals to install a dam keeper, put 400 cfs into the gorge from a coldwater source as a buffer, and make the power lines that connect McKay Station to Millinocket redundant eliminating the current 'single point failure' situation that continues to exist.

Brookfield's lack of commitment to preventing fish kills on the West Branch of the Penobscot was further demonstrated on June 17, 2025 at 2:24 p.m. when another generator trip event occurred at McKay Station.[5] There was no severe weather in the area, the trip was caused by a cross-arm failure that in the absence of severe weather, one must assume was due to inadequate maintenance. The down wire that caused the generator trip also caused a forest fire.

A whitewater raft crew was in the process of launching just above McKay Station when this happened and was able to take videos of the event; these are attached as Attachments A

[3] Comments of Maine Council of Trout Unlimited on the Updated Study Report for the Ripogenus Project (P-2572) and the Penobscot Mills Project (P-2458) dated July1, 2924, page 7.
[4] USGS StreamStats accessed at https://streamstats.usgs.gov/ss/?gage=01028000&tab=info on June 27, 2025.
[5] Kevin Bernier (Brookfield) email June 18, 2025 2:14 PM, Subject: West Branch flow excursions and forest fire.

through F. [6] We have extracted still images from the videos showing extremely low flows, and provided them as Figure 1 and Figure 2.

Figure 1, photo by Greg Sarnacki

Figure 2, photo by Greg Sarnacki

[6] Videos taken July 17, 2025 by Greg Sarnacki. Provided as separate files with this filing.

This event was more drastic than the 400 cfs that was used as a flow during the stranding study conducted in 2022,[7] From the videos, there is only leakage flows coming from Ripogenus dam, and no flows from the powerhouse. Again, referencing the Brookfield email:

> "Article 402 of the Ripogenus license requires an outage flow of 400 cfs during generating unit outages at McKay Station, with scheduled minimum flows to be resumed as quickly and practically as possible. Although the minimum flow system at the Station functioned properly on two units currently in operation (#1 and #3) during yesterday's outage, the third unit (#2) is currently inoperable due to ongoing replacement of a thrust bearing oil cooler. As a result, approximately 350 cfs was passed through McKay Station and into the West Branch during the event, resulting in an approximate 101-minute minimum flow excursion until the gate could be opened at Ripogenus Dam."[8]

Based on the videos, the flows may even have been lower than the 350 cfs that Brookfield reported. One must assume that more than the hundreds of fish perished during the event with the largest number of them being landlocked Atlantic salmon parr. Sarah Sindo who manages the Big Eddy Campground downstream photographed one dead yellow perch observed during the event, and a stranded crayfish, Figure 3 and Figure 4.[9] It would have been dangerous for greater effort to be made to determine further mortality at the known stranding sight below Telos Bridge, Little A Falls and Big A Falls as restoral time was unknown when the event occurred and prevailing flows at the time of the failure were 2200 cfs.

Figure 3, photo by Sarah Sindo

Figure 4, photo by Sarah Sindo

[7] Brookfield Updated Study Report dated April 24, 2023, Appendix E: Fish Stranding Study Report; TU Stranding Study dated October 19, 2022, Subject: Maine TU Council Stranding Study Observations.

[8] Kevin Bernier (Brookfield) email June 18, 2025 2:14 PM, Subject: West Branch flow excursions and forest fire.

[9] Sarah Sindo photos taken June 17, 2025.

A positive did come out of the event. The necessity to release water directly from Ripogenus Dam again showed the majesty of Ripogenus Gorge when watered. Figure 5 is a view of the gorge taken from Ripogenus Dam.

Figure 5, photo by Scott Sells

As the NGOs stated jointly in their AIR Comments:

> "The 1982 Maine Rivers Study[10] evaluated rivers across Maine. They specifically mention that the SPECTACULAR Ripogenus Gorge was a significant geological location that is recognized as a potential National Natural Landmark ... This unique Maine resource has not been properly watered for decades, thus depriving the people of Maine of its full aesthetic value."[11]

[10] Maine Dept of Conservation and US Dept Interior- National Park Service. May 1982. Maine River Study: Final Report, page 248.

[11] NGO letter dated March 21, 2025, page 2.

"Alternative No. 1 – Ripogenus Dam Gate Automation
The automating of a gate at Ripogenus Dam to provide a mitigation flow in response to an unplanned station outage was eliminated due to the unacceptable public safety risk, since the reach below Ripogenus Dam is over ¾-mile-long, in a remote location, and used by recreational fisherman and other members of the public."

Appendix C Alternative 1.0 comments: While the generator spin system is one emergency measure to supply necessary river flows in an emergency, it cannot meet the flow levels that Brookfield could supply to maintain a consistent minimum flow when one of their generators is down for repair as during the June 17th event. A true minimum flow should not be contingent on or limited based on Brookfield's generators capacity or maintenance schedule needs. These sudden flow drops are population limiting events for most fish populations and will affect the future quality of fishing in the river. While Brookfield's plan does partially address an emergency. It is possible to do better. There could be an alternative operational rule that will protect the riverine resources at a consistent minimum flow by using automate gates at Ripogenus to quickly bring flows up again or by having buffering cool water releases already in place.

GHLA has argued safety concerns as the reason for not using automated gate at Ripogenus Dam, even though such gates could provide near immediate relief for flow emergencies. Like what happened on June 17th. Yet, automated gates are used at McKay station, a location that has similar access and similar confined channels for about 0.3 mile below the station. In addition, McKay has far higher usage by boaters and anglers than the area below Ripogenus Dam. Perhaps Brookfield wishes to avoid proposing automation of the Ripogenus Project to avoid calling attention to the fish kills that occurred at this site as well in 2023.

Appendix D - Model Run Results from Scenarios requested by Ripogenus Camp Owner Associations. Scenario 25 starting on pdf page 305. TU supports the camp owners' filings[12] and additionally note that the current lake level variations permitted under the current license adversely affect not only the camp owners but also the fish and wildlife in Ripogenus-Chesuncook-Caribou Lake, Maine's third largest.

A key provision of the camp owners' Ops Model run request was: "The monthly target elevations were proposed to simulate filling Ripogenus Lake after ice-out to elevation 940.1 (1.5 feet below the full pool elevation of 941.6) in the spring. After June 1st, Ripogenus is drawn down at a steady rate of 1 foot per month until October 15th (elev. 935.6). The lower limit on winter drawdown is elev. 925.1 (16.5 feet drawdown)" TU agrees that the 1.5 feet of flexibility provided by the 940.1 water level is a more than adequate buffer, and that the additional storage provided is critical to maintain lake and flow levels.

[12] Caribou and Chesuncook Lake Camp Associations letter dated June 24, 2025, Subject: Ripogenus Project (FERC P-2572-141) and Penobscot Mills Project (P-2458-273) Response to Additional Information Request on the Final License Application Schedule A, Item #5; and the clarification letter thereto dated June 26, 2024.

Brookfield has stated that, under the new license, it proposes to manage Ripogenus levels on the basis of the system-wide Rule Curve. TU supports the use of the existing system-wide rule curve.

As the Camp Owners explain, Brookfield did not conduct an error analysis. A key point of the Camp Owners is that: "For the 3 operations model simulation scenarios the overall average annual power generation for the total Ripogenus and Penobscot Mills Project decreased: -0.9%, -2.7% and -2.7%. Based on our error analysis these results are well within the model's margin of error of +/- 5%." The filing continues to demonstrate the actual spill is not as great as Brookfield leads you to think.

We ask that FERC conduct an independent error analysis to better understand the true import of the data so that the new license can include the values for fill, summer maintenance and maximum drawdown to best balance project environmental impacts and benefits.

Appendix E –IFW's data on Chesuncook up to pdf page 397 does mention that lake whitefish were last sampled in 1970 - over 50 years ago. Based on studies conducted to date, that lake whitefish have been extirpated from Ripogenus-Chesuncook-Caribou Lake, Maine's third largest, remains a concern. Brookfield as yet to supply a compilation or a collated list of current fish assemblage data organized by reach making comparison with data from the last license application very difficult.

Summary of Requests.

Based on the information presented above, the NGOs request that FERC:

- We support the Camp Owners' request to modify Scenario 26 as follows:
  -- Eliminate 3,000 cfs flow from North Twin
  -- Remove the dry years including 2021, 2001, 2002, 2016, 2004, 2020 and 2015 from the simulation calculations.

- Conduct an independent analysis of the Ops Model runs including an Operations Model error analysis. TU and the other NGOs are unable to do this using the proprietary CHEOPS and we are not resourced to conduct one ourselves.

- Request Brookfield to provide a Low Water Plan. 1700 cfs minimum flows will result in the inability of the operator to provide required flows in low-water years.

- Request Brookfield to redo the Wadability/Fishability study to include flows of up to 1000 cfs.

- Request Brookfield to redo the Fish Stranding Mitigation Study Report that includes measures to reduce the severity of the well-documented fish kills that occur upon generator trip events, including restoring a dam keeper at McKay station, providing 400 cfs buffering flows into the gorge from a cool water source, automate some of the gates at Ripogenus dam and install redundant power lines from McKay Station to Millinocket or other grid access point.

- Request Brookfield to redo the Fish Stranding Mitigation Study and at least comment on TU's proposals to install a dam keeper and run 400 cfs cold water buffering flows in the gorge.

- Request Brookfield to provide the data basis and calculations used to derive the 350 cfs estimate of the July 17, 2025 trip event flows.

Additionally, TU requests that Brookfield make an earnest effort to include analysis that informs the full range of operating parameters for the projects in its remaining reports:

- Recreation Management Plan

- Historic Properties Management Plan

- Loon Management Plan

- Wildlife Management Plan

- Shoreline Management Plan

- Upstream and Downstream Eel Passage Plan

- Fishway Operation and Maintenance Plan

- Operations Compliance Monitoring Plan (including Low Inflow Protocol)

TU reiterates the requests the NGO's jointly stated in their last joint filing that Brookfield:

1. Find a technical solution that avoids low flows occurring with generator trip events and provides the water from a coldwater source

2. Establish an appropriate flow regime below Stone Dam

3. Establish lake levels that support recreation, wildlife and fisheries both on the lakes and downstream

4. Respond to changes to recreational use of West Branch resources

5. Determine the feasibility of preferred flow and lake level scenarios through Ops Model runs that respond to stated parameters.

6. Determine economic tradeoffs for the full range of flow options for both Ripogenus/McKay Station and Stone Dam.

Very respectfully submitted,

Stephen G. Heinz
Maine TU Council FERC Coordinator

Attachments A through F: Videos taken July 17, 2025 by Greg Sarnacki at McKay Station (separate files)

Electronic Copies to: Tim Obrey, MDIFW; Brian Cavanah, Robert Wood, Laura Paye MDEP; Carl Wilcox – FERC Compliance

Attachment B

From: **Neal Hagstrom** troutnh@hotmail.com
Subject: Fw: West Branch flow excursions and forest fire
Date: June 18, 2025 at 2:55 PM
To: Stephen Heinz heinz@maine.rr.com, Kathy Houston khlally14@gmail.com, Bob Nasdor bob@americanwhitewater.org, Mark Zakutansky mzakutansky@outdoors.org, Matt Streeter mstreeter212@gmail.com, Gregory Friel mtnman11@myfairpoint.net

FYI- outage information from Tim Obrey.
Neal

From: Obrey, Tim <Tim.Obrey@maine.gov>
Sent: Wednesday, June 18, 2025 2:51 PM
To: Neal Hagstrom <troutnh@hotmail.com>
Subject: FW: West Branch flow excursions and forest fire

Fyi. Just received this.

From: Bernier, Kevin <Kevin.Bernier@brookfieldrenewable.com>
Sent: Wednesday, June 18, 2025 2:14 PM
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Subject: West Branch flow excursions and forest fire

At 14:24 hrs yesterday afternoon, several of Great Lakes Hydro America, LLC's (GLHA) hydro stations on the West Branch of the Penobscot River (McKay, North Twin, and Millinocket) tripped offline due to a transmission line failure, which in turn caused a minimum flow excursion at the Ripogenus Project (FERC No. 2572) and a run-of-river and minimum flow excursion at the Millinocket Development (Penobscot Mills Project, FERC No. 2458). In response to the McKay Station trip, which is part of the Ripogenus Project, the System Operator dispatched a local operator to the Project. Following a public safety check and activation of the siren warning system, the operator opened a crest gate at the dam to re-establish river flows. Local operators were also dispatched to the North Twin and Millinocket Developments (both part of the Penobscot Mills Project) to re-establish river flows. After public safety checks were made downstream and siren warning systems activated, a Taintor gate was opened at the North Twin Development and the inflatable flashboard system was deflated at Stone Dam (part of the Millinocket Development) to restore river flows.

Article 403 of the Penobscot Mills license requires that the Millinocket, Dolby, and East Millinocket Developments be operated in a run-of-river mode while providing an instantaneous minimum flow of 2,000 cubic feet per second (cfs) to the West Branch of the Penobscot River at Millinocket. As the result of the Millinocket station trip, river flows at Millinocket dropped below the 2,000 cfs minimum until the inflatable flashboard system could be opened approximately 58 minutes after the trip.

Article 402 of the Ripogenus license requires an outage flow of 400 cfs during generating unit outages at McKay Station, with scheduled minimum flows to be resumed as quickly and practically as possible. Although the minimum flow system at the Station functioned properly on two units currently in operation (#1 and #3) during yesterday's outage, the third unit (#2) is currently inoperable due to ongoing replacement of a thrust bearing oil cooler. As a result, approximately 350 cfs was passed through McKay Station and into the West Branch during the event, resulting in an approximate 101-minute minimum flow excursion until the gate could be opened at Ripogenus Dam.

GLHA has determined that the station trips resulted from a cross-arm failure on the Ripogenus Project transmission line, which in turn resulted in a small forest fire. The fire was extinguished by Maine Forest Service and local fire department crews last evening.

GLHA is still investigating and collecting information on this event, which will be detailed in a report to FERC within 10 days. I will copy everybody on this report, but in the meantime, please let me know if you have any comments or questions.

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Appendix C
Fish Stranding Mitigation Study Report

McKay Station Fish Stranding Mitigation Study Report

1.0 Introduction

Great Lakes Hydro America, LLC ("GLHA" or "Licensee") is the Licensee of the Ripogenus Project (FERC No. 2572) (Project) located on the West Branch of the Penobscot River (West Branch) in Penobscot and Piscataquis counties, Maine. In accordance with 18 Code of Federal Regulations (CFR) §5.15, the McKay Station Fish Stranding Mitigation Study was conducted in response to the Federal Energy Regulatory Commission's (FERC's) Second Study Plan Determination (SPD) dated September 19, 2023.

2.0 Basis for the Study

Based on study requests from stakeholders, FERC's May 13, 2022 SPD required GLHA to conduct a Fish Stranding Study in the West Branch downstream from McKay Station. The study was designed to evaluate the level of fish and macroinvertebrate stranding and mortality associated with an unplanned station trip (i.e., outage) at McKay Station, when flows would drop from generation releases (about 2,000 cubic feet per second [cfs]) to the outage flow of approximately 500 cfs[1]. The results of the Fish Stranding Study were provided in the Initial Study Report (ISR) filed with FERC on April 24, 2023, and indicated that stranding and mortality of fish and macroinvertebrates occurs in the West Branch downstream of McKay Station when river flows change abruptly due to an unplanned station trip.

Based on the results of the Fish Stranding Study and stakeholders requests, FERC's September 19, 2023 SPD required GLHA to conduct a McKay Station Ramping Rate Study[2] to explore protocols for changing flows at McKay Station that could reduce or eliminate stranding and mortality of fish in the West Branch. The results of the McKay Station Ramping Rate Study were provided in the Final License Application (FLA) filed with FERC on September 30, 2024, and indicated that stranding and mortality of fish and macroinvertebrates occurs in the West Branch downstream of

[1] As further discussed in this report, approximately 500 cfs represents the existing mitigation flow that is provided from McKay Station upon an unplanned station trip. This flow is in addition to any flows provided via Ripogenus Dam at the time of the unplanned outage.

[2] Though both the Fish Stranding Study and the McKay Station Ramping Rate Study are associated with evaluating stranding and mortality of aquatic organisms downstream of McKay Station, the studies differ in that the former addresses flow changes resulting from an unplanned station trip/shutdown and the latter addresses flow changes resulting from normal station operations.

McKay Station when river flows change during station operations, but to a lesser degree than the stranding/mortality that occurs during an unplanned station trip.

Based on the results of the Fish Stranding Study, FERC's September 19, 2023 SPD required GLHA to conduct a McKay Station Fish Stranding Mitigation Study to identify and assess measures to minimize the level of fish and macroinvertebrate stranding and mortality that occurs when McKay Station trips offline. FERC indicated that GLHA should consult with the U.S. Fish and Wildlife Service (USFWS), Maine Department of Inland Fisheries and Wildlife (MDIFW), and Maine Trout Unlimited (TU) to determine: 1) what effect the unplanned outages at McKay Station have on the fish and macroinvertebrate populations in the West Branch downstream from McKay Station; and 2) if appropriate, identify potential ways to address fish and macroinvertebrate stranding and mortality downstream from McKay Station. FERC indicated that examples of measures that could be considered to mitigate fish stranding downstream of McKay Station include: 1) a minimum flow that reduces the amount of stranding that is occurring; 2) a battery back-up system that supplies power to a unit or units at McKay Station when the main power source is unavailable, which would reduce the amount of time at the low flow; or 3) automating a gate a Ripogenus Dam so that when McKay Station trips offline, a gate opens to release the present minimum flow to the West Branch downstream of Ripogenus Dam.

In addition to the aforementioned studies required by FERC during the ongoing relicensing proceeding for the Ripogenus Project, via letter dated August 22, 2023,[3] FERC's Division of Hydropower Administration and Compliance also requested that GLHA identify and implement interim measures aimed at reducing the instances of fish and macroinvertebrate strandings downstream of McKay Station during downramping events, such as unit outages, until the current relicensing process is concluded and a long-term measure is identified, if determined necessary. Accordingly, via letter dated January 19, 2024,[4] GLHA filed with FERC an interim plan for the protection of aquatic resources during McKay Station outages.

This study report provides an overview of the results of the Fish Stranding Study, McKay Station Ramping Rate Study, GLHA's Interim Plan for the Protection of Aquatic Resources during McKay Station Outages, and an evaluation of potential measures to mitigate the effects of unplanned

[3] Accession Number: 20230822-3052
[4] Accession Number: 20240119-5146

McKay Station outages. The results of these studies and additional analyses conducted by GLHA were used to develop this McKay Station Fish Stranding Mitigation Study Report.

3.0 Study Goals and Objectives

The goals and objectives of this study are to: 1) determine what effect unplanned outages at McKay Station and/or normal operations of McKay Station have on fish and macroinvertebrate populations in the West Branch downstream of McKay Station; and 2) if appropriate, identify and assess measures to minimize the level of fish and macroinvertebrate stranding and mortality that occurs when flows in the West Branch downstream of McKay Station are modified due to normal operation of McKay Station and/or due to unplanned station outages.

4.0 Study Area

The study area includes the West Branch downstream of McKay Station to Nesowadnehunk Deadwater where the potential for fish stranding occurs based on operations or outages at McKay Station.

5.0 Study Methodology

The methodology for the McKay Station Fish Stranding Mitigation Study consisted of the following:

- Provide a general description of the Project and its operations, including a summary of the historical and current procedures for providing flows during a station outage;
- Provide a summary of the results of the Fish Stranding Study and McKay Station Ramping Rate Study;
- Provide a summary of historical and existing fish assemblage in the West Branch downstream of McKay Station and evaluate if operations of McKay Station affect the fish and macroinvertebrate populations in the West Branch;
- Provide a summary of historical evaluations for providing minimum flow during station outages;

- If operations of McKay Station are having a population-level effect on fish and macroinvertebrates in the West Branch downstream of McKay Station, identify proposed mitigation measures to limit or eliminate the effect.

6.0 Results

6.1 Project Description

The Ripogenus Project was originally constructed between the late-19th century and early-20th century to meet the hydromechanical and hydroelectric demands of the Millinocket and East Millinocket Paper Mills, which were constructed in 1900 and 1906, respectively, and fully shuttered in 2008 and 2013, respectively.

FERC issued an original license for the Ripogenus Project on December 20, 1968 (with an effective date of October 1, 1951), which expired on December 31, 1993. The Project operated under an annual license until a new license was issued to Great Northern Paper, Inc. on October 22, 1996. On May 19, 2000, the Commission issued an order transferring the license from Great Northern Paper, Inc. to GNE, LLC, and on August 26, 2002, FERC issued an order amending the license to reflect a change in the Licensee's name from GNE, LLC to Great Lakes Hydro America, LLC (the current Licensee).

McKay Station was constructed and began operation in the mid-1950s. McKay Station currently has three turbine units (Units 1, 2 and 3) with a hydraulic capacity ranging from approximately 400 cfs (with one unit operating) to 3,500 cfs with all three units in operation[5] (Table 1).

[5] Historically, the units were capable of operating at a hydraulic capacity ranging from approximately 400 cfs to 1,100 or 1,300 cfs. However, currently the units vibrate significantly at gate positions less than 70% to 80% of maximum hydraulic capacity, depending on the impoundment water surface elevation. Therefore, under typical operations, compared to an extended ramping of the units during startup or shutdown, the units are operated to rapidly move through the vibration zones to avoid damage to the units.

Table 1. Type and hydraulic capacity of turbines at the Ripogenus Project

Unit No.	Turbine Type	Minimum Hydraulic Capacity (cfs)	Maximum Hydraulic Capacity (cfs)
1	Vertical Francis	400	1,100
2	Vertical Francis	400	1,100
3	Vertical Francis	424	1,300
Total		**--**	**3,500**

Project Operations

The 1968 license for the Ripogenus Project included two articles related to the operation of the Project.

- Article 32 required that the Project operate in such a manner so as to provide an outflow during the flood season which, when combined with the runoff of the intervening area between the Ripogenus Project and the North Twin Development, will not cause an outflow that would exceed the spillway capacity of the North Twin Development.
- Article 33 required that the Project operate to provide a minimum flow of 200 cfs, as long as any storage remains in Ripogenus Lake, in the West Branch immediately below McKay Station and, following consultation with the MDIFW and the USFWS, take such steps as may be necessary to protect the fishery resources in the river channel between the dam and McKay Station.

Although operations data are not available for the period under the 1968 license, a description of typical Project operations was provided in the 1991 License Application filed with FERC in support of obtaining new licenses for the Projects in 1996. Under the 1968 licenses, McKay Station generated 40 Hz power to power the Millinocket and East Millinocket paper mills, with loads supplied by the grid being mostly large groundwood grinder motors where loads varied significantly during the grinding process. Due to the large size of these loads relative to the 40 Hz system, the system was prone to frequency upsets when the load changes occurred. Individual hydro governor controls on each hydro unit sensed the change in frequency when the load on a grinder motor changed and adjusted generator outputs in terms of flow and generation to compensate for the change and achieve a new balance. These frequency changes and governor responses made it impossible to maintain instantaneous flows at all 40 Hz hydro generators,

particularly at McKay Station, which was the first station to respond to a frequency upset (GNNC 1991). Hence, flows downstream of McKay Station historically varied during mill operations.

The Ripogenus Project operates as a store-and-release development using an annual seasonal drawdown to provide a reliable source of flows downstream of the Project. As presented throughout the relicensing proceeding, the Ripogenus Project is the primary water source that supports flows on the West Branch and main stem of the Penobscot River. Article 402 of the existing license requires minimum flows downstream of McKay Station into the West Branch as specified in Table 2. Flows below McKay Station are provided via the turbines; however, if necessary, GLHA will manually open a gate at Ripogenus Dam to augment flows.[6]

Table 2. Minimum flow requirements downstream of McKay Station for the Ripogenus Project

Date Range	Minimum Flow Requirement[1]
Fish Spawning or Incubation	
September 16 – October 14	1,000 cfs to facilitate drawdown of the North Twin impoundment (part of the Penobscot Mills Project).
October 15 – November 15	At least 1,422 cfs or inflow, but not less than 1,300 cfs[2] for salmon spawning.
November 16 – June 7	Greater than 1,422 cfs (or the spawning flow established above for the year)[2] for salmon incubation.
Whitewater	
May 1 – September 15 (8:30 AM – 5:00 PM)	Normal hydrologic year[3]: • 2,300 cfs on Saturdays and Sundays • 2,200 cfs on Mondays and Fridays • 2,000 cfs on Tuesdays through Thursdays Wet or dry hydrologic year[3]: • 2,200 cfs on Saturdays and Sundays • 2,000 cfs on Mondays and Fridays • 1,800 cfs on Tuesdays through Thursdays
September 16 – October 1 (8:30 AM– 5:00 PM)	Normal hydrologic year[3]: • 2,300 cfs on Saturdays and Sundays Wet or dry hydrologic year[3]: • 2,200 cfs on Saturdays and Sundays
June 8 – October 14 (5:00 PM – 8:30 AM)	1,000 cfs
Station Outages	
Times of generating unit outage	400 cfs with scheduled minimum flows identified above to be resumed as quickly as possible by releases from Ripogenus Dam if necessary, but in no event in more than three days following the initial outage.

[1] Minimum flow shall be the minimum flows for each hourly period measured on the basis of an hourly average.
[2] Flows to be established each year in consultation with the USFWS and MDIFW.
[3] The whitewater flow for each month from May through September is determined on the first day of each month based on an analysis of Total Available Water as described in the Water Use Plan in the application for new license filed with the Commission on December 17, 1991. The determination of "wet," "normal," or "dry" shall remain

[6] The planned release of any flows from Ripogenus Dam are provided with consideration of public safety within the reach below the dam.

constant during the month based on the first day of the month classification. The range of "normal" available water represents the expected available water during normal hydrologic conditions. It is defined as the range between x-s and x+s, where "x" is the mean value and "s" is the standard deviation. Based on a statistical analysis, total available water would be expected to be within this "normal" range two-thirds of the time and outside of this range ("wet" or "dry" years) one-third of the time.

Flows during McKay Station Outages

On May 3, 1991, following extensive consultation with resource agencies and the desire for a downstream mitigation flow following unplanned station outages, Great Northern Nekoosa Corporation (licensee for the Project at the time) filed with FERC a Plan for Providing Minimum Flow (1991 Plan) that detailed the proposed use of a braking system to provide a flow of approximately 400 cfs into the West Branch during unplanned outages at McKay Station. A copy of the 1991 Plan is provided in Attachment 1 of this study report. At the time of the relicensing, the implementation of the plan, in combination with the development and operation of the Holbrook Side Channel, was determined to provide the necessary mitigation to address the occurrence and frequency of unplanned outages at McKay Station.

As detailed in the 1991 Plan, the braking system was operated by automatically closing the wicket gates when a station trip occurred, which in turn slowed the turbines until the brakes (which were clamped to the turbine shaft discs) could bring the turbines to a complete stop. Once the turbines stopped, the wicket gates automatically reopened to 8 to 9 percent gate, which allowed approximately 400 cfs to pass while the brakes held the turbines in a stationary position. Testing of the system, as detailed in the 1991 Plan, demonstrated that it took approximately 20 minutes for this system to release the full 400 cfs to the West Branch below McKay Station following a station outage.

In May 2016, the braking system malfunctioned during an outage at McKay Station under high head conditions when the Ripogenus impoundment was nearly full. GLHA determined that the high water levels resulted in significant forces that could not be overcome (by the existing braking system) to brake and stop the units. As indicated in a letter to FERC dated February 16, 2018, GLHA identified an improved system for releasing minimum flows during outages at McKay Station which involved spinning (rather than braking) of the units to pass flow, which was tested and found to successfully provide an estimated flow of 479 cfs. The unit spinning system to provide the required flow during an unplanned station outage remains in effect today with flows

of at least 400 cfs provided to the West Branch from McKay Station within a few minutes after a station trip occurs.

6.2 Summary of Fish Stranding Study Results

Over the term of the Project's existing license, the frequency and duration of unplanned McKay Station outages have been greatly reduced. As discussed further in this report, this reduction in unplanned McKay Station outages is the result of upgrades within the powerhouse and transmission system, as well as improved response measures. Currently, unplanned station outages occur infrequently (i.e., an average of 0.7 outages per year), with five documented occurrences from 2018 through 2024 (2 in 2018, 2 in 2021, and 1 in 2023), which, on average, lasted approximately 3.5 hours. To date, there have been no unplanned outages in 2025. During unplanned station outages, GLHA implements a procedure that provides the required 400 cfs outage flow (i.e., via the automated flow from McKay Station in combination with leakage and/or seasonal minimum flows released from Ripogenus Dam) to the West Branch within minutes. The outage minimum flow is provided until the outage is resolved, units are restored to service, or a gate can be safely opened at Ripogenus Dam. For the October 2022 Fish Stranding Study, a typical unplanned station outage was simulated by reducing the flow from McKay Station from approximately 2,200 cfs to 510 cfs, maintaining 510 cfs for 4 hours, and then restoring flow from McKay Station to 2,200 cfs. During the simulated outage, changes in water surface elevation occurred in approximately 15 to 30 minutes in the upper reaches of the study area. River water surface levels stabilized after approximately 1 hour at Telos Bridge and after 3.5 hours at the Nesowadnehunk Deadwater. In the West Branch, the total change in water surface elevation varied from 1.4 feet at the upstream end of the Nesowadnehunk Deadwater to 3.4 feet at Telos Bridge, a high gradient reach that is relatively narrow in some areas. The changes in water surface elevation at Big Eddy and Little A were both approximately 2 feet. Of note, no changes in water surface elevation occurred within the Holbrook Side Channel, an existing mitigation measure implemented to provide landlocked salmon nursery and spawning habitat. Aquatic habitat along the shorelines was exposed during low flow conditions; however, much of the river channel remained wetted.

Stranded fish were observed throughout seven distinct reaches of the West Branch between McKay Station and the Nesowadnehunk Deadwater. Approximately 450 stranded fish were observed during the study, representing 9 species: landlocked salmon, brook trout, slimy sculpin, blacknose dace, common shiner, white sucker, fallfish, yellow perch, and banded killifish. Most stranded fish

were young-of-year landlocked salmon (55%) followed by blacknose dace (31%) and banded killifish (5%). Of the stranded fish observed, approximately half were classified as mortalities. Most stranded fish were small-bodied species and lifestages such as juvenile landlocked salmon, dace, and sculpin. No observations of large adult landlocked salmon or adult brook trout occurred. Of the seven reaches, the Little A Falls had the highest abundance of stranded fish, followed by Big Eddy, and then the West Branch near the Holbrook Side Channel. There was no stranding of fish or macroinvertebrates observed within the Holbrook Side Channel or the Big A Falls reach. Stranded macroinvertebrates observed included crayfish, stonefly larvae, caddisfly larvae, dragonfly larvae, and leeches. Most invertebrates were alive and able to find shelter in wetted areas during the 4-hour-long simulated station outage. A limited number of macroinvertebrate mortalities were observed.

6.3 Summary of McKay Station Ramping Rate Study Results

The McKay Station Ramping Rate Study was conducted by making planned changes in unit operations at McKay Station and observing the study reaches in the West Branch downstream of the station to document changes in water depth and instances of fish or macroinvertebrate stranding.

- During Scenario 1 (July 17, 2024), GLHA operated 3 units at or close to maximum hydraulic capacity (~3,500 cfs) starting at 8:00 AM. At approximately 2:00 PM, GLHA simultaneously shut down 2 units and operated the remaining unit near full hydraulic capacity (~1,000 cfs).

- During Scenario 2 (July 24, 2024), GLHA operated 3 units at or close to maximum hydraulic capacity (~3,500 cfs) starting at 8:00 AM. At approximately 2:00 PM, GLHA shut down 1 unit and continued operating 2 units for 1 hour (until 3:00 PM), then shut down another unit, and operated 1 unit near full hydraulic capacity (~1,000 cfs).

Both operational scenarios resulted in rapid changes to river flow downstream of McKay Station and some stranding of fish and macroinvertebrates along shorelines and exposed habitats. During Scenario 1, water depth in the West Branch was reduced 2.3 feet near the Holbrook Side Channel, 2.4 feet downstream of Big Eddy, and 2.0 feet at Little A. During Scenario 2, total change in water depth in the West Branch was very similar to Scenario 1, but Scenario 2 resulted in a slower overall rate of change in water surface elevation and water depth, particularly at the Big Eddy and Little

A study reaches. The average rate of change in water depth was 0.04 foot/min (0.5 inches/min) during Scenario 1 (3 units to 1 unit) and 0.02 foot/min (0.25 inches/min) during Scenario 2 (3 units to 2 units to 1 unit). Under both scenarios, at 1 unit flow (~1,000 cfs), some aquatic habitat along the shorelines was exposed; however, most of the river channel remained wetted with ample water for fish and invertebrates.

A total of 81 stranded fish during Scenario 1 and 71 stranded fish during Scenario 2 were observed in the three study reaches. There were 23 observed fish mortalities during Scenario 1 and 33 observed fish mortalities during Scenario 2. Stranded fish species included: landlocked salmon young-of-year, slimy sculpin, blacknose dace, white sucker, fallfish, yellow perch, American eel, brown bullhead, and unidentified minnow species. Most stranded fish were small-bodied species and life stages such as juvenile landlocked salmon, small adult dace, and slimy sculpin. Of the total number of fish observed, 37 percent were classified as mortalities. No adult landlocked salmon or adult brook trout were observed in the three study reaches.

Approximately 287 stranded macroinvertebrates were observed during Scenario 1 and 189 during Scenario 2. Stranded macroinvertebrates included crayfish, stonefly larvae, caddisfly larvae, mayfly larvae, damselfly larvae, and leeches. Most invertebrates (97%) were alive and able to find shelter in wetted areas following reductions in river flow and water surface elevation. Very few invertebrate mortalities were documented. Fewer invertebrate strandings were observed during Scenario 2, likely because of the slower rate in which the water level decreased. No freshwater mussels were observed during the study.

The study demonstrated that some stranding of fish and macroinvertebrates occurs when operations are modified from 3 units to 1 unit at McKay Station. However, in comparing the two scenarios, pausing at 2 unit operation for 1 hour limited the overall effects of these operational changes. In total, fewer stranded organisms were observed during Scenario 2 (3 units to 2 units to 1 unit), suggesting the rate of change in water depth allowed more organisms to move out of shallow shoreline habitats and into the free flowing main stem of the river. The study reaches were positioned within 2.6 river miles downstream of McKay Station. The rate of change in water depth and, therefore, fish and invertebrate stranding, would be expected to decrease further downstream in the West Branch.

Review of operational data from 2014 through 2023 demonstrate that rapid changes in unit operation (i.e., modifying operations from 3 units to 1 unit) at McKay Station occur very

infrequently. There have been four occurrences when McKay Station operations were modified from 3,000 cfs or greater to 1,000-1,300 cfs in the past 10 years (i.e., an average of 0.4 occurrences per year) and a total of 350 occurrences when station flow was reduced by greater than 25 percent as compared to the preceding hourly flow. Although the 2024 study demonstrated that stranding occurs when station flow is reduced from 3,500 cfs to 1,000 cfs, the infrequency of these operational changes diminishes the overall effect they have on fish and aquatic communities in the West Branch, which is supported by data and testimonials that the West Branch downstream of McKay Station continues to be one of the premier landlocked salmon fisheries in the State of Maine.

6.4 Summary of Aquatic Resources in the West Branch downstream of McKay Station

The West Branch downstream of McKay Station provides for and supports habitat that is managed by MDIFW as a high-quality, coldwater salmonid fishery. The reach includes an 1,800-foot-long section of steep-sided gorge immediately downstream of McKay Station that transitions into riffle, run, pool, and tributary habitats that provide habitat for spawning, nursery, and adult lifestages for landlocked salmon, brook trout, and other game and non-game fish species. Almost all landlocked salmon in this reach are wild, completing their entire life cycle in the river. This life history is unusual because landlocked salmon generally spawn in tributaries and rear in larger lakes. The West Branch downstream of McKay Station, however, provides adult habitat in large deadwater areas and pools, and it provides ample spawning, rearing, and nursery habitat in flowing reaches.

Based on studies completed during the previous relicensing and data collected by the Midwest Biodiversity Institute (MBI) in 2004, the fish assemblage downstream of McKay Station was known to include at least 23 cold and cool water species, including many salmonid species (e.g., landlocked salmon, brook trout, lake trout, whitefish), suckers, perches, minnows, sculpin, American eel, rainbow smelt, chub, stickleback, and chain pickerel.

GLHA performed fish assemblage sampling downstream of McKay Station in the summer and fall of 2022 and in the spring of 2024 using raft electrofishing and hoop net surveys. Fish assemblage data were analyzed using the Maine Rivers Index of Biotic Integrity (IBI or Maine IBI) (Yoder et al. 2008) to provide an overall measure of the condition of the fish assemblage in the West Branch. Based on IBI scores, the 2022 and 2024 Fish Assemblage Study demonstrated that the existing fish community in the West Branch downstream of McKay is of very good or exceptional quality

with no non-native species exerting invasive effects, a predominance of coldwater attributes, and a high proportion of fluvial specialist and dependent species. Maine IBI scores ranged from 65.0 to 90.8. Indexed to the Biological Condition Gradient (BCG) classes established by the New England Large Rivers fish assemblage assessment, this places the West Branch mostly within the range of BCG Level III (60-80; very good), except the Maine IBI scores of 81.3 and 90.8 which are Level II (exceptional). The data from previous fish assemblage sampling in 2004 and 2009 completed by MBI essentially scored the same as in 2022 with one site (WBR 37) with a score of 91.2 about 10 points higher than any site in 2022. Compared to IBI scores for other Maine and New England Rivers, this reach of the West Branch ranks third in terms of its quality only behind the Allagash and Aroostook rivers in Maine and New England (Yoder et al. 2008, Yoder et al. 2015). The Fulton's condition factor for landlocked salmon varied between 0.65 and 1.40 for adults, with a mean of 0.92, and between 0.66 and 1.48 for juveniles with a mean of 0.95 in 2022. Similar results were obtained in May 2024 ranging from 0.57-1.34 with a mean of 0.89 for adults and a range of 0.60-1.33 and a mean of 1.01 for juveniles. Values of 1.0 are representative of normal growth and condition, while values greater than 1.0 are representative of increased growth and condition and values less than 1.0 are representative of decreased growth and condition.

Via letter dated November 17, 2023, the MDIFW provided information related to the landlocked salmon and brook trout fishery in the West Branch downstream of McKay Station. MDIFW data indicates that catch rates for salmon in the West Branch are very good compared to other similar rivers in the region. Fish catch and size evaluations show that recruitment in the West Branch is robust. MDIFW indicated that these data imply that the low-flow events, which have occurred once or a few times in most years, has an impact, but the impact is not catastrophic for the salmon population in the West Branch. Overall, MDIFW indicated that the low-flow events during station outages do not compromise the salmonid or invertebrate populations in the West Branch; however, each event does cause mortalities, which should be mitigated.

6.4.1 Holbrook Side Channel

As part of the minimum flow improvements and mitigation provided at the Ripogenus Project during the prior relicensing, the licensee constructed the Holbrook Side Channel in 1998, which provides landlocked salmon nursery and spawning habitat. This habitat improvement project is approximately 0.8 mile downstream of McKay Station and created approximately 14.5 acres of instream habitat for landlocked salmon, brook trout, and other fish species. The Holbrook Side

Channel, which is approximately 1,500 feet long, discharges back into the West Branch near Telos Bridge. The design includes two 30-inch-diameter pipes and an associated flow control valve in one of the pipes to divert 35 to 65 cfs (depending on flow conditions in the West Branch) into the side channel through a rock berm. In-river channel bed modifications were made at the outlet of the Holbrook Side Channel where it discharges back to the mainstem of the West Branch and within the large pool in the middle of the side channel. These modifications to the channel bed were made to create a defined and reliable stream outlet from the main river and to provide unobstructed access to the side channel on the downstream end for spawning landlocked salmon.

As a condition of the existing license, the Licensee monitored the success of the Holbrook Side Channel habitat enhancement project for 5 years from 1998 to 2002. Monitoring included annual spawning redd counts and electrofishing surveys. Results of the monitoring demonstrated that landlocked salmon were using the Holbrook Side Channel for spawning and rearing and that the number of redds and juvenile salmon increased substantially after the habitat project was completed. Based on the success of the mitigation project, and in consultation with the agencies, it was agreed to cease monitoring after 2002, but to continue maintaining the Holbrook Side Channel habitat as mitigation for the periodic reduction in flows from McKay Station. GLHA continues to maintain and operate the Holbrook Side Channel to support spawning and rearing habitat for landlocked salmon. More recently, as part of the Fish Stranding Study conducted by GLHA in 2022, it was observed that the Holbrook Side Channel remained fully operational and flowing even when flows in the West Branch downstream of McKay Station were reduced to 510 cfs to simulate an unplanned station outage. As indicated in the FLA filed with FERC on September 30, 2024, GLHA proposes to continue to operate and maintain the Holbrook Side Channel as habitat for landlocked salmon and brook trout. Given that the Holbrook Side Channel is a designed, constructed, and operated mitigation measure, and GLHA is proposing to continue to manage and operate this mitigation measure over the term of the Project's new license, it is GLHA's understanding that the Holbrook Side Channel should continue to be classified as mitigation, in part to address the varying and periodic low flows associated with McKay Station.

6.5 Summary of Measures Evaluated to Provide Minimum Flows during Station Outage to Protect Aquatic Resources

6.5.1 1991 Minimum Flow Evaluation

As indicated in a May 3, 1991 letter filed with FERC (Attachment 1) (and summarized in a January

19, 2024 letter filed with FERC), in 1991, Great Northern Paper evaluated three alternatives for providing the minimum flow at McKay Station during a station outage: 1) automating a gate at Ripogenus Dam so that flows could be released into the Upper Gorge without delay caused by the need to dispatch an operator to manually open a gate; 2) passing a minimum flow at McKay Station by installing a bypass pipe and valve either at the end of the power tunnel or off the penstock for Unit 1; and 3) passing a minimum flow through one or more turbines by using the existing butterfly valves and wicket gates and applying the turbine brakes to prevent rotation.

Alternative No. 1 – Ripogenus Dam Gate Automation

The automating of a gate at Ripogenus Dam to provide a mitigation flow in response to an unplanned station outage was eliminated due to the unacceptable public safety risk, since the reach below Ripogenus Dam is ¾-mile-long, in a remote location, and used by recreational fisherman and other members of the public. In response to FERC's September 19, 2023 SPD, GLHA confirmed that the automation of a gate at Ripogenus Dam is an unviable option due to the public safety risks associated with automated releases of water into the Upper Gorge and the presence of recreational users (e.g., fishermen) in the Upper Gorge. In particular, sudden flow releases into the gorge without warning may not allow enough time for recreational fishermen within the Upper Gorge to escape. Additionally, given the remote location of the Upper Gorge, emergency services are likely not able to arrive in time for a rescue effort resulting from an automated release of water to the Upper Gorge. Due to this public safety risk, GLHA is not proposing or considering the automation of any gates at Ripogenus Dam as a mitigation measure associated with unplanned McKay Station outages.

Alternative No. 2 Bypass Pipe

The construction and operation of a bypass pipe within or upstream (i.e., a tap off of the Project's penstock) of the powerhouse to provide a mitigation flow in response to an unplanned station outage was eliminated in 1991 due to the numerous mechanical and civil limitations and significant construction and operations challenges. In response to the September 19, 2023 SPD, GLHA reviewed the results of the 1991 study relative to McKay Station's current configuration and operations, as well as potential technology improvements and anticipated cost. Based on this review, GLHA has concluded that the results of the 1991 evaluation relative to a bypass pipe (within or upstream of the Project's powerhouse) continue to be valid today. In particular, given that the current mitigation measures provide flows to the West Branch from McKay Station that exceed the required 400-cfs minimum outage flow within minutes of an unplanned outage

(estimated to be 479 cfs during testing in 2018 and 510 cfs during the 2022 station trip simulation), and considering the leakage and seasonal minimum bypassed flows that are released from Ripogenus Dam during normal operations, GLHA concludes that providing a 500 cfs outage flow utilizing a bypass pipe alternative (as considered in the 1991 evaluation) continues to be unwarranted.

Although higher outage flows would be more protective of fish and macroinvertebrate populations in the West Branch downstream from McKay Station (e.g., 1,700 cfs to maintain GLHA's proposed normal operating minimum flow), such flows would significantly increase the technical challenges of installing an automated penstock tap and/or retrofitting the Project's powerhouse to enable higher flow releases. Challenges of constructing a system to automatically release approximately 1,700 cfs at or near the powerhouse include the construction of a bypass pipe that would need to be installed at the dead-end of the tunnel, continue underground (e.g., beneath the parking lot adjacent to the powerhouse), and discharge downstream of the McKay Station at a low enough elevation as to not result in a public safety concern to boaters who access the river in this location. Relative to the 1991 evaluation that raised concerns regarding the water velocities and structural control measures required to automatically release 500 cfs, an increase of the automated release to 1,700 cfs greatly increases the challenges associated with the sizing of the discharge pipe and valve(s), discharge velocities and the means of dissipating the flow at the discharge point, and concerns related to back pressure within the pipe.

If the bypass were to be installed as a tap off of the Project's existing penstock, additional challenges include the requirement of a large valve and pipe access vault to be constructed underground on the upstream (west) side of the Project's powerhouse. The vault would need to be greater than 8,000 cubic feet in size and would require removal of bedrock adjacent to the powerhouse and existing reinforced concrete associated with Penstock No. 1. Consistent with the 1991 evaluation, it is assumed that blasting (which would be inadvisable in this area) would be required to construct the bypass system.

The cost of constructing a bypass system that increases automated outage flows from the current ~500 cfs to 1,700 cfs is much greater than the 1991 estimates. As a AACE International Class V (-50% to +100%) cost estimate, GLHA estimates that the cost of constructing such a bypass system would be in the range of $3,000,000 to $6,000,000.

Alternative No. 3 – Turbine Wicket Gate/Braking System

The 1991 evaluation determined that the implementation of a turbine wicket gate/braking system is a feasible option for providing minimum flows from McKay Station during unplanned station outages. As a result of this evaluation and associated stakeholder consultation and FERC approval, this alternative was tested and implemented in 1991 to automatically release 400 cfs. As described above, the system was subsequently improved to a more reliable unit spinning system in 2018 that currently provides automated bypass flows of about 500 cfs to the West Branch at McKay Station during station outages.

6.5.2 2024 Minimum Flow Evaluation

As referenced above, in addition to the studies and consultation being performed in support of the ongoing relicensing, via FERC's August 22, 2023 letter (provided in Attachment 2 of this study report), GLHA performed consultation with the USFWS, MDIFW, Maine Department of Environmental Protection (MDEP), and the Land Use Planning Commission (LUPC) regarding measures aimed at reducing downstream stranding events associated with Project operations, including unit outages. The letter also requested that GLHA further evaluate measures to provide minimum flows during a station outage. As described above, GLHA has reevaluated the measures identified in the 1991 Plan relative to the Project's existing configuration and operations, as well as an increase in the automated outage flow. Based on this evaluation, GLHA concluded that the best alternative for minimizing affects to downstream aquatic resources during an unplanned station outage is to continue to implement the previously approved unit spinning system in combination with GLHA's ongoing system reliability and transmission line maintenance upgrade activities to reduce the frequency and duration of unplanned outages at McKay Station. As noted above, these activities have resulted in reducing the number of unplanned outages to an average of 0.7 outages per year.

In order to reduce the number of unplanned outages, GLHA's ongoing system reliability and transmission line maintenance activities consist of the following.

- **System Reliability** – GLHA is in the process of implementing a relay coordination study to evaluate reconfiguration of the system relays in order to improve transmission and generation protection. Implementation of the study results will increase the stability and reliability of the system, thereby minimizing outages at McKay Station due to system trips

at other interconnected facilities, which typically result from lightning strikes and local utility outages.

- **Transmission Line Maintenance –** GLHA is in the process of implementing a long-term plan for the repair and upgrade of the Ripogenus Project transmission line to minimize outages of McKay Station caused by transmission line failures. In general, the plan replaces support structures (poles and crossarms) based on periodic inspections aimed at identifying wood rot and structure damage (primarily from woodpeckers). GLHA believes implementation of this plan has been effective, as there have been no station outages caused by transmission line failures since May 2016.

6.5.3 2025 Minimum Flow Evaluation

As described in Section 6.5.1, in response to FERC's September 19, 2023 SPD, GLHA performed a reevaluation of the alternatives associated with the 1991 Plan. GLHA believes that the 1991 consultation process and the resulting plan included a comprehensive series of alternatives. Section 6.5.1 provides the results of GLHA's reevaluation of the 1991 alternatives.

In addition to the 1991 alternatives, GLHA evaluated the potential for the installation of a load bank at the Project. A load bank system would accept the electrical load during a failure event and would allow the plant to pass flows at a reduced capacity. While a load bank system may be technically feasible, there would be significant complications related to cost, attempting to provide the station's normal operating flow of 1,700 cfs, physical space and clearances to install the equipment, unit stability at load, unit availability, and safe heat dissipation. Based on an initial review of this alternative, it is unlikely that such a system would be able to provide flows greater than the existing unit spinning system for the duration of typical outages. Due to these combined factors, in combination with an unknown cost for installation and operation, GLHA does not believe that a load bank system is a suitable alternative.

7.0 Summary and Recommendations

Ripogenus Dam was built in the early 1900s and McKay Station was constructed and operational in the mid-1950s. FERC issued an Original License for the Project in 1968 and a New License in 1996. In 1991, based on agency consultation and an evaluation of various alternatives, the Project's Licensee implemented a minimum flow procedure during unplanned station outages. As approved

by FERC, the measure provided approximately 400 cfs from McKay Station until such time that normal powerhouse operations could be resumed. In 2018, GLHA identified an improved system for releasing minimum flows during outages at McKay Station which involved spinning (rather than braking) of the units to pass flow; this system was tested and found to be effective in providing the required 400 cfs minimum flow (and measured at about 500 cfs) during station outages. Under GLHA's current operations, this outage flow, in combination with year-round leakage and seasonal bypass flows from Ripogenus Dam, is automatically provided downstream of McKay Station following unplanned station outages.

Over the term of the Project's existing license, the frequency and duration of unplanned McKay Station outages have been greatly reduced. As discussed in this report, the reduction in unplanned McKay Station outages is the result of upgrades within the powerhouse and transmission system, as well as improved response measures. Currently, unplanned station outages occur infrequently (i.e., an average of 0.7 outages per year), with five documented occurrences from 2018 through 2024 (2 in 2018, 2 in 2021, and 1 in 2023), which, on average, lasted approximately 3.5 hours. To date, there have been no unplanned outages in 2025. Unplanned station outages are typically caused by factors unrelated to the Project operations such as lightning strikes.

Fisheries data have been historically collected by the Licensee and MDIFW downstream of McKay Station. A comparison of the historical and current fisheries data collected in the West Branch downstream of McKay Station indicates that the fish assemblage is of very good or exceptional quality. Compared to other Maine and New England Rivers, this reach of the West Branch ranks third in terms of its quality only behind the Allagash and Aroostook rivers in Maine and New England. Similarly, the MDIFW indicated that their long-term angler survey data shows that catch rates for salmon in the West Branch are very good compared to other similar rivers in the region (including the East Outlet of the Kennebec River and the Moose River). Fish catch and size evaluations show that recruitment in the West Branch is robust. MDIFW indicated that these data imply that the low-flow events, which have occurred infrequently, have an impact, but the impact is not catastrophic for and does not compromise the salmon population in the West Branch.

Based on a reevaluation of the measures associated with the 1991 plan, as well as consideration of installing a load bank, GLHA has determined that the current alternative of providing the minimum outage flow using the unit spinning system is the best alternative for providing flows downstream

of McKay Station during a station trip. As discussed above, modifying a gate at Ripogenus Dam to provide an automated release is not a viable option due to public safety concerns related to recreational activities within the Upper Gorge. In addition, the various challenges associated with constructing a bypass pipe to provide a higher outage flow (e.g., 1,700 cfs) or installing a load bank in response to an unplanned station outage makes such alternatives also non-viable options.

Based on the results of the studies completed to date, GLHA proposes the following measures for continued operation of the Ripogenus Project:

- Continue to implement the ongoing system reliability measures and transmission line maintenance activities to reduce the frequency and duration of unplanned station outages at McKay Station.

- Continue to implement the current outage minimum flow procedure, which provides approximately 500 cfs of flow from McKay Station into the West Branch within minutes of an unplanned outage of McKay Station. This automated outage flow is in addition to any leakage and/or seasonal bypass flow being released from Ripogenus Dam at the time of the unplanned station outage.

- Continue to operate and maintain the Holbrook Side Channel, which provides approximately 14.5 acres of instream habitat for landlocked salmon, brook trout, and other fish species about 0.8 mile downstream of McKay Station. The Holbrook Side Channel is an existing mitigation measure resulting from the previous relicensing and is intended to provide stable fisheries and aquatic habitat downstream of McKay Station. During the Fish Stranding Study, it was observed by GLHA and MDIFW that flows in the Holbrook Side Channel were not affected by the reduction in river flows caused by a simulated station outage.

- Provide a year-round minimum flow of 1,700 cfs to the West Branch downstream of McKay Station, which will minimize changes in flows and fish and macroinvertebrate strandings/mortalities during normal operations of McKay Station, particularly during the whitewater boating season, as compared to current license requirements.

8.0 Correspondence and Consultation

As discussed above, in response to FERC's August 22, 2023 letter, GLHA consulted with USFWS, MDIFW, MDEP, and LUPC related to measures to provide flows following unplanned station outages. GLHA's January 19, 2024 filing, which is provided in Attachment 2 of this study report, provides details regarding this consultation.

Consistent with FERC's September 19, 2023 SPD, GLHA is providing a copy of this report to USFWS, MDIFW and TU for review and comment. GLHA requests that any comments related to this report be filed directly with FERC within 30 days of the filing and distribution of this report, with a copy of the comments provided to GLHA. Pending comments, GLHA will update the report and file an updated version with FERC.

9.0 Literature Cited

Great Northern Nekoosa Corporation (GNNC). 1991a. Ripogenus Project (FERC No. 2572) Application for New License for Major Existing Dam. Great Northern Nekoosa Corporation, FERC No. 2572. December 1991.

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August 27, 2025

Ms. Debbie-Anne Reese, Esq.
Secretary Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Via online submission to: http://www/ferc.gov

Subject: **Further Comments on Additional Information Requests (AIRs) Regarding Relicensing of the Ripogenus Project (P-2572) and the Penobscot Mills Project (P-2458)**

Dear Secretary Reese,

Maine Council of Trout Unlimited ("TU") submits these comments regarding the July 28, 2025 response submitted by Brookfield Renewable U.S. (Brookfield) for Great Lakes Hydro America, LLC to your Issuance of February 28, 2025. As previously stated, TU continues to have the serious concerns that we stated in the Non-government Organization's letter of March 21,2025 that additional AIRs and further additional studies will be required for the project to meet FERC information requirements and be Ready for Environmental Analysis (REA).

Draft Operations and Compliance Monitoring Plan. Is inadequate and needs to include additional features.

Page 5. Brookfield "proposes to provide a minimum flow of 100 cfs downstream of Ripogenus Dam into the bypassed reach (Upper Gorge) from July 1 through September 30 annually, released through the manually operated sluice gate at the north end of the dam." This leaves Ripogenus Gorge dewatered except for leakage flows for nine months out of the year. The summer "fishing" flows use the warmest water from Ripogenus-Chesuncook-Caribou Lake, waters measured by TU observers at 77 degrees in August of 2025. This temperature is unsuitable for the salmonids that are the object of fishing in that reach. The 100 cfs does not offer a paddling opportunity and does little to nothing to restore the aesthetics of the gorge that higher flows would provide. It does not provide a buffer for the lethal low flows caused by the generator trip events that Brookfield continues to be unable to prevent with resultant mortality to fish and macro-invertebrates, primarily to young-of-the-year landlocked salmon, the species that is Maine's state fish. The most recent of these events occurred on June 19, 2025, and these events continue to occur on an average of once a year. Provision of the flow on a seasonal basis fails to provide additional macroinvertebrate habitat that would improve the greater fishery. Higher flows from a colder water source are needed to provide a more consistent fishery, provide paddling opportunities, and improve the aesthetics so marginalized by the current provision of leakage flows nine months out of the year and only 100 cfs in July, August and September. Request minimum flows of 300 cfs in Ripogenus Gorge and the installation of continuous water temperature monitors (data loggers set at a maximum of one hour recording intervals) be installed below McKay Station and in Ripogenus Gorge below Ripogenus Dam, maintained and data shared at the end of the water year each year (October) to insure the Ripogenus Gorge outlet flows are of comparable thermal quality to the McKay Station releases.

Page 5 (continued). Brookfield "proposes to provide a minimum flow of 1,700 cfs (not including the seasonal minimum flow into the Upper Gorge) year-round downstream of McKay Station (see Table 3-1.1) released through the turbines at McKay Station, unless the station is unavailable during which time the flows will be provided by manually opening gates at Ripogenus Dam." This proposal in itself is without merit as it will only serve to deplete the Ripogenus-Chesuncook-Caribou Lake of its water by late summer in many years forcing reductions in flows when stress to the fisheries habitat downstream is at its highest point unless Brookfield is limited from going to above 3000 cfs (three generator operation) by other operational restrictions. The NGOs offer 1500 cfs as a more realistic minimum flow. In the event that flows through McKay Station during maintenance cannot provide the required minimum flow, the difference in flows will be released from Ripogenus Dam and have comparable water temperatures as water being released from McKay station.

Page 6. "Consistent with current operations, during sustained adverse or low water years/conditions, operation of the Ripogenus Project may require modifications to the proposed minimum flows (i.e., 100 cfs seasonal bypass flow or 1,700 cfs minimum flow). As further described in the LIP provided in Attachment 1, in response to sustained adverse or low water years/conditions, GLHA proposes to coordinate with the applicable resource agencies (i.e., MDEP, USFWS, and MDIFW) to modify the downstream flow requirements in order to balance resource interests." Brookfield should consult with the agencies listed **and** Maine Council of Trout Unlimited, American Whitewater, and the Caribou and Chesuncook Lake Camp Associations under the circumstances described. NGOs are included in many other projects, and their participation is especially important for the Ripogenus Project.

Page 9. TU acknowledges and appreciates Brookfield's offer to include Ripogenus-Chesuncook-Caribou Lake levels in the Safe Waters online system.

The draft is less specific than provisions of the Final License Application (FLA) and fails to include features that are required to guide the conduct of future operations.

Ramping Rates. No mention has been made of incorporation of ramping rate changes despite Ramping Study data that shows that abrupt changes in flows strand fish. It would be in the best interest of the resource if flows where are not increased or decreased any more than 25% of prior flow level in any one hour.

Flow gage. TU asks that a flow (and water temperature) gage be installed at a location to be determined between McKay Station and Telos Bridge. Given the wide gaps that continue to exist between Brookfield and the stakeholders, and Brookfield's continued refusal to consider any but their predetermined scheme for future project operations that this be ordered to be accomplished as soon as practicable. Issues like the June 19, 2025 trip event are problematic for FERC to investigate properly due to lack of a flow gage and Brookfield's inability to provide actual flow data. This also limits the accuracy and credibility of Brookfield's Ops Model.

Adaptive management. Given that climactic conditions have changed over the last five years, and some change to project operations will be required to be implemented, such as fill by lake elevations and dates, maintain until levels and dates, and minimum drawdown, TU proposes that a mechanism be

established including the operator, agencies and other stakeholders to evaluate the effectiveness of whatever the terms and conditions are for the new license five years after issuance of the new license and every five years thereafter.

Rule Curve. The FLA states that Brookfield proposes to: "operate and maintain the Ripogenus impoundment pursuant to the system-wide rule curve."[1] TU points out that that this rule curve is identical to the curves generated by the Ops Model runs, and should be an enforceable part of future license terms and conditions. The FLA also includes: "Continue to operate the Ripogenus Project for generation and seasonal storage and maintain Ripogenus impoundment elevations pursuant to the existing systemwide rule curve for the West Branch system."[2] If this is how the lake levels are controlled, then this should be an enforceable provision of the new license. Changes to North Twin flow requirements will decrease water demands from the Ripogenus Project reducing the need to release higher flows from the Ripogenus Project.

Additional concerns remain. Until the requests for actions requested below, especially, Ops Model runs incorporation this pending request:

"modify Scenario 26 as follows:

-- Eliminate 3,000 cfs flow from North Twin

-- Remove the dry years including 2021, 2001, 2002, 2016, 2004, 2020 and 2015 from the simulation calculations. "

information needs will continue to exist regarding how best to conduct project operations.

New license terms and conditions will need to include more specific lake levels and dates that additional Ops Model runs may serve to inform.

Draft Low Inflow Protocol. Is inadequate as well and requires modification.

TU assumes that the new license will include provisions for lake levels and the dates associated with them. Currently, TU continues to support:

- 940.1' or above by May 10th, 940.1' or above by June 1 with monthly withdrawals not to exceed 1 foot throughout the recreational season
- Maintain to 935.6' until October 15th
- No lower than 925.1'.

TU assumes that there will be some form of correction to the dewatering of Ripogenus Gorge for nine months out of the year and watering it in July, August and September with a minimal flow of 100 cfs from the sluiceway with the warmest water in the Ripogenus Lake. Whitewater recreational releases into Ripogenus Gorge are also likely to be included. In dry years like the current one that occur 3 out of every ten years, it will not be possible for the operator to meet all the relicensing lake level and flow conditions and Brookfield acknowledges this on page 4 and in Figure 3 of the draft plan.

[1] Final License Application dated September 30, 2024, Volume 1, Exhibit E, page E-154.

[2] Id., Exhibit D, Table 4.2-1, page D-3.

Page 5 of the draft plan 5.0 Modifications of Required Flow does not provide for a mechanism that involves the stakeholders:

> "Based on the drought status, inflow forecasting, and available system storage using the methods described above, minimum flows and/or recreational boating flows may be modified if required by hydrologic conditions beyond the control of the licensee and upon mutual agreement between the licensee, USFWS, MDEP, and MDIFW. If the flow is so modified, the licensee shall notify FERC as soon as possible, but no later than 10 days after each such incident, together with the record of agency consultation."

This is unacceptable as Brookfield can change the flow regime without consulting the stakeholders.

TU proposes that:

> All scheduled, non-emergency flow deviations must be of mutual agreement between the Licensee, MDEP, MDIFW, and USFWS with advance notification and consultation with TU, American Whitewater, Caribou and Chesuncook Lake Camp Associations and AMC.

This type of provision has been acceptable to Brookfield for other projects.

Draft Recreational Management Plan. TU will be a signatory to a joint NGO filing.

Draft Eel Management Plan. The plan does not go far enough in addressing eel passage. The new license will be for a term of 40 years. The historical range of American eels was state-wide, and an American eel was observed stranded below McKay station during the Ramping Study conducted in 2024. Video documenting this is provided as Attachments A and B which are provided as separate files.[3]

Page 7, Penobscot Mills Project. The draft plan states:

> "Implement upstream passage measures at the East Millinocket and Dolby Developments within 2 years of new license issuance and at the Millinocket Lake Storage Development within 5 years of new license issuance." And goes on to say:
> "Study upstream American eel passage at the East Millinocket, Dolby, and Millinocket Lake Storage Developments for up to 2 years following upstream American eel passage implementation.

More specific objectives for the Plan will be developed after the issuance of the new license."

This provision will only result in endless delays such as those that have occurred with the Medway Project. Eel passage at North Twin Dam is not addressed and should be included. TU proposes implementation of Eel passage at North Twin within 3 years of the issuance of the new license.

Page 8, Penobscot Mills Project. The plan also proposes to "provide downstream passage for adult silver eels at the East Millinocket and Dolby developments within 20 years following new license

[3] Todd Mercer videos taken below McKay Station, July 17, 2025.

issuance." This should also be as soon as possible after license issuance (I.e. within 3 years) and the plan to require Brookfield get approval from the resource agencies on all passage measures. The relicensing studies demonstrated again that some portion of juvenile eels are able to migrated upstream of all of the projects, except Ripogenus which was not assessed.

Ripogenus Project eel passage is not addressed. TU proposes implementation of upstream eel passage within 5 years of the issuance of the new license. American eels have been documented in the West Branch Penobscot River by: the video documentation that TU obtained,[4] fish assemblage studies during the previous relicensing of the projects,[5] and surveys by the Midwest Biodiversity Institute.[6] The sluiceway may provide an easy way to implement this.

Historic Properties Management Plan, Loon Management Plan, Wildlife Management Plan or Shoreline Management Plan. TU has no comments on these drafts at this time.

Summary of Requests.

Draft Operations and Compliance Monitoring Plan - Ripogenus Project

- Amend the plan to include 300 cfs minimum flows for a colder water source into Ripogenus Gorge.
- Install water temperature loggers below McKay Station and in Ripogenus Gorge to insure the Ripogenus Gorge outlet flows are of comparable thermal quality to the McKay Station releases. A permanent flow/water temperature gage may replace the logger below Ripogenus Gorge when implemented.
- Install a permanent flow/water temperature gage at a location between McKay Station and Telos Bridge as soon as practicable.
- Implement ramping rates for McKay Station flows requiring that flows are not increased or decreased at any more than 25% of prior flow level in any one hour.
- Require that in the event that flows through McKay Station during maintenance cannot provide the required minimum flow, the difference in flows will be released through from Ripogenus Dam and have comparable water temperatures as water being released from McKay station.
- Include provisions for adaptive management: periodic review of the effectiveness of the flow and lake level provisions of the new license.

[4] Ibid.
[5] Federal Energy Regulatory Commission (FERC). 1996. Final Environmental Impact Statement Upper Penobscot River Basin Maine, Ripogenus Hydroelectric Project (FERC No. 2572) and Penobscot Mills Hydroelectric Project (FERC No. 2458). Federal Energy Regulatory Commission, Public Reference and Files Maintenance Branch, Washington, DC.
[6] Federal Energy Regulatory Commission (FERC). 1996. Final Environmental Impact Statement Upper Penobscot River Basin Maine, Ripogenus Hydroelectric Project (FERC No. 2572) and Penobscot Mills Hydroelectric Project (FERC No. 2458). Federal Energy Regulatory Commission, Public Reference and Files Maintenance Branch, Washington, DC.

Draft Low Inflow Protocol - Ripogenus Project

- All scheduled, non-emergency flow deviations must be of mutual agreement between the Licensee, MDEP, MDIFW, and USFWS with advance notification and consultation with TU, American Whitewater, Caribou and Chesuncook Lake Camp Associations and AMC.

Draft Eel Management Plan – Penobscot Mills Project

- Implement Eel passage at North Twin Dam as soon as possible after license issuance (I.e. within 3 years).

- Provide downstream passage for adult silver eels at the East Millinocket and Dolby developments as soon as possible after license issuance (I.e. within 3 years).

Draft Eel Management Plan – Ripogenus Project

- Implement Eel passage at Ripogenus Dam within 5 years of the issuance of the new license.

Summary of Prior Requests.

Based on the information presented above, the NGOs request that FERC:

- We support the Camp Owners' request to modify Scenario 26 as follows:
  -- Eliminate 3,000 cfs flow from North Twin
  -- Remove the dry years including 2021, 2001, 2002, 2016, 2004, 2020 and 2015 from the simulation calculations.

- Conduct an independent analysis of the Ops Model runs including an Operations Model error analysis. TU and the other NGOs are unable to do this using the proprietary CHEOPS and we are not resourced to conduct one ourselves.

- Request Brookfield to provide a Low Water Plan that uses lake levels to adjust flows. 1700 cfs minimum flows will result in the inability of the operator to provide required flows in low-water years.

- Request Brookfield to redo the Wadability/Fishability study to include flows of up to 1000 cfs.

- Request Brookfield to redo the Fish Stranding Mitigation Study Report that includes measures to reduce the severity of the well-documented fish kills that occur upon generator trip events, including restoring a dam keeper at McKay station, providing 400 cfs buffering flows into the gorge from a cool water source, automate some of the gates at Ripogenus dam and install redundant power lines from McKay Station to Millinocket or other grid access point.

- Request Brookfield to redo the Fish Stranding Mitigation Study and at least comment on TU's proposals to install a dam keeper and run 400 cfs cold water buffering flows in the gorge.

- Request Brookfield to provide the data basis and calculations used to derive the 350 cfs estimate of the July 17, 2025 trip event flows.

Additionally, TU requests that Brookfield make an earnest effort to include analysis that informs the full range of operating parameters for the projects in its remaining reports.

TU reiterates the requests the NGO's jointly stated in their last joint filing that Brookfield:

1. Find a technical solution that avoids low flows occurring with generator trip events and provides the water from a coldwater source

2. Establish an appropriate flow regime below Stone Dam

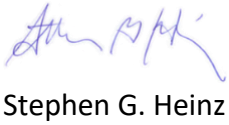
3. Establish lake levels that support recreation, wildlife and fisheries both on the lakes and downstream , using lake levels successfully modelled in the Operations Model run labeled "RipNTwinElevLev3MinInst" (pg. 302) in the May 29, 2025 AIR response.

4. Respond to changes to recreational use of West Branch resources

5. Determine the feasibility of preferred flow and lake level scenarios through Ops Model runs that respond to stated parameters.

6. Determine economic tradeoffs for the full range of flow options for both Ripogenus/McKay Station and Stone Dam.

Very respectfully submitted,



Stephen G. Heinz
Maine TU Council FERC Coordinator

Attachments:

A. Movie file Eel Movie.mpg
B. Movie file Fullpoolpan.mpg

Western Maine Energy Storage

July 22, 2025

Via E-Filing

Debbie-Anne Reese, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

Application for Preliminary Permit: Western Maine Energy Storage Project

Dear Secretary Reese:

Pursuant to 18 CFR § 4.32 and 4.81 of the Federal Energy Regulatory Commission's regulations, please find enclosed Western Maine Energy Storage, LLC's (Applicant) "Application for Preliminary Permit" for the proposed Western Maine Energy Storage Project (Project). The proposed facility is a 500 megawatt (MW) pumped storage hydroelectric facility to be established in an off-river configuration, located near Dixfield, Maine in Oxford, on privately owned properties. The Regional Engineer, John Spain is also copied on this submittal pursuant to 18 CFR § 4.32(b)(1).

As detailed in the application, the Applicant proposes to evaluate the potential development of this pumped storage power project in consultation with federal and state agencies, tribes, and other interested stakeholders. The Applicant is seeking priority of application for the Project under Part I of the Federal Power Act while obtaining the data and performing the acts required to determine the feasibility of the Project and to support an application for a Federal Energy Regulatory Commission (FERC) license. The Applicant believes the addition of a pumped storage hydropower (PSH) facility will increase grid efficiency by providing system inertia in a renewable rich region, and black start capabilities, essential for maintaining a stable grid.

If you require additional information, please contact me at (207) 679-2347 at llohn@cianbro.com.

Sincerely,

Lauren Walsh
Environmental Permitting Manager
Western Maine Energy Storage, LLC

Cc: John Spain, Regional Engineer, New York Regional Office

BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION
UNITED STATES OF AMERICA

APPLICATION FOR PRELIMINARY PERMIT

WESTERN MAINE ENERGY STORAGE PROJECT

A. Initial Statement – Information Required by 18 C.F.R § 4.81

1. Statement of Application

Western Maine Energy Storage, LLC (Applicant) applies to the Federal Energy Regulatory Commission (FERC) for a preliminary permit for the proposed Western Maine Energy Storage Project (Project), as described in the attached Exhibits. This application is made in order that the Applicant may secure and maintain priority of application for the Project under Part I of the Federal Power Act while obtaining the data and performing the acts required to determine the feasibility of the Project and to support an application for a license.

Clean energy, such as wind and solar, is intermittent by nature and fluctuate based on weather conditions and time of day. The addition of a pumped storage hydropower (PSH) facility will increase grid efficiency, thus lowering the demand for new transmission infrastructure and allowing more clean energy generation onto the grid. PSH will also increase grid reliability by providing system inertia in a renewable rich region, and black start capabilities, essential for maintaining a stable grid.

The Project is aligned with the State's power generation and energy storage strategy to meet the recently revised State of Maine's renewable portfolio standards (RPS) which require 90 percent of retail sales to be from renewable sources by 2040 with 10% also sourced from clean resources by 2040.

The proposed Project is located primarily in Dixfield, Maine, on privately owned properties. Rights to these properties were acquired through option agreement, lease, easement, or purchase by the Applicant. A preliminary permit with a term of 48 months will allow the Applicant to complete studies of the site and file a License Application.

2. Project Location

The location of the proposed Project is:

State or territory:	Maine
County:	Oxford
Nearby Towns:	Dixfield and Canton
Body of Water:	Project water source under review: 1. Initial fill Only – Androscoggin River 2. Reservoir Level Maintenance – Groundwater Wells

3. Applicant's Contact Information

The exact name, business address, and telephone number of the Applicant are:

Western Maine Energy Storage, LLC
P.O. Box 1000
Pittsfield, Maine 04967
Tel: (207) 487-3311

The exact name and business address of each person authorized to act as agent for the Applicant in this application are:

Andrew Qua
Kleinschmidt Associates
141 Main Street
PO Box 650
Pittsfield, ME 04967
Tel: (207) 487-3328

Craig Weaver
Western Maine Energy Storage, LLC
PO Box 1000
Pittsfield, ME 04967
Tel: (207) 679-2569

Lauren Walsh
Western Maine Energy Storage, LLC
P.O. Box 1000
Pittsfield, Maine 04967
Tel: (207) 679-2347

4. Statement of Authority

Western Maine Energy Storage, LLC is a domestic limited liability company and is not claiming preference under section 7(a) of the Federal Power Act (FPA).

5. Term of Permit

The proposed term of the requested preliminary permit is 48 months. Should the preliminary permit be approved, the Applicant intends to move forward with the full permit application before the end of that 48-month period with a goal to bring the needed energy infrastructure online as efficiently and expeditiously as possible.

6. Existing Dams or Other Project /Facilities

The proposed Project location is "off river", currently undeveloped with no existing reservoirs or generation infrastructure. The Project is anticipated to connect to the local utility existing 115 kV Electric Bulk Power Transmission System, owned and operated by Central Maine Power Company, part of the ISONE

Meg Sullivan
Manager | Transmission Planning | Integrated Services Planning
Central Maine Power Company
83 Edison Drive
Augusta, ME 04336

Additional Information Required by 18 CFR § 4.32[1]

1. **Identify every person, citizen, association of citizens, domestic corporation, municipality, or state that has or intends to obtain and will maintain any proprietary right necessary to construct, operate, or maintain the project:**

Western Maine Energy Storage, LLC, a domestic limited liability company, intends to obtain and will maintain any proprietary right to construct, operate, or maintain the Project.

2. **For a preliminary permit or a license, identify (providing names and mailing addresses):**

   (i) Every county in which any part of the project, and any Federal facilities that would be used by the project, would be located:

   Lisa Keim
   County Commissioner – District 2
   Oxford County
   26 Western Avenue
   P.O. Box 179
   South Paris, ME 04281

   (ii) Every city, town, or local political subdivision:

   (A) In which regards any part of the project, and any Federal facilities that would be used by the project, would be located:

   Dixfield, ME

   Alicia Conn
   Town Manager – Dixfield, Maine
   46 Main St.
   PO Box 808
   Dixfield, ME 04224

   (B) That has a population of 5,000 or more people and is located within 15 miles of the project dam:

[1] Code of Federal Regulations. Title 18. Chapter I, Subchapter B, Part 4. Acceptance for filing or rejection; information to be made available to the public; requests for additional studies.
eCFR :: 18 CFR Part 4 -- Licenses, Permits, Exemptions, and Determination of Project Costs

Rumford, ME

Stacy Carter
Town Manager – Rumford Maine
145 Congress Street
Rumford, ME 04276

Local municipalities of less than 5,000 people but are anticipated to have interest in the project;

Canton, ME

Kathy Walker
Town Clerk – Canton, Maine
94 Turner St.
Canton, ME 04221

Dixfield, ME

Alicia Conn
Town Manager – Dixfield, Maine
46 Main St.
PO Box 808
Dixfield, ME 04224

Jay, ME

Shiloh LaFreniere
Town Manager
340 Main Street
Jay, Maine 04239

Livermore Falls, ME

Carrie Castonguay
Town Manager
2 Main Street
Livermore Falls ME 04254

Livermore, ME

Amanda Tyler
Town Clerk
10 Crash Road
Livermore Maine, 04253

Peru, ME

Debra Coudrain
Town Clerk
P.O. Box 429
26 Main Street
Peru, Maine 04290

Mexico, ME

Raquel Welch-Day
Town Manager
134 Main Street
Mexico, ME 04257

(iii) Every irrigation district, drainage district, or similar special purpose political subdivision:

(A) In which any part of the project, and any Federal facilities that would be used by the project, would be located; or

Dixfield Water Department
46 Main St,
PO Box 808
Dixfield, ME 04224

Oxford County Soil & Water Conservation District
USDA Service Center
17 Olson Rd. Suite 3
South Paris, Maine 04281

Lea Fergus
Chair
Androscoggin River Watershed Council
PO Box 1541
Bethel, Maine 04217

(B) That owns, operates, maintains, or uses any project facilities or any Federal facilities that would be used by the project:

There are no existing project facilities or Federal facilities at present in the Project vicinity, so none are associated with the potential Project or are currently used by any irrigation district, drainage district, or similar purpose political subdivision

(iv) Every other political subdivision in the general area of the Project or proposed Project that there is reason to believe would be likely to be interested in, or affected by, the notification:

See 2.(ii)(B), above.

(v) All Indian tribes that may be affected by the project.

*No land has been identified to be under ownership or interest of a Tribe, however consult with the Tribes will be coordinated should they have an interest currently unknown to the Project.

Houlton Band of Maliseet Indians
88 Bell Road
Littleton, Maine 04730

Passamaquoddy Tribe of Indians
Pleasant Point Reservation
P.O. Box 343
Perry, Maine 04667

Aroostook Band of Micmacs
7 Northern Road
Presque Isle, Maine 04769
Passamaquoddy Tribe of Indians
Indian Township Reservation
P.O. Box 301
Princeton, Maine 04668

Penobscot Indian Nation
Indian Island Reservation
12 Wabanaki Way
Indian Island, Maine 04468

THE FOLLOWING EXHIBITS ARE FILED HEREWITH AND ARE HEREBY MADE A PART OF THIS APPLICATION:

Exhibit 1: Description of the Proposed Project
Exhibit 2: Description of the Studies to be Conducted and Statement of Costs and Financing
Exhibit 3: Project Location and Features

EXHIBIT 1

DESCRIPTION OF THE PROPOSED PROJECT

The proposed Project and associated facilities are located in Oxford County, Maine.

PROJECT DESCRIPTION UNDER 18 C.F.R. § 4.81(b)

Project Features:

1. **The number, physical composition, dimensions, general configuration and, where applicable, age and condition, of any dams, spillways, penstocks, powerhouses, tailraces, or other structures, whether existing or proposed, that would be part of the project.**

The proposed Western Maine Energy Storage Project (Project) is a proposed pumped storage hydropower facility with a total installed generating capacity of approximately 500 MW. It will be located on privately owned land in Dixfield and Canton, Oxford County, Maine. The Project consists of a new upper reservoir and new lower reservoir for water storage, water conveyance conduits (penstocks), and generation facilities at off-river locations where no such facilities exist currently. The powerhouse will be mostly above ground between the upper and lower reservoirs. Upon completion of the initial water fill, the facility will operate as a closed-loop system.

No dams or hydroelectric power generation features currently exist within the proposed Project boundary. Because the Preliminary Permit is intended to enable the Applicant to conduct studies that would inform preliminary designs including configuration, composition, height, and length for all proposed Project structures, such details are currently unknown and would be determined through feasibility and optimization studies under a preliminary permit.

Table 1 Structures and Equipment.

Proposed Project Features	Physical Composition	Dimensions/Additional Information
Penstocks between reservoirs	Round steel pipe with full penetration welds at splices	2 each; 16-foot diameter; 7,820 feet long
Powerhouse	Above ground; concrete with ledge rock anchors; multi-level structure	125 long by 100 wide
Intake structure & pipe	Temporary intake structure and pipe for initial fill	2.3 miles running primarily within existing CMP

Proposed Project Features	Physical Composition	Dimensions/Additional Information
	originating from the Androscoggin River	transmission line corridor. Project environmental studies will inform the final route.
Roads & Access	A combination of public and private existing gravel roads will be improved and utilized for construction. (see Project area map)	Permanent roads left for Project operation and maintenance will consist of non-erodible materials suitable for Project area maintenance and limited public access.
Groundwater wells	Permanent ground water wells for water level maintenance	Project studies will include a detailed analysis of ground water availability and suitability of use for maintenance fill.
Generator Tie	1. A 115kV generator tie from powerhouse to existing transmission corridor. No new transmission corridors are proposed outside of the Project Area.	Approximately 2 miles of 115 kV generator tie from the GSU at powerhouse to existing transmission corridor at point of interconnect (POI)
Interconnect Switchyard	A Double Ring Bus interconnect will be constructed as part of the Project at the existing 115kV transmission lines.	Ownership of this asset will transfer to the utility prior to energization at point of interconnect.

2. **The estimated number, surface area, storage capacity, and normal maximum surface elevation (mean sea level) of any reservoirs, whether existing or proposed, that would be part of the project.**

Table 2 Reservoirs.

Upper Reservoir	Surface Area	Storage Capacity
Excavated reservoir following natural topography of the site with built earthen embankments on all sides. One side will have a concrete cut-off wall inside the embankment.	Crest elevation – 1,520' Reservoir bottom elevation – 1,450' Surface area – 100 acres	3,500 acre-feet (150 million cubic feet)
Lower Reservoir	**Surface Area**	**Storage Capacity**
Excavated reservoir following natural topography of the site with built earthen embankments on all sides. One side will have a concrete cut-off wall inside the embankment.	Crest elevation – 700' Reservoir bottom elevation – 630' Surface area –100 acres	4,500 acre-feet (200 million cubic feet)

3. **The estimated number, length, voltage, interconnections, and, where applicable, age and condition, of any primary transmission lines whether existing or proposed, that would be part of the project.**

The Project will utilize existing transmission lines where possible, with a new generator tie and interconnect switchyard at the Point of Interconnection (POI) adjacent to the existing transmission corridor.

New Interconnections:

Number: 2
Voltage: 115 kV
Substation(s): One new generation substation at the powerhouse and one new interconnect substation (switchyard) at the POI adjacent to the existing 115 kV transmission lines

The Project will require two (2) each ring bus interconnects on the two (2) each existing 115 kV transmission lines (Sections 280 and 243) located on the adjacent property owner by Central Maine Power (CMP). The existing lines were upgraded by CMP in 2015 and are considered to be in good to excellent condition. The condition of existing transmission and distribution lines impacted by the Project will be further assessed as part of the feasibility studies.

4. **The total estimated average annual energy production and installed capacity, the hydraulic head for estimating capacity and energy output, and the estimated number, rated capacity, and, where applicable, the age and condition, of any turbines and generators, whether existing or proposed, that would be part of the project works.**

Pump/Turbine Specifications

Number:	Two (New)
Hydraulic Capacity (each):	3000-3700 CFS at 800 feet head
Rating (each):	200 - 250 MW

Generator Specifications

Number:	Two (New)
Rating (each):	200 - 250 MW
Total plant Capacity:	400 - 500 MW
Estimated Average Annual energy output:	1,000,000 MWh

5. **All lands of the United States that are enclosed within the Project Boundary.**

Parcel Ownership	Acres
County	0
Federal	0
Municipal	0
Private	625
Tribal	0
Total	**625**

Project Features	Acres
Upper Reservoir	100
Lower Reservoir	105
Switchyards and Transmission Corridor	35
Planned Temporary Intake (outside existing CMP corridor)	2
Powerhouse	5
Ancillary support buildings/parking/roads	10
Total	**257**

6. **Any other information demonstrating in what manner the proposed project would develop, conserve, and utilize in the public interest the water resources of the region.**

Maine's power grid is under increasing strain as electricity use rises for heating, cooling and transportation. This is complicated by the intermittent nature of wind and solar energy. At peak production, excess generation energy will be wasted due to transmission limits, while low generation can drive up costs due to reliance on more costly generators, an issue already impacting Maine and the U.S. The proposed Project will increase grid efficiency by balancing the supply and demand of electricity throughout the day. This new efficiency will provide an opportunity for more renewable energy injection onto the grid with minimal upgrades to existing transmission corridors. This project will also increase critical grid stability and reliability by the introduction of synchronous machinery and related inertia in the system. System instability in a renewable rich grid was the precise cause of the recent blackouts in Spain. The development of this Project, and any additional nearby generation made possible by this Project, would create new local tax revenue and other community benefits in an area that has recently lost significant manufacturing base.

The proposed Project also provides an opportunity to establish a lasting environmental/renewable energy education, recreation, and resource restoration/preservation area utilizing the water resources associated with the Project. Many pumped storage hydropower projects around the country have incorporated ancillary areas for hiking, fishing and environmental education while also preserving habitat and biodiversity of the area. Maine has a long history of utilizing natural resources in a sustainable manner while preserving the culture for which the state is known. Water resources have supported Maine for centuries and this Project will provide new opportunities to continue to utilize water in a, off river manner. The region will benefit from increased grid efficiency and reliability while limiting the expansion of existing transmission infrastructure.

Should new groundwater wells and associated infrastructure be required to supply make up water lost due to evaporation, the Project will evaluate the opportunity to share the new local water supply infrastructure. Watershed studies which will be pertinent to the final design of the reservoir systems will also benefit the area by providing updated information regarding local stream and river peak flows and impacts from storm events. The area has been impacted significantly by severe storm events in the last few years which devastated many road systems. Data from Project field studies and resource impact mitigation planning could assist in planning infrastructure upgrades which could be coordinated with the local municipalities and the state.

EXHIBIT 2

DESCRIPTION OF STUDIES TO BE CONDUCTED AND A STATEMENT OF COSTS AND FINANCING

DESCRIPTION OF STUDIES TO BE CONDUCTED, PURSUANT TO 18 C.F.R. § 4.81 (C)

1. **General requirement. For any proposed project, a study plan containing a description of:**

   (i) Any studies, investigations, tests, or surveys that are proposed to be carried out, and any that have already taken place, for the purposes of determining the technical, economic, and financial feasibility of the proposed project, taking into consideration its environmental impacts, and of preparing an application for a license for the project.

Section 4.81(c)(2) of 18 CFR requires a work plan for development of a project that would require new dam construction but does not stipulate a schedule for the actual dam construction. Section 4.81(c)(2)(ii) specifically requires a proposed schedule for studies where disturbance of lands and waters may occur "which does not exceed the proposed term of the permit". The Applicant includes a schedule of studies in Table 1 of this exhibit which would be conducted in areas that would include the upper and lower reservoir locations, powerhouse location, penstock routes, transmission line, interconnect and substation, and access roads as required. The following is a summary of the planned regulatory actions, studies, investigations, tests or surveys. The study area is depicted in Map B.

Studies, investigations, tests or surveys that have been completed:

1. Preliminary Site Location Feasibility – completed in 2023

Preliminary site feasibility evaluations were conducted for several potential site locations. These evaluations included desktop evaluations of:

- Existing environmental resources (e.g., wetlands and significant wildlife habitats) including:
  - Wetlands, waterways, identified wildlife habitats and protected natural areas.
  - Cultural resources records
  - Historical resource records

- Land ownership and site access
- Identification of potential electrical transmission interconnection, water sources and conveyance, and access roads
- Preliminary site layout, configuration, and equipment specifications
- Preliminary evaluations of the demand and markets for peaking power, pumping energy, and on-peak generation

Based upon the results of this preliminary feasibility evaluation, the Dixfield location was determined to be the most viable location for the Project. For the purposes of advancing the Project beyond this initial feasibility phase, a preliminary permit application is being filed which will, if approved, enable the Applicant to conduct more detailed feasibility, engineering and environmental. studies

2. Initial Engineering Feasibility

Engineering feasibility studies have been initiated to substantiate technical feasibility and validate cost estimates for the Project. This evaluation and involvement in relevant resource planning procedures will continue throughout the license application process and may result in adjustments to the Project configuration, including the total energy storage capacity, quantity and capacities of the pump turbine units, operating modes, or any other Project characteristics.

3. Initial Protected Resource Field Evaluations

Field evaluations were completed in 2023, 2024 and 2025 for the presence and identification of wetlands, waterways, vernal pools and associated protected species or habitats over a significant portion of the proposed Project site. These evaluations were completed to complement the desktop review completed during initial Project siting and in preparation for coordination with environmental agencies and groups. Field environmental investigations will be ongoing in anticipation of early coordination meetings with the relevant stakeholders.

Planned regulatory actions and studies, investigations, tests or surveys:

Geology and Soils

In order to inform feasibility-level designs of the major Project features, geologic mapping will be composed, and a subsurface investigation program will be created and implemented; the information garnered from these studies will be provided as part of the License Application including the Supporting Design Report. Seismic analysis will include calculations of peak ground acceleration (PGA) and will be prepared with consideration

of applicable attenuation relationships. During license application development, site seismicity will also be evaluated. Before conducting any ground disturbing activities, an erosion control plan will be prepared. The Applicant will participate in a cooperative effort with the appropriate resource Agencies, Tribal Historic Preservation Officers (THPOs), and the State Historic Preservation Office (SHPO) to assess any adverse effects on historic or cultural resources or to geology or other effects on resources noted below and appropriate measures to minimize and/or mitigate such effects.

Water Quantity and Supply

The primary water supply source that has been identified for the Project is the Androscoggin River. Initial fill of the reservoirs is expected to be done from the Androscoggin River, over the course of approximately 10-12 months. The Project has consulted with a hydrogeologist regarding potential impacts to the Androscoggin River and its watershed from this initial fill. A rough watershed study has been completed taking into account an intent to ensure streams impacted by the project retain a flow consistent to maintain state water quality standards. The watershed analysis identified the withdrawal rate needed from the Androscoggin River to provide a fill over the course of 10-12 months, would represent only 0.7% of the 7Q10 low flow value in the river. This value is based on a nearby upstream dam in Rumford, ME.

The preliminary study reviewed precipitation data and the potential for leakage to assess the water level maintenance needs of the operating Project. The data indicates that short-term, seasonal deficits could be possible due to drought conditions, but on average the facility could see a surplus of water. It is expected that the drought-induced or short-term deficits could be offset by a groundwater well source, allowing the infrastructure needed for the initial fill from the Androscoggin River to be temporary.

Additional studies will be conducted during the preliminary permit phase to develop a thorough understanding of hydrogeology and important groundwater/surface water relationships, including recharge routes, discharge, groundwater mobility and variability of Androscoggin River baseflows.

Water Quality

Impacts of the Project on water quality post construction are not anticipated but will be assessed to confirm. The facility will operate as an off river closed loop system, recycling water between reservoirs once the initial fill from the Androscoggin River is completed. Risk of discharges that would impact water quality post construction will be minimal.

Impacts to waterways are expected during construction of the facility but will be minimized to the extent practicable with a compensation and mitigation plan established during Project development for resource impacts that are unavoidable.

Wildlife and Botanical Resources

The Project team intends to engage both Federal and State agencies early to ensure wildlife and natural areas concerns are addressed. Early site scoping included a cursory review of the Project location for identified protected habitat and natural areas. Initial field studies are in progress. Coordination will be initiated with the appropriate resource Agencies during the following surveys:

- Identification of aquatic habitats that might be influenced by the Project, both natural and artificial, including wetlands, seeps and springs, and other water sources. For each aquatic habitat identified, the Applicant will assess the condition, size, existing use by vegetation and wildlife, potential effect of the Project, and options for reduction of potential effects.
- Habitat analysis for the area within the Project as well as habitat corridors that could extend beyond Project boundaries or be influenced by the Project scope.
- Identification of any issues with species of concern, indicator species, and threatened or endangered species within Project area.
- Identification of construction and operational particularities including, but not limited to permitting, scheduling, labor resources, construction duration, and other Project details which may impact natural resources.
- Early coordination with State and Federal wildlife biologists to review completed study findings and initiate follow-up investigations as necessary.

Rare, Threatened, and Endangered Species

The Project team will work with the appropriate resource Agencies during an examination of the area within the Project boundary and immediately surrounding areas to ascertain the presence of special-status species or habitat and potential effects of the Project on any special-status species determined to utilize these areas. The following steps will be taken during this process:

- Reconnaissance surveys to understand the existence and extent of habitat for relevant species.
- Protocol-level surveys for species with existing survey protocols.

- Coordination with State and Federal RTE management field staff on the results of initial surveys and planning for future surveys.
- Focused surveys for other special-status species with potential habitat within the Project boundary.
- Focused surveys for other special-status species with potential habitat in the area immediately surrounding the Project boundary that could be affected by Project-related activities.
- Identification of existing and potential threats to special-status species.
- Identification of construction and operational particularities including, but not limited to, scheduling, labor resources, construction duration, and other Project details which may impact biological resources.
- Investigation of relevant papers and reports and review of new information not currently available.

Recreation

The Applicant will consider potential impacts of Project development and operation on present recreational resources (if any) or facilities. The Applicant will work with any identified recreation groups or facilities to develop opportunities for new or ongoing recreational use of the area and will ensure continuity of the recreational use of the area through construction. Potential recreational use of the reservoir resources at the Project will be considered while ensuring safety of the public and functionality of the reservoir system.

Aesthetic Resources

The Applicant will participate in a cooperative effort with the appropriate resource agencies to administer a visual resource survey. The Maine Department of Environmental Protection will be a stakeholder in licensing the Project. State standards require an assessment of the project for visual and scenic quality. Initial review of the chosen location considered the impact of the facility to both scenic and visual quality of the surrounding area and uses.

Historic and Cultural Resources

The Applicant will participate in a cooperative effort with the SHPO, and THPOs to conform with the requirements of Section 106 of the National Historic Preservation Act, and tribal members to assess any potential traditional and cultural resources. To understand historic and pre-historic cultural resources within the Project area and

transmission corridors, a cultural resource inventory will be conducted, especially within sections of the Project area and transmission corridors which are currently un-surveyed. In the un-surveyed sections, cultural resource inventories will be performed by a qualified cultural resource consultant.

Socio-economic Resources

The economic advantages of the Project to local and regional economies, both due to temporary construction and long-term operation, will be examined. The Applicant will also identify and address any potential disproportionate and adverse human health or environmental effects of the Project on minority and low-income populations (*i.e.*, environmental justice communities) in the Project vicinity.

Tribal Resources

The Applicant will work with the THPOs and SHPO and to conform with the requirements of Section 106 of the National Historic Preservation Act. The Applicant will define an Area of Potential Effects in coordination with tribal members, THPOs, and the SHPO as details of the Project, especially the final transmission plan and site design, become better defined. Areas requiring additional surveys will be identified by qualified cultural resource consultants, and the results of these surveys will be documented and provided for review to appropriate stakeholders.

Wetlands

The Applicant has conducted an initial desktop survey of wetland resources and will conduct a field wetland survey and inventory within the planned Project boundary and Project area. Should wetlands be discovered at these locations during field explorations, the utmost care will be taken to mitigate impacts due to drilling, test pit excavations, and other activities. Any potential long-term wetland impacts will be addressed with procedures approved by resource agencies. The full scope of the field exploration activities has not yet been determined.

Traffic and Access Roads

The Project area includes a network of existing logging roads as well as a gravel public road. Final design of the facility features, and reservoir will determine construction use needs of those existing roads and final operational permanent access. The Project will not require a significant amount of new roads. Existing roads to be utilized by the Project, either through construction or permanent operation, will be improved for proper stability, drainage and ecological benefit. (Site Map Attachment B)

(ii) The approximate locations and nature of any new roads that would be built for the purpose of conducting the studies.

The Applicant does not anticipate the need to construct any new roads for the purposes of conducting the studies noted above.

2. Work plan for new dam construction. For any development within the project that would entail new dam construction, a work plan and schedule containing:

(i) A description, including the approximate location, of any field study, test, or other activity that may alter or disturb lands or waters in the vicinity of the proposed project, including floodplains and wetlands; measures that would be taken to minimize any such disturbance; and measures that would be taken to restore the altered or disturbed areas.

The locations of major Project features, including the upper and lower reservoir locations, powerhouse location, penstock route, transmission line, and access roads will be investigated by borehole drilling, test pits, sampling, and field and laboratory testing. While above identified studies for the overall Project are anticipated to include new dam construction areas, studies specific to new dam construction are anticipated to potentially include:

- Topographic Surveying to physically traverse the Project area on foot, by light vehicle, and/or drone to collect ground level topographic information. This effort is not anticipated to disturb or alter lands or waters in the survey area.
- Environmental mapping and surveying may include inventories, sample collection, and/or observations to inform in-depth environmental studies.
- Geologic surface and subsurface investigations may include surface mapping and geotechnical drilling to further the current understanding of geological and geotechnical characteristics of the area, particularly with respect to new reservoir/dam design and construction considerations.

A work plan for investigations specific to new dam construction will incorporate an evaluation of design planning against FERC Division of Dam Safety and Inspection regulations including but not limited to:

- Design and construction plans and specifications
- Hazard classification
- Hydrology and stability
- Instrumentation

- Public safety; and
- Estimated construction, operations, and maintenance costs
- Restoration and Resource Impact Mitigation activities as identified during coordination with State, Federal and Local environmental agencies during development of the Compensation and Mitigation program.

(ii) A proposed schedule (a chart or graph may be used), the total duration of which does not exceed the proposed term of the permit, showing the intervals at which the studies, investigations, tests, and surveys identified under this paragraph are proposed to be completed.

Upon Commission issuance of a Preliminary Permit, the Applicant will formally begin stakeholder consultation, conduct remaining preliminary studies, and implement the tasks and schedule listed in Table 1 below.

Table 1 Western Maine Energy Storage Project Tasks and Schedule

Tasks	Schedule
Coordinate with landowners, tribal interests, and resource agencies for proposed site location	Month 0- 12
Initial scoping and consultation	Month 1 - 8
Field and desktop studies/surveys for biological, geotechnical, surface/supply waters, cultural, social, and economic resources to inform alternative analyses and protection, enhancement, and mitigation measures	Month 1 - 20
Transmission/interconnection planning and agreements	Month 6 - 20
Preliminary engineering design for physical configuration and operational optimization	Month 1 - 24
Costing and economic feasibility assessment	Month 1 - 24
Advance Design Based on Stakeholder input and field survey information	Month 12 - 24
Draft License Application	Month 24 - 48
Final License Application (close to final design goes in with construction submittal post final FERC license)	Month 36 - 48

Tasks and schedule may deviate from this plan depending on actual progression of work, process and consultation factors and factors outside the control of the Applicant.

3. Waiver. The Commission may waive the requirements of paragraph (c)(2) pursuant to §385.207 of this chapter, upon a showing by the applicant that the field studies, tests, and other activities to be conducted under the permit would not adversely affect cultural resources or endangered species and would cause only minor alterations or disturbances of lands and waters, and that any land altered or disturbed would be adequately restored.

The Applicant does not plan to apply for a waiver for the requirements of 18 CFR §4.81(c)(2) pursuant to 18 CFR §385.207.

4. **Exhibit 2 must contain a statement of costs and financing, specifying and including, to the extent possible:**

   (i) The estimated costs of carrying out or preparing the studies, investigations, tests, surveys, maps, plans or specifications identified under paragraph (c) of this section.

The Applicant expects that the cost of performing the studies will be approximately $6,000,000. This cost includes the studies listed in this preliminary permit application, consultations, the Pre-application document, and preparing the draft and final license applications.

   (ii) The expected sources and extent of financing available to the applicant to carry out or prepare the studies, investigations, tests, surveys, maps, plans, or specifications identified under paragraph (c) of this section.

The studies will be financed by the Applicant.

EXHIBIT 3

PROJECT LOCATION AND FEATURES

As required by 18 C.F.R. § 4.81 (d), this Exhibit 3 includes maps that show the following:

1. **The location of the Project as a whole with reference to the affected stream or other body of water and, if possible, to a nearby town or any permanent monuments or objects that can be noted on the maps and recognized in the field;**

A regional "location map" is provided as Attachment A. Streams or other bodies of water under review include:

- Androscoggin River
- Wetlands and Streams
- Local Aquifer(s)

2. **The relative locations and physical interrelationships of the principal project features identified under paragraph (b) of this section;**

A map identifying the referenced features is attached as Attachment B inclusive of Project Study Area, Proposed Facility Area and Natural Resources.

3. **A proposed boundary for the project, enclosing:**

   (i) All principal project features identified under paragraph (b) of this section, including but not limited to any dam, reservoir, water conveyance facilities, powerplant, transmission lines, and other appurtenances; if the project is located at an existing Federal dam, the Federal dam and impoundment must be shown, but may not be included within the project boundary.

   (ii) Any non-Federal lands and any public lands or reservations of the United States necessary for the purposes of the project. To the extent that those public lands or reservations are covered by a public land survey, the project boundary must enclose each of and only the smallest legal subdivisions (quarter-quarter section, lots, or other subdivisions, identified on the map by subdivision) that may be occupied in whole or in part by the project.

A map identifying the referenced features is attached as Attachment C inclusive of proposed reservoirs, penstock, Gen-Tie, temporary fill pipe, pump house and access roads.

4. **Areas within or in the vicinity of the proposed project boundary which are included in or have been designated for study for inclusion in the National Wild and Scenic Rivers System; and**

None.

5. **Areas within the project boundary that, under the provisions of the Wilderness Act, have been:**

   (i) Designated as wilderness area;

   (ii) Recommended for designation as wilderness area; or

   (iii) Designated as wilderness study area.

None.

Subscription

This application for a preliminary permit for the proposed Western Maine Energy Storage Project is executed in the State of Maine, Somerset County, by

By:

Western Maine Energy Storage, LLC
PO Box 1000
Pittsfield, ME 04967
Tel: (207) 679-2569

Being duly sworn, deposes, and says that the contents of this application for a preliminary permit are true to the best of their knowledge or belief. The undersigned applicant has signed the application on this 21 day of July, 2025.

Thomas E. Stone
Corporate Secretary and Clerk
Western Maine Energy Storage, LLC

Verification

Subscribed and sworn to before me, a Notary Public of the State of Maine, this 21 day of July 2025.

(Notary Public)

(My Commission Expires _____)/seal

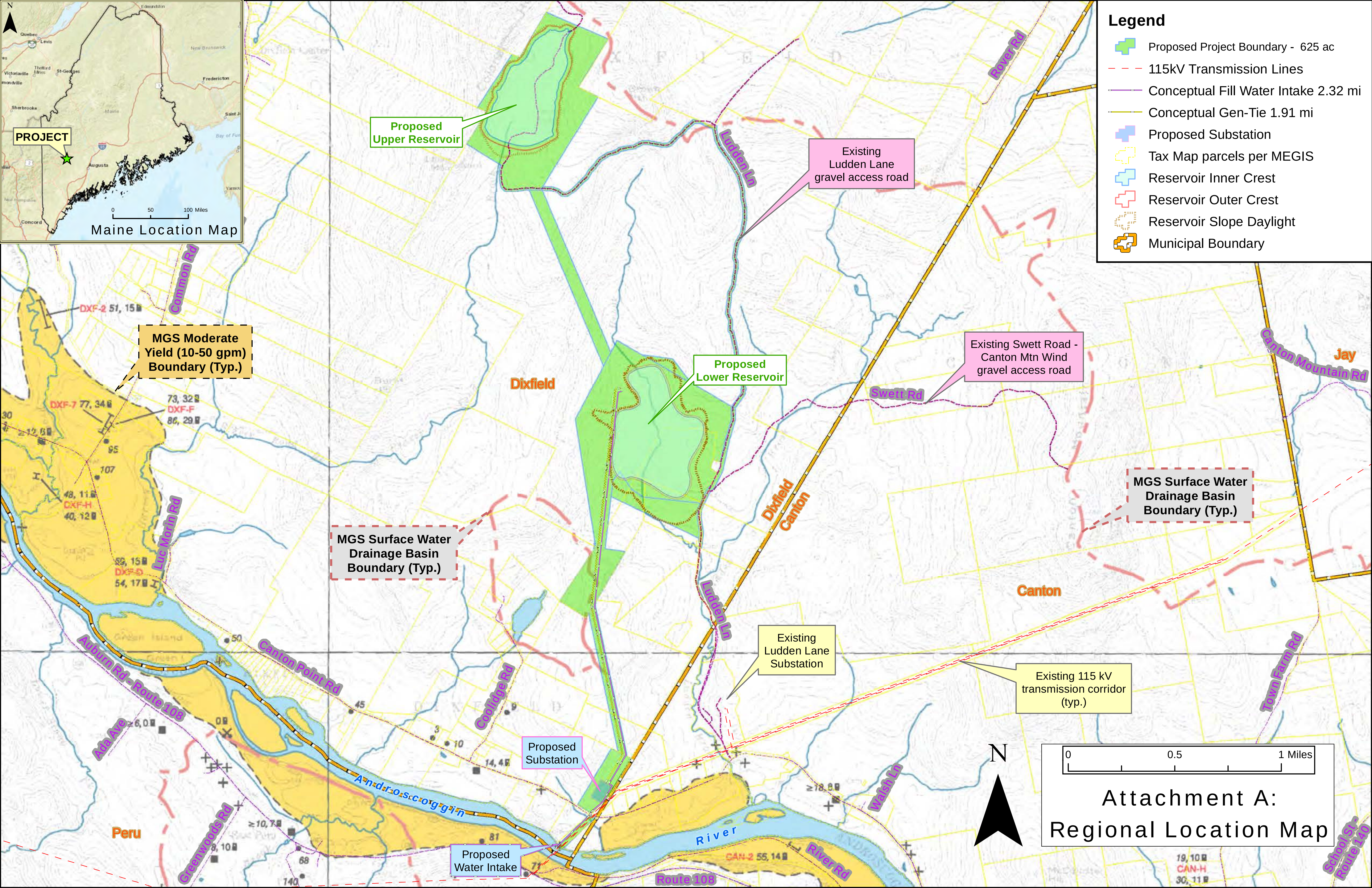
Donna A. Jacques
Notary Public, State of Maine
My Commission Expires May 3, 2032

FORM 587

[Not applicable to the Project, which will be entirely located on private lands.]

ATTACHMENT A

REGIONAL LOCATION MAP



Legend
Proposed Project Boundary - 625 ac
115kV Transmission Lines
Conceptual Fill Water Intake 2.32 mi
Conceptual Gen-Tie 1.91 mi
Proposed Substation
Tax Map parcels per MEGIS
Reservoir Inner Crest
Reservoir Outer Crest
Reservoir Slope Daylight
Municipal Boundary
PROJECT
Maine Location Map
Proposed Upper Reservoir
Existing Ludden Lane gravel access road
Proposed Lower Reservoir
Existing Swett Road - Canton Mtn Wind gravel access road
MGS Moderate Yield (10-50 gpm) Boundary (Typ.)
MGS Surface Water Drainage Basin Boundary (Typ.)
MGS Surface Water Drainage Basin Boundary (Typ.)
Existing Ludden Lane Substation
Existing 115 kV transmission corridor (typ.)
Proposed Substation
Proposed Water Intake
Dixfield
Canton
Peru
Jay
Ludden Ln
Rover Rd
Swett Rd
Canton Mountain Rd
Common Rd
Luc Morin Rd
Canton Point Rd
Auburn Rd - Route 108
Coolidge Rd
Ada Ave
Greenwoods Rd
Town Farm Rd
Walsh Ln
River Rd
Route 108
School St - Route 140
Androscoggin River
0 0.5 1 Miles
N
Attachment A:
Regional Location Map

ATTACHMENT B

PROJECT FEATURES AND BOUNDARY

N

Proposed Upper Reservoir

Existing Ludden Lane gravel access road

Existing Swett Road - Canton Mtn Wind gravel access road

Proposed Lower Reservoir

PROJECT STUDY AREA

Existing Ludden Lane Substation

Existing 115 kV transmission corridor (typ.)

Proposed Substation

Proposed Water Intake

Dixfield

Canton

Peru

Jay

Androscoggin River

Legend

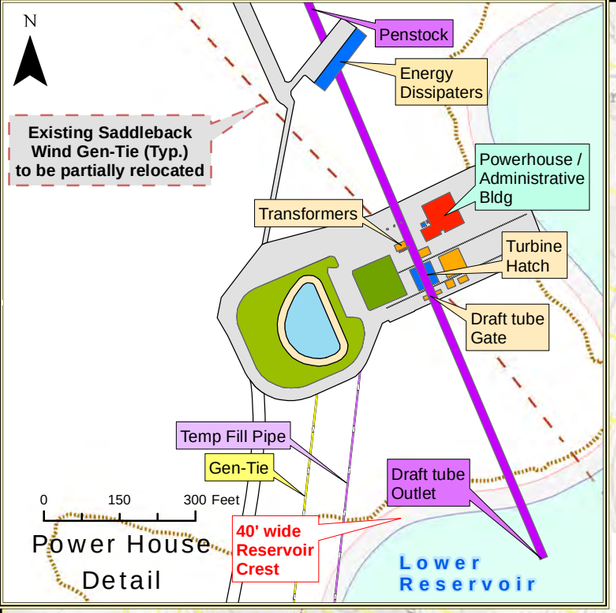
- Project Study Area
- Proposed Project Boundary - 625 ac
- 115kV Transmission Lines
- Conceptual Fill Water Intake 2.32 mi
- Conceptual Gen-Tie 1.91 mi
- Proposed Substation
- Tax Map parcels per MEGIS
- Reservoir Inner Crest
- Reservoir Outer Crest
- Reservoir Slope Daylight
- Municipal Boundary
- Significant Vernal Pools
- Non-Significant Vernal Pools

0 0.5 1 Miles

Attachment B: Rivers, Vernal Pools, Streams, & Wetlands

ATTACHMENT C

PUMPED STORAGE COMPONENTS



Legend

- Proposed Project Boundary - 625 ac
- 115kV Transmission Lines
- Conceptual Fill Water Intake 2.32 mi
- Conceptual Gen-Tie 1.91 mi
- Proposed Substation
- Tax Map parcels per MEGIS
- Reservoir Inner Crest
- Reservoir Outer Crest
- Reservoir Slope Daylight
- Municipal Boundary

Proposed Upper Reservoir

Existing Ludden Lane gravel access road

Existing Saddleback Wind Gen-Tie (Typ.) to be partially relocated

Proposed Penstock & Access Road

See Inset for Power House Detail

Proposed Lower Reservoir

Existing Swett Road - Canton Mtn Wind gravel access road

Existing Canton Mtn Wind Gen-Tie (Typ.)

Proposed Gen-Tie & Temporary Fill Pipe in 200 ft wide easement

Security Gate

Existing Canton Mtn Wind Turbine (Typ.)

Existing Ludden Lane Substation

Existing CMP Transmission two 115kV (Typ.)

Proposed Substation

Proposed Water Intake

0 0.5 1 Miles

N

Attachment C:
Pumped Storage Components

As of: 9/18/2025

MAINE FERC ACTIVE PROJECT STATUS - some other dams too

Information provided to encourage cooperation and coordination between NGOs and other entities. While the information was current when entered, change is constant. Asterisked items have *changed* since the last report, **bolded** items are seen as TU priorities.

→ **Please provide any updates to Steve Heinz - heinz@maine.rr.com.**

Past Expiration Date

* P-2727 ELLSWORTH EXPIRED 12/31/17 CAPACITY 8900 BLACK BEAR HYDRO PARTNERS, LLC UNION RIVER

MDEP denied Clean Water Act Certification in March 2020 based on effects of water level changes on benthic aquatic communities in Graham Lake and Union River and low DO levels in Leonard Lake. The DEP denial was upheld and affirmed by MBEP. Brookfield filed a section 80c appeal to Kennebec County Superior Court challenging the classification of Leonard Lake (and the WQC denial). Hearing scheduled for 3/4/2022 continued. Still operating under annual license extensions. Union was listed as one of American River's Most Endangered Rivers of 2022, due in part to Brookfield's dam. Downeast Salmon Federation (DSF)is an intervenor in this proceeding. MBEP rejection of Water Quality Certification Application upheld by Maine Superior Court. Brookfield appealed to Maine Supreme Court. The Court has heard oral arguments on the merits of the case (Brookfield, MDEP, and DSF) and an issue of justiciability seemed to be the Court's primary concern. On January 21, 2025, Maine Supreme Court ruled that the issue of Leonard Lake classification is non-justiciable, so it was back to square one – Brookfield refiles a WQC application and one or more parties starts a new declaratory action on the Leonard Lake issue (same issue, different procedural set up). While this brings some certainty to the parties regarding Leonard Lake, Brookfield is still in violation of DO WQC standards on two other violations. *Brookfield filed a new Water Quality Certification application in June that included "that Target water levels in Graham Lake will be maintained within an operational buffer between the elevations of 100.1 feet msl and 103.0 feet msl". This is a major improvement over the current license. MDMR filed comments containing significant recommendations, including construction of new fish passage at the Ellsworth and Graham Lake Dams, performance standards got anadromous fish passage and adaptive management provisions. Filing by DSF noted the six-year delay caused by Brookfield's appeals and included: volitional passage for indigenous shad is required immediately or at least consistent with the 2025 MDMR five-year fishway design and implementation scheduled prescription recommendations; aeration measures demonstrate periodically the attainment of Class B DO standards in Leonard Lake; annual muti-agency and stakeholder involvement in the event Brookfield deviates from its proposed water drawdown range for Graham Lake, the installation of a plunge pool at the base of Ellsworth Dam, and consistent effectiveness measures and testing to provide reasonable assurances of future compliance. Other NGOs' filings were consistent with these.*

* *Change since last status:* 5/23/2025

*** P-2322 SHAWMUT** EXPIRED 01/31/21 CAPACITY 8740 BROOKFIELD WHITE PINE HYDRO, LLC. KENNEBEC RIVER

Fishway construction halted at Shawmut Dam. Because of the Endangered Species status of the Kennebec's Atlantic salmon, in 2024 Brookfield was required to file a draft Species Protection Plan (SPP). Maine's environmental community was stunned by the contents of the Biological Opinion (BIOP) issued by NOAA Fisheries for the lower Kennebec hydro projects: Lockwood, Hydro Kennebec, Shawmut and Weston. It ignores the science and states that the four dams improved by the Byzantine system of fishways proposed by Brookfield in its Species Protection Plan (SPP) would not place restoration of endangered Atlantic salmon in jeopardy. The Kennebec Coalition will continue to exercise the avenues of recourse that it has available in the courts, the FERC process, and the press. Penobscot Indian Nation (PIN) comments submitted 8/7/2023 disputing the lack of a jeopardy finding and saying: "The PIN agrees with comments previously submitted to the docket by federal and state agencies and nongovernmental organizations that the licensee's Species Protection Plan are not based on current best available data and instead the current best available data demonstrate that the measures proposed will not work. The PIN agrees that no scientific data or experience support adherence to the 4-project engineered fish passage regime, which will continue to both "take" an unjustifiable segment of the listed species population every year and fail to meet critical restoration goals for the other diadromous species. Experience with what the Species Protection Plan proposes instead demonstrates failure, not success." Brookfield response to a FERC request for construction timeline on 8/23/2023 included more specific implementation dates, but it is still unclear whether construction would start in 2024 or 2025. Draft Environmental Impact Statement (DEIS) issued March 28, 2024. Public Meetings held Tuesday, May 21 and May 22 2024. Good public turnouts with overwhelming support for stronger fish passage provisions than those contained in the DEIS. Maine Department of Marine Resources (MDMR) met with the United States Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), and the Federal Energy Regulatory Commission (FERC) in July to discuss the agencies' recommended fish and wildlife measures made pursuant to section 10(j) of the Federal Power Act for the Shawmut Hydroelectric Project (P-2322). The purpose of the meeting was to discuss and attempt to resolve inconsistencies between section 10(j) recommendations made by MDMR and those initially adopted in the Draft Environmental Impact Statement (DEIS) as they pertain to public interest and comprehensive development standards of sections 4(e) and l0(a) of the Federal Power Act (FPA). EIS was issued February 28, 2025. Includes Staff Alternative with Mandatory Conditions: "the project would have a total installed capacity of 8.65 MW, a capacity benefit of 6.43 MW, and an average annual generation of 43,522 MWh. When compared to current conditions, generation would be reduced by 7,536 MWh/yr. The alternative source of power's current cost to produce the same amount of energy and provide the same capacity benefit would be $4,259,826. The total annual project cost would be $7,360,073. Subtracting the total annual project cost from the alternative source of power's current cost, the project's cost to produce 43,522 MWh of power and provide a 6.43 MW capacity would be $3,100,247 more than that of the alternative source of power's cost." November 2024 FERC Issuance gives MDEP until October 21, 2025 to act on WQC Application or is to be considered to have waived its rights. Still no announcement regarding possible

purchase of the lower Kennebec Dams. *MDMR WQC Comments specifies anadromous fish passage performance standard and use adaptive management techniques to require a second sets of fish lifts if those initially installed do not work. Approaching deadline for MDEP to approve or deny WQC could act as a forcing function.*

P-5362 LOWER MOUSAM EXPIRED 03/31/22 CAPACITY 600 KENNEBUNK LIGHT & POWER DIST MOUSAM RIVER (Coastal river southwestern Maine) License surrender in progress. MDEP letter of 6/23/2023 stated that "the Project does not currently meet State water quality standards due, in part, to low levels of Dissolved Oxygen (DO) that were measured during studies conducted by America First Hydro in support of their abandoned relicensing effort. KLPD's proposal to remove the flashboards while leaving the dams in place could be insufficient to mitigate for the Project's effect on DO. KLPD's proposal also does not include any provisions for fish passage at the three Project dams. Unless KLPD proposes adequate fish passage measures, the proposed surrender would not meet State water quality standards. If the Project's current nonattainment of State water quality standards is not corrected, the Department may choose to initiate enforcement activities against KLPD." Liaison with MDEP indicates they are awaiting a response from KLPD. KLPD has not answered all FERC concerns regarding the last safety Inspection, but Maine River's 1/17/2024 letter to FERC describes efforts to do so. April 8 letter to MDEP urges enforcement action. KLPD acknowledged MDEP's letter in their August 1, 2024 response and went on to say: "As you know, the District's application to surrender its federal hydropower license is pending before FERC. As the FERC surrender process is nearing its conclusion, the District would like to collaborate with you and your office to find mutually acceptable ways to address DEP's concerns in a manner that does not delay the FERC license surrender proceeding resulting in increased costs for the District's ratepayers. KLPD has been in contact with the NOAA Restoration Center to explore potential funding sources to address fish passage." FERC issued a Notice of Intent (NOI) to conduct an Environmental Analysis for the project in January, due date April 30, 2025 that has been slipped to October 2, 2025.

P-3562 BARKER MILL UPPER EXPIRED 07/31/23 CAPACITY 950 KEI (MAINE) POWER MGMT (III) LLC LITTLE ANDROSCOGGIN RIVER (Second dam, just upstream from Lower Barkers) ASF, TU, NOAA and MDMR engagement. PAD filed. Comments w/Study Request filed 1/2/2019 by TU and other NGOs. KEI issued Proposed Study Plan, delaying Agency requested studies. TU comments emphasized importance of studies. Apparently ISR issued to agencies. USFWS submitted comments on ISR noting inadequacy of studies conducted. NMFS filed for dispute resolution. FERC's decision: "NMFS's requested telemetry and project survival studies are unnecessary and KEI Power is not required to conduct these studies. However, KEI Power must address NMFS' concerns with the desktop study in its draft license Application." DLA issued - Final License Application filed July 30. FERC issued letter "not ready for environmental analysis [REA]" on 10/08/2021. Additional study requests sought. NMFS resubmitted requests for (1) an upstream American eel passage siting study; (2) a downstream fish passage-telemetry study; and (3) a downstream fish passage effectiveness and survival study. FERC again denied the requests. KEI letter of 12/21/2021 provided additional information. NOAA Fisheries letter of

8/21/2023 supported issuing simultaneous Ready for Environmental Analysis for the Barker Mill Upper Project Hackett Mills Project (P-6398-026) when both projects are ready. As new license terms and conditions for both are expected to be fully consistent with the Lower Barkers Project, TU is not planning to intervene. On 9/14/2023, FERC authorized continue project operations under the same terms and conditions until the Commission issues someone else a license for the project or otherwise orders disposition of the project.

* P-4202 LOWELL TANNERY EXPIRED 09/30/23 CAPACITY 1000 KEI (MAINE) POWER MGMT (II) LLC PASSADUMKEAG R (First dam upstream from Penobscot.)
Fishway performance an issue. ASF involved advocating for improved fish passage at the site. KEI disputed need for radio-tracking study, FERC found for USFWS and ordered study in February 2021. FLA filed 10/12/2021. After approving five delays, FERC refused KEI's request to delay until July1, 2024 citing the delays and achievement of agreement in principle. Settlement agreement reached in August 2024 gave KEI 8 years to implement fish passage. NGOs filed in opposition to the settlement: American Rivers, Downeast Salmon Federation, Conservation Law Foundation, Maine Council of Trout Unlimited, Maine Rivers, Atlantic Salmon Federation, and the Mousam and Kennebunk Rivers Alliance stating: "…we see little reason to incentivize the failure of KEI to advance fish passage solutions during the initial licensing period and then be provided an overly long timeframe to design and install fish passage." USFWS issued fishways prescription December 3, 2024: "installation of the new upstream anadromous fishway, no later than 8th passage season for American eel following license issuance. MDEP issued *WQC on August 6, 2025 that includes: "The Applicant proposes to install upstream and downstream eel passage facilities. Facilities and their operation will be designed in consultation with fisheries agencies. Upstream passage will consist of an eel ladder, and downstream passage will consist of two siphon-style passage systems. The Applicant proposes to modify the discharge location for the existing downstream fish passage pipe to discharge adjacent to the existing upstream fish ladder entrance. The Applicant also proposes to install full depth seasonal intake rack overlays with a 7/8-inch hole diameter punch plate. These proposals are part of a settlement agreement for a fishway prescription at the Lowell Tannery Project between the Applicant and the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), the Maine Department of Marine Resources (DMR), and the Penobscot Nation."*

* P-7189 GREEN LAKE EXPIRED 03/31/24 CAPACITY 500 GREEN LAKE WATER POWER CO (ME) REEDS BROOK (Greater Union Watershed)
Small project at outflow of Green Lake southeast of Bangor upstream of Graham Lake. Some outflow to hydro, other to federal hatchery. Extremely complex situation. One of the original habitats of Maine's landlocked salmon. Had to have Atlantic salmon run at one time. Char present as well. Part of flow alternate water source for USFWS fish hatchery. Dan Tierney USFWS POC. No consensus or recommendation could be developed by TU. Final License Application (FLA) submitted 3/31/2022. NMFS requested two additional studies on the same day. FERC found application deficient. Green Lake Hydro asked for extension to 11/15/22 to correct. FERC issued Ready for environmental Analysis (REA) on 03/23/2023. Green Lake Water Power disputing fish passage prescription for eel passage. Department of the Interior letter of

8/9/2023 stated "DOI and GLWP have entered into an agreement to stay the trial-type hearing process for 120 days effective August 9, 2023." The parties will hold settlement discussions in the interim. Discussions with agencies have not resolved all issues. Water Quality Certification issued May 9, 2024. Green Lake Hydro requested that FERC delay issuing Environmental Assessment (EA) until resolved. WQC issued in May with eel passage provisions and providing for anadromous fish passage if/when passage provided downstream at the Ellsworth Project. *WQC issued by MDEP on May 9, 2025, EA issued May 21, 2025. WQC provides for upstream and downstream eel passage including fishways and trash racks. Provides for fish passage for Atlantic salmon, American shad, alewives and blueback herring if/when effective fish passage achieved downstream at Ellsworth and Graham Lake Dams.*

* P-2600 WEST ENFIELD EXPIRED 05/31/24 CAPACITY 13000 BANGOR-PACIFIC HYDRO ASSOCIATE (ME) PENOBSCOT RIVER

Penobscot Indian Nation interest. ISR report and meeting March 2021. Only 2/3 of radio-tagged alewives transited the fish ladder. Acoustic study involving shad deeply flawed, yet FERC accepted study. Awaiting the year 2 study reports and a draft application. Brookfield submitted Downstream Fish Passage Conceptual Alternatives Evaluation on 10/29/2021. Meeting held to discuss downstream passage alternatives described in December 16, 2021 report. USFWS proposes modified eel passage measures. Brookfield filed hydraulic analysis model results on March 11, 2022 that needed to be part of the study. On 3/31/2022. FERC Denied a NOAA Fisheries request for a 30-day delay on DLA Comments. Final License Application (FLA) submitted 5/27/22. FERC Issuance of 6/24/22 gave Brookfield 90 days to correct admin deficiencies in FLA. Brookfield submitted Downstream Fish Passage Conceptual Alternatives Evaluation Draft Phase 2B Report and responded to FERC's requests for additional information in September. This is part of the process to: "a proposed alternative for downstream fish passage and protection enhancements and anticipates circulating a formal proposal for stakeholder review and comment in early October." That proposal has not been forthcoming. Brookfield provided additional water quality studies for the Mile Brook/Runaround Dam "side channel" that demonstrates the dam turns critical Atlantic salmon habitat into a backwater. TU noted this fact to the agencies and other NGOs involved. On 4/6/2023, Brookfield filed Upstream and Downstream Fish Passage Alternatives Reports. Current installation "Overall, the hydraulics between the powerhouse discharge and the ladder entrances likely results in the poor entrance efficiencies." Brookfield proposes to:

1. increase the attraction flow from approximately 138 cfs to 220 cfs by replacing the existing attraction flow pumps with new pumps,
2. modify the floor diffuser to provide more uniform distribution of flows,
3. abandon Entrance 2 and route all attraction flow through Entrance 3,
4. extend Entrance 3 downstream of the turbulent discharge from the powerhouse and add a new overshot style entrance gate, and
5. extend the existing tailrace training wall to eliminate the area of recirculation located at the downstream end of the training wall and improve guidance to Entrance 3.

Final License Application still has not been filed, annual license granted valid through May 31, 2025 or until new license issued. January Brookfield filing proposed to: "submit a final licensing

** Change since last status:* 5/23/2025

proposal for upstream and downstream fish passage measures by July 1, 2025. On January 24, 2025, Brookfield filed and distributed the Revised Upstream Fish Passage Evaluation Report and the Revised Downstream Fish Passage Alternative Evaluation Report for review and comment. Comments were received from U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NFMS), Maine Department of Marine Resources (MDMR), and the Penobscot Nation. BPHA will continue to consult with agencies and the Penobscot Nation to collaboratively address concerns raised in comments, to the extent feasible. Brookfield contractor Natel is currently conducting the study to assess the feasibility of replacing the existing runners at the West Enfield Project with FishSafeTM runners. Natel has completed development of a 3-dimensional computer model of the water passage which is being used to run computation fluid dynamics modeling for various runner geometries. Natel is also working to optimize the runner geometry to maximize fish survival and energy efficiency. As Natel progresses with design other mechanical and structural design criteria will also be assessed. Natel anticipates having modeling and analysis substantively completed in late May 2025, followed by completion of the study report in June, which will then be presented to agencies and the Penobscot Nation. *June Status Report documents continued progress with feasibility designs and states that Brookfield intends to file a revised fish passage relicensing proposal by mid-September 2025.*

* P-6398 HACKETT MILLS EXPIRED 08/31/24 CAPACITY 485 HACKETT MILLS HYDRO ASSOCIATES (MD) LITTLE ANDROSCOGGIN RIVER
Small project upstream of Barker Mill. Need fish passage to access anadromous fish spawning habitat above Welchville Dam (non-FERC). Maine TU Council involvement. Operator Eagle Creek Hydro conducting minimal studies, delaying a number of those requested. Study report and teleconference conducted 5/21. Final License Application (FLA) filed 8/31/22 requesting fish passage in 2041 contingent on Marcal Project (upstream). NOAA Fisheries letter of 8/21/2023 supported issuing simultaneous Ready for Environmental Analysis for the Barker Mill Upper Project Hackett Mills Project (P-6398-026) when both projects are ready. The dam and low-level gate have deteriorated and repairs are in progress. Eagle Creek completed repairs in January 2025. LFA submitted and REA issued. Maine TU Council filed to intervene and protested the relicensing of this uneconomic project*. MDMR comments asked that decommissioning be considered as an alternative, and implementation of fish passage aligned with other hydro projects on the Little Androscoggin.* **Eagle Creek has let it be known that would consider purchase offers for the project.**

*** P-2333 RUMFORD FALLS** EXPIRED 09/30/24 CAPACITY 44500 RUMFORD FALLS HYDRO (BROOKFIELD), LLC. ANDROSCOGGIN RIVER
Above Lewiston Falls. No historical Atlantic salmon fish passage. Smallmouth bass on both sides of dam. TU filed joint comments along with other NGOs on DLA and USR on 8/31/22. Concerns include dewatering, inadequate whitewater and aesthetic flows, and recreational access. Breakout session to discuss environmental considerations of the relicensing with MDEP and key stakeholders that was held April 25,2023. Ready for Environmental Analysis issued by FERC on 6/26/2023. Maine TU, American Whitewater, Conservation Law Foundation, Maine Rivers and

** Change since last status:* 5/23/2025

Friends of Richardson Lake have all filed to Intervene. Brookfield filed Water Quality Certification Application on 8/22/2023. FERC issued 9/17/25 Draft Environmental Assessment in February 2024. Joint NGO comments cited imbalance of project purposes and proposed minimum flows over upper Rumford Falls and whitewater releases. EA did not incorporate NGO Comments. In August, MDEP issued WQC calling for 10 whitewater/scenic releases and 200 cfs minimum fishing flows over Middle Dam but made no reference to flows over Upper Dam or Upper Falls. Maine Rivers, American Whitewater, Conservation Law Foundation, Friends of Richardson Lake, American Rivers and TU submitted a joint appeal to Maine's Board of Environmental Protection (MBEP) of the Water Quality Certification. The Appellants responded to a MBEP request for a brief on their standing in the matter. MBEP then rejected the brief. In response, the Appellants filed a request for reconsideration of the rejection and in the alternative, an objected to the evidentiary exclusion of the individual statements and affidavits, submitted as definitive and required proof of associational standing. *MBEP hear oral arguments on July 17, 2025 and dismissed the appeal both on issues of standing and substance without ordering a hearing despite clear evidence in the record that the bypass reach contained potential aquatic habitat, and eels were present upstream. The appellants elected not to appeal the board's decision to Maine Superior Court.*

*** P-4026 AZISCOHOS** EXPIRED 03/31/25 CAPACITY 5311 ANDROSCOGGIN RESERVOIR CO (ME - BROOKFIELD) MAGALLOWAY RIVER (upper Androscoggin Watershed)
TU working with the stakeholders group that includes The Appalachian Mountain Club (AMC), American Whitewater (AW), Aziscohos Lake Campers Association (ALCA), Aziscohos Lake Preservation Committee (ALPC) that submitted joint comments on the Updated Study Report (USR) on 4/11/2023 noting "Reservoir levels should not remain entirely at the discretion of the Applicant as has occurred historically and requested in the Final License Application." It also included a request for information on the Androscoggin Headwaters Agreement and a modified study request for the scheduled spring tributary access study. Stakeholders group filed comments supporting MDIFW assessment that the tributary access study results were deceptive and showing additional problems. Confidential discussions continue between Brookfield Renewable Energy and the NGOs (Trout Unlimited, Appalachian Mountain Club, American Whitewater, American Rivers and Rangeley Lakes Heritage Trust, Aziscohos Lake Preservation Committee and Aziscohos Lake Camp Association. The NGOs are considering an extension of Brookfield's request to the Federal Energy Regulatory Commission (FERC) for a revised Final License Application filing date to June 2025 to allow for the settlement talks to continue, which have been constructive. The NGO's will request that FERC establish the following benchmarks: 1) Agreement in principle by end of January 2025, 2) Finalized Agreement by end of March 2025, and 3) Brookfield files revised FLA no later than June 2025. The NGOs will take into consideration that the clarification of historic deeds on land ownership along the Magalloway River from the dam to the Rte 16 bridge at Bennett Road is still being resolved, and the recent finalization of a 2-year option dependent on successful fundraising by the Rangeley Lakes Heritage Trust (RLHT), Maine Nature Conservancy (ME TNC), the Forest Society of Maine (FSM) and Northeast Wilderness Trust (NEWT) for a very significant Upper Magalloway land protection effort, which represents potential measures and plans to protect,

mitigate, or enhance environmental resources (PME) for a 401 Water Quality Certificate (WQC) with Brookfield's financial participation. Brookfield and RLHT have had ongoing meetings on these two possibilities. NGO recommended acceptance of the revised schedule. To help move the discussions forward, NGOs revised their confidential May 2024 Proposed Draft Settlement Agreement (SA) Outline it had provided Brookfield, to incorporate with greater detail the new information on a) land ownership at and below the dam and associated stewardship costs, and b) specifics on how Brookfield's involvement in the Upper Magalloway Land project could have a PME role in the 401 WQC process. Brookfield has filed an Amended Final License Application (FLA) based on the pre-settlement negotiations with the NGOs including TU. Local fishing interests are generally opposing the content of the FLA contending that securing access to the Magalloway between Aziscohos Dam and the Route 16 Bridge Pool will only put more pressure that reach. Other local issues center on enforcement, regulations and other matters that involve MDIFW, not the FERC relicensing of the project. *Brookfield has prepared a Memorandum of Agreement that will be binding on all signatories that the NGOs are in the process of reviewing.*

In Progress

* P-3428 WORUMBO EXPIRES 11/30/25 CAPACITY 19100 BROWN BEAR II HYDRO, INC. ANDROSCOGGIN RIVER

PAD filed 1/28/2022. Effectiveness of installed fish passage a concern. Revised Study Plan (RSP) issued 9/3/2022. Initial Study Report Meeting Report was like a like an empty sack since most study reports were not complete and are not due to be filed until the fall. Charlie Spies of MMBTU filed comments including that this timing impedes the ability of interested parties and agencies of jurisdiction to comment timely and suggest any further work after the 2023 field season has passed. FERC acknowledged receipt of the comments. Preliminary Study Reports posted March 2024 showed poor upstream fish passage ~50% for river herring/ no shad. *FERC granted Eagle Creek request to delay Species Protection Plan (SPP) due date until June 29, 2025.* Consultations between Eagle Creek and NOAA Fisheries continue to develop Section 18 Fishway Prescriptions*. Consultation meetings have been productive and are scheduled to continue. FERC granted Eagle Creek's 05/31/2024 request to delay issuance of the Ready for Environmental Analysis notice until after 12/04/2025. NMFS was supportive, American Rivers was not, TU did not comment.*

* P-2302 LEWISTON FALLS EXPIRES 08/31/26 CAPACITY 8440 BROOKFIELD WHITE PINE HYDRO, LLC. ANDROSCOGGIN RIVER

Limit of historical upstream river herring fish passage. Grow LA River Working Group engaged. FERC approved reduction of project area extent to Longley Bridge instead of down to the Durham boat launch. Grow L+A working for: Timed water release levels controlled for kayaking and crew rowing competitions. Precedence set similar to the Forks. Aesthetics: Time releases for water over the Great Falls (Water Flows were reduced over the Great Falls from 42% of the

time down to 12% in 1986. Also aids in aeration for DO. Formal ESA consultation initiated 5/2021, for this project and Brunswick. NOI/PAD posted 8/4/2021. Lewiston and Auburn and other stakeholders requested use of IPL but FERC went with TLP. TU worked with Cities of Lewiston and Auburn, Grow L+A, American Whitewater and Appalachian Mountain Club to generate, aesthetic, recreational and special DO study requests. Brookfield rejected Special DO study, TU worked with above Cities and NGOs to draft response based on MDEP policies. Brookfield rejected NGO recommendations. Brookfield Study Report released March 2, 2023, studies on track. No comments by Lewiston or Auburn; none submitted for Maine TU Council. Will continue to advocate for maximum releases of water over the falls to improve habitat quality in critical Atlantic salmon habitat downstream. Brookfield has requested extension of time to submit the annual Species Protection Plan Compliance Report to February 15 annually. Maine Department of Marine Resources reported that Brookfield Downstream Eel Passage Study filed 6/30/2023 understated impacts on eels. DLA issued, cities of Lewiston and Auburn and NGOs submitted comments that included requests for more releases of water over Lewiston Falls, an improved trail system, and support of MDMD requests for eel passage. Maine Bureau of Parks and Lands (BPL) and National Park Service both filed in support of stakeholder requests. FLA issued in August offering 6 scenic releases, not the 40 that Lewiston/Auburn had proposed FLA also included provisions for eel passage. Other recreational issues are involved. Brookfield response rejected Lewiston - Auburn requests. Scoping Meetings held in Lewiston on February 19. No presentations by FERC or Applicant, comments were taken by a court recorder in a separate room. TU protested the change of meeting format. Ready for Environmental Analysis (REA) issued May 15, 2025. *Cities and multiple NGOs have intervened. MDMR asking for eel passage with monitoring and adaptive management to ensure achievement of eel passage goals. City of Auburn mitigation request included:*

- *New pedestrian bridges*
- *Improved river access, including a boat launch and parking area at Switzerland Road and Gulf Island Avenue*
- *Establishing a practice of monitoring and maintaining temperature, DO and sediment levels during releases, to support the reclassification upgrade of the Androscoggin River.*
- *Fund the routine maintenance costs for the boat launch and parking located at 509 Lincoln Street which was part of the prior mitigation licensing.*
- *Fund the ongoing maintenance costs for any new mitigation projects.*

And additionally: A minimum of 40 aesthetic flow releases per year should be required, scheduled in consultation with Auburn and Lewiston. Releases should include evening hours and summer weekends, especially during community events. The proposed six daytime events are inadequate.

P-11006 UPPER ANDROSCOGGIN EXPIRES 08/31/26 CAPACITY 1695 LEWISTON CITY OF (ME) ANDROSCOGGIN RIVER

Dam in town Lewiston serving old industrial canals. Grow LA River Working Group interest. Flow through canal for possible recreational use a possible issue. Processed with Lewiston Falls Project.

** Change since last status:* 5/23/2025

* **P-2572 RIPOGENUS** EXPIRES 9/30/26 CAPACITY 37530 GREAT LAKES HYDRO AMERICA. LLC. (BROOKFIELD) W BR PENOBSCOT R (upper Penobscot Watershed)
Classic landlocked salmon waters. TU, camp owners' associations, American Whitewater, Applachian Mountain Club, Maine Rivers, American Rivers interest, and Penobscot Indian Nation interest. Committee working with other stakeholders and agencies. FERC has ruled that the 6-month flow excursion at Ripogenus Dam 2021-2022 was not a license violation. Maine TU Council had filed a letter with FERC explaining why it was a license violation and Brookfield should be held accountable. FERC Compliance has taken action on outage events caused fish kills directing Brookfield: that you consult with the FWS, Maine DIFW, Maine DEP, and Maine LURC to identify measures aimed at reducing the instances of fish and macroinvertebrate strandings downstream of McKay Station during downramping events, such as unit outages, until the current relicensing process is concluded. Examples of possible measures include: increasing the frequency at which staff are present at McKay Station to respond to low flow events more quickly; a battery back-up system to reduce the instances and/or durations of outage-caused flow reductions; or automating a gate at Ripogenus Dam to release a preset minimum flow to the West Branch of the Penobscot River when McKay Station trips offline. By requesting interim protection measures, we are not prejudging requirements or other protection measures that may be determined during the relicensing process." FERC Year-2 Studies Determination received late 9/19/2023 recommended additional studies: North Twin Tributary Access, Upstream American eel Passage, Recreational Study, Whitewater Boating Assessment, Aesthetics, Environmental Justice, McKay Station Fish Stranding and Mitigation and McKay Station Ramping, USGS Gauge Feasibility, and Umbazooksus Lake Mitigation, TU volunteers participated Fishability/Wadability Study below Stone Dam conducted October 24th and 25th, 2023. Ops Model Workshop conducted January 31-February, 2023 in Bangor. Updated Study Plan Meeting conducted on Bangor May 15 and 16, 2023. Brookfield continues to avoid submitting study data that provides bases for comparison for current condition and changes to operating parameters. TU submitted 64-page report detailing observations of Ramping Study events conducted by Brookfield on July 17 and 24, 2024. Report highlights that strandings and mortality occur even when flows drop to 1000 cfs and recommends further studies to determine safe minimum flows. Brookfield refuses to run full range of Ops Model runs requested to test feasibility of different flow scenarios. FERC Submitted AIRs that with responses due this summer. Includes running of Additional Ops Model scenarios. Multiple NGOs submitted comments on inadequacy of studies to date. *TU submitted comments on two rounds of Brookfield responses to FERC Additional Information Requests (AIRs) filed in June and July. The first also addressed yet another generator trip event at Ripogenus Dam that occurred on June 19, 2025. TU was also a signatory to a joint filing on recreational requirements. FERC granted Brookfield request for additional time to respond to June 19 trip event granted until October 20, 2025 with progress report by September 26, 2025. Brookfield report filed September 9, 2025 providing details of outage.*

** Change since last status:* 5/23/2025

P-2458 PENOBSCOT MILLS EXPIRES 09/30/26 CAPACITY 70810 GREAT LAKES HYDRO AMERICA. LLC. (BROOKFIELD) W BR PENOBSCOT R
Being processed with Ripogenus Project. Penobscot Indian Nation involvement. Above status applies.

P-11132 EUSTIS EXPIRES 11/30/26 CAPACITY 250 KEI (MAINE) POWER MGMT (I) LLC N.BR.DEAD RIVER (Upper Kennebec Watershed)
Maine's smallest licensed project (250 kw) located between Flagstaff Lake and Chain of Ponds. Operator Krueger Energy Inc (KEI) proposed no studies. MDIFW 5/2/22 filing requested Use Evaluation of all Project, formal, and informal angler, hunter, and recreational access sites in the Project area; and North Branch of the Dead River Temperature Study to better understand how the Eustis Dam impoundment and operations impact temperature regimes and the dependent natural resources in the North Branch of the Dead River. DLA filed June 28, 2024 proposes project to continue to operate as it has in the past. Final License Application filed December 11, 2024. NGOs do not plan to oppose continuing the status quo. Expect that to be the content of the new license.

* P-2194 BAR MILLS EXPIRES 7/31/48 CAPACITY 4000 BROOKFIELD WHITE PINE HYDRO, LLC. SACO RIVER
Project no longer operational. With fish passage required by 2025, Brookfield chose to surrender the license. Surrender scoping document filed by Brookfield in August 2022 offering partial dam removal. This will achieve the fish passage required by the 2007 Settlement and Water Quality Certification. The Town of Buxton and TU asked that the dam be fully removed and the site restored to its original condition. On December 5, 2022, Brookfield asked all agencies for study requests, ignoring Buxton, the Town of Hollis, the Saco Salmon Restoration Alliance (SSRA), and TU. Steve provided guidance and a draft study plan to town resident and SSRA member Mark Woodruff. He worked with the Buxton Selectmen who filed the study requests that identified the town's concerns. Given that TU interests were tied to fish passage, this is now a matter for Buxton and Hollis and further TU involvement should not be required. Although Brookfield's Final Study Plan, issued in August 2023, addressed several environmental, recreational, and public safety concerns raised by Buxton and Hollis, requests to review existing information from EPA and the Buxton Zoning Ordinances were not adopted. Because of high river flows the field studies were postponed to 2024. The towns favor restoration of the site to its original condition but lack resources to contest Brookfield's proposal in court if accepted by FERC. American Rivers interest in the surrender. Brookfield met with the select boards of both towns in May and asked both select boards to organize a decommissioning committee of 5 people from each town. The goals for the meeting: address questions and provide input on the draft study report; provide input for the decommissioning plan. There have been two facilitated meetings since late August. The discussions have focused on the decommissioning schedule, study results, and the community's concerns about the changes that will occur. The draft report which should include the committee's recommended revisions is expected to be released to the public in late September/early October.

** Change since last status:* 5/23/2025

*** P-2284 BRUNSWICK** EXPIRES 02/28/29 CAPACITY 19,000 BROOKFIELD WHITE PINE HYDRO, LLC. ANDROSCOGGIN RIVER

Apparently, three studies on fish passage were conducted this summer: Brookfield MDMR and Friends of Merrymeeting Bay. Outreach by MMBTU is underway to raise public awareness about current river quality (Class B), dam impacts on the river ecosystem, fish health and the importance of improving fish passage using the relicensing process. Notice of Intent/Pre-application Document (PAD) published, comment deadline June 20, 2024. Scoping Meetings held in Brunswick May 7, MMBTU Chapter well represented. License surrender will be included as an option in the Scoping Document. MMBTU organizing stakeholder coalition; *PAD* comments supported agency study requests and asked to consider dam removal based on sea level rise. Full range of studies requested. Free the Andro Coalition formed and had generated wide media coverage. Their resolution supporting improved fish passage will be considered by the Brunswick Town Council on February 3rd. Coalition gave presentation to Topsham Select Board February who voted to support fish passage. *Free the Andro group continuing to meet and engage with the local communities.*

P-2666 MEDWAY EXPIRES 03/31/2029 CAPACITY 3,440 BLACK BEAR HYDRO PARTNERS LLC. (BROOKFIELD) PENOBSCOT RIVER (WEST BRANCH)

NOI/PAD submitted, comments filed in response September 2024. TU supports MDMR recommendations for fish passage for anadromous species with fish sorting facility at Medway. MDMR comments filed September 24, 2024 included: "The 2008 Strategic Plan states, "American eel, American shad, and Atlantic salmon historically utilized portions of the West Branch Penobscot, but the 10 hydropower and water storage dams on the West Branch Penobscot do not pass diadromous fish and no passage is planned in the near term5." While the historic habitat for these species, in addition to alewife, was identified in the plan, no passage was planned or supported by the licensee for the Projects in 2008. The absence of upstream passage facilities at the Projects prevents upstream passage for most diadromous species, including sea-lamprey not explicitly mentioned in the plan, and inhibits the passage of American eels. Therefore, there was no path at the time of writing of the 2008 Strategic Plan for restoration of diadromous species to the historic habitat in the West Branch Penobscot. These impacts are in direct conflict with MDMR's goal for the Penobscot River in the 2008 Strategic Plan, which is an accepted comprehensive plan. "The Department's goal for the Penobscot River is to restore, protect, enhance and manage self-sustaining6 populations of native diadromous alewife, American shad, American eel, Atlantic salmon, Atlantic sturgeon, Atlantic tomcod, blueback herring, rainbow smelt, sea lamprey, shortnose sturgeon, and striped bass within their historical habitat in the Penobscot River basin for broad-based public use and benefit." DNR requested: "a CFD modeling study and an Upstream Alternatives study to inform license conditions that will facilitate safe, timely, and effective upstream passage at the project and assist the Licensee in preparing design plans for passage infrastructure." USFWS comments centered on provision of American eel passage. MDMR comments supported the three eel studies requested by USFWS, and went on to say: "The study requests submitted by MDMR were not adopted by the Licensee, and they provided a rationale for why passage of

anadromous fish was not needed at this time. MDMR strongly disagrees with the Licensee's perspective on anadromous fish passage and with their decision not to adopt our study requests. There is historic habitat for many of Maine's diadromous fish species within and above the Medway project, including for endangered Atlantic salmon, river herring, American shad, American eel, and sea lamprey."

P-2528 CATARACT EXPIRES 11/30/29 CAPACITY 6,650 BROOKFIELD WHITE PINE HYDRO, LLC. SACO RIVER
Head-of-tide dam for Saco River. Saco Salmon Restoration Alliance and TU planning to engage. TU hosted a Saco stakeholder teleconference that was held December 12. Key topics were: Cataract Project entering FERC relicensing process w/Scoping Meeting use of new format that did not encourage public participation, Brookfield's Pre-application Document hiding behind 2007 Settlement, Bar Mills Dam license surrender, Saco River Restoration Alliance & Hatchery loss of source of eggs needed for hatchery operations, and good number of elvers documented at Hiram Dam last summer. Subsequent PAD Comments included requests for the full spectrum of fish passage studies, and studies of effects of sea level rise on this head-of-tide project. Brookfield has submitted Initial Study Plan, Sebago TU worked with Saco Salmon Restoration Alliance to produce study plan comments. MDMR comments: 'The Licensee's PSP provides responses to our comments and rejects all but two of our study requests. During the PSP meeting on March 3, 2025, representatives from FERC encouraged the Licensee to sit down with the fisheries agencies in an effort to fill information gaps at the project through relicensing studies or other means. MDMR thinks this would be a productive discussion, yet no meeting has been arranged by the Licensee to date. Furthermore, the Licensee makes some troubling claims related to historical habitat for alosines above the Project, which misrepresents the 1987 Strategic Management Plan for the Saco River.'

P-9340 KEZAR FALLS LOWER EXPIRES 09/30/30 CAPACITY 1,000 KEZAR FALLS HYDRO, LLC OSSIPEE RIVER (MAIN SACO RIVER FEEDER)
Eagle Creek has requested information for inclusion in the PAD. Sebago TU and Saco Salmon Restoration Alliance interest.

Next Maine FERC hydro license expires in 2033.

* P-2534 MILFORD ISSUED 04/20/1998 CAPACITY 8,230 BROOKFIELD PENOBSCOT RIVER, STILLWATER RIVER
According to data compiled by the Maine Department of Marine Resources between 2014 and 2019, 79 percent of Atlantic salmon studied did not pass the Milford Project within 48 hours.

** Change since last status:* 5/23/2025

"Since 2014, the Milford project has never met performance standards for endangered Atlantic salmon, and the dam owners have made no effort to fix the problems," said Dan McCaw, fisheries program manager with the Penobscot Nation, in a press release. "To date, the Federal agencies responsible for licensing the dam's operations allow this to continue without consequence or even a timeline to remedy this critical bottleneck." Brookfield filed the 2024 Incidental Take report January 7, 2025; Atlantic salmon mortalities: three Atlantic salmon mortalities, two at Milford and one at the West Enfield Project. Draft Diadromous Fish Passage Study Report issued January 15, 2025. Penobscot Indian Nation (PIN): "requests a study of downstream passage of American eels at all three Projects in 2025 and 2026, using the methods accepted by MDMR and USFWS." Projects are Milford (FERC No. 2534), Orono (FERC No. 2710), and Stillwater (FERC No. 2712). Brookfield submitted draft Biological Assessment and Species Protection Plan that includes new information, gathered since NMFS issued its Biological Opinion (BiOp) for the Projects in 20123, which includes:
1. Results of radio telemetry studies of Atlantic salmon passage, and collection and modeling of a large amount of additional information regarding Penobscot River Atlantic salmon.
2. Removal of two main stem Penobscot River dams, and fish passage improvements implemented at the remaining dams.
3. Stranding of Atlantic salmon in the ledge pools below the Milford Project (FERC No. 2534) spillway, which was not considered in the 2012 NMFS BiOp.
4. Installation of a collection trap on the existing Denil upstream fishway at the Milford Project to capture passing Atlantic salmon, which was also not considered in the 2012 BiOp.
5. A need to develop standalone BiOps for each Project that match FERC license expirations. Additionally, FERC designated Brookfield as a non-federal representative for the purpose of conducting informal consultation with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service pursuant to the regulations at 50 C.F.R.§402.08 implementing section 7 of the ESA, before the Tainter gates are replaced. The role of the non-federal representative may include conducting studies, developing and supplying information, attending meetings, ensuring that pertinent endangered species information is maintained in a project file, participating in informal consultation with your agency, developing a draft biological assessment if necessary, and keeping the Commission apprised of its actions. However, the Commission remains ultimately responsible for all findings and determinations regarding the effects of the project on any federally-listed species or critical habitat. FERC designated Brookfield as a non-federal representative for the purpose of conducting informal consultation with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service pursuant to the regulations at 50 C.F.R.§402.08 implementing section 7 of the ESA, before the Tainter gates are replaced. The role of the non-federal representative may include conducting studies, developing and supplying information, attending meetings, ensuring that pertinent endangered species information is maintained in a project file, participating in informal consultation with your agency, developing a draft biological assessment if necessary, and keeping the Commission apprised of its actions. However, the Commission remains ultimately responsible for all findings and determinations regarding the effects of the project on any federally-listed species or critical habitat. *Formal ESA Consultation initiated with new Biological Opinion (BIOP) due October 15, 2025.*

** Change since last status:* 5/23/2025

* P-2364 ABENAKI ISSUED 07/25/2003 CAPACITY 18800 EAGLE CREEK KENNEBEC RIVER
(2 dams at Anson)
Eel upstream passage mechanism damaged by high water in summer of 2023. This was not mentioned in the latest status report by Eagle Creek. Liaison with the Eagle Creek Licensing and Compliance Manager indicated repairs were made in August of 2024. TU requested that Eagle Creek file an amended report. *Eel passage addressed by Anson and Abenaki Fisheries Meeting held in August 2025.*

* P-2942 DUNDEE ISSUED 10/02/2003 CAPACITY 2400 ~~*DICHOTOMY*~~ *now RELEVATE* HYDRO LLC PRESUMPSCOT RIVER. Sluice gate failure dewatered impoundment in July of 2024. FERC determination was that this would not be considered a license violation. Maine TU Council filed comments January 21, 2025 requesting FERC review decision in light of photographic evidence of mussel and fish kill, and continuing problems since current operator acquired the Presumpscot projects from SAPPI in 2022. Working kevel liaison indicates MDEP has decided to only issue a warning for the dewatering. TU hoisted a teleconference to discuss the issues with Presumpscot Hydro Operations on March 11, 2025. Sebago TU working to develop next steps following dewatering and form coalition to address long and short terms needs in the watershed. *Subsequent TU filings resulted in FERC declaring the Dundee dewatering a license violation; subsequent TU filing with the Low Impact Hydro Institute (LIHI) resulted in suspension of the project's LIHI certification. Despite this, FERC approved Relevate's request to upgrade capacity of the project's generators. Relevate filed a plan to study eel passage at all its Presumpscot Projects on September 15, 2025.*

P-2932 MALLISON FALLS ISSUED 10/02/2003 CAPACITY 800 ~~DICHOTOMY~~ now RELEVATE; PRESUMPSCOT HYDRO LLC PRESUMPSCOT RIVER. FERC ruled June 3, 2024 minimum flow deviations a license violation. Another possible license violation reported by Sebago TU's Jim Wescott in March. Could be due to malfunction at Mallison or either of the two dams upstream. Maine TU Council submitted incident report to FERC, Sebago TU to submit assume reporting responsibilities for future incidents.

* P-2984 EEL WEIR ISSUED 03/23/2015 CAPACITY 1800 ~~*DICHOTOMY*~~ *now RELEVATE* HYDRO LLC PRESUMPSCOT RIVER
FERC Determination issued September 2024 ruled Sebago Lake level and downstream flow deviations were not a license violation. TU requested that the determination be revisited and deemed a violation in light of the above two events and conflicting content of the determination letter. NGOs had opposed transfer of the Penobscot River licenses to the current operator in 2021 due to lack of technical ability and financial capacity. FERC denied the TU request that the event be considered a license violation. Above entry germane. Environmental Analysis issues, Friends of Sebago Lake working to respond asking that it include information on the adverse effects of the current flow regime on bank erosion, fish and wildlife and water quality. Response due by June 2, 2025. MDEP filed Notice of Violation on May19, 2025 for

** Change since last status:* 5/23/2025

failure to build a boat ramp per Water Quality Certification #L-19937-33-J-N, Condition 8(A). *This and subsequent TU filings resulted in FERC declaring the events a license violation; subsequent TU filing with the Low Impact Hydro Institute (LIHI) resulted in suspension of the project's LIHI certification. Despite this, FERC approved Relevate's request to upgrade capacity of the project's generators.*

P-2809 AMERICAN TISSUE ISSUED 4/30/2019 CAPACITY 1000 KEI (MAINE) POWER MGMT (III) LLC COBBOSSEECONTEE STREAM (lower Kennebec feeder)
American Tissue effort by Upstream, a local NGO. FERC license requires fish passage to be operating two years after fish reach the base of the dam. The dam is owned by Kruger Energy Industries (KEI), a large Canadian, privately held conglomerate. The third upstream dam in lower Cobbosseecontee Stream to create Pleasant Pond. The pond has a significant number of homes and camps along its shore. Because of the value of the real estate, fish passage will be required at this site. Upstream's current effort is focused on the lower three dams in Cobbosseecontee Stream. Pleasant Pond is large enough for a commercial alewife harvest. There are two more dams downstream of the 5,000-acre Cobbosseecontee Lake. Creating access for sea run fish into Cobbosseecontee Lake will be the second phase of this restoration effort. See also Gardner Paperboard Dam under Other Dams.

P-2615 BRASSUA ISSUED 4/15/2020 CAPACITY 4180 BRASSUA HYDROELECTRIC LTD PART (ME) MOOSE RIVER (Brookfield - First dam upstream from Moosehead lake)
Water Quality Certification had been effectively waived as determined by the Hoopa v. FERC case. License issued on April 15, 2021. FERC Letter of January 19, 2022) revised deadline to develop the group camp and canoe rest at the Brassua Project to June 15, 2023. Maine TU Council submitted comments resulting denial of LIHI certification. TU discovered in April that Brookfield had a major fishkill below Brassua Dam back in March of 2023 that killed three year classes of fish. FERC accepted a settlement between Brookfield and MDIFW with IFW getting $15,000 a year for the next three years as remediation. TU rejects the 'cash for dead fish' approach where improvements should be made to facilities and has broached the subject with the IFW Fisheries Director. Problems on the Presumpscot noted above are being properly addressed with MDEP by MDIFW in accordance with existing policy.

* P-2808 BARKER'S MILL [Lower] ISSUED 4/2015/2020 CAPACITY 1500 KEI (MAINE) POWER MGMT (III) LLC LITTLE ANDROSCOGGIN RIVER (First dam upstream from confluence with Androscoggin)
NOAA Consultation issued in August included fish passage provisions including: downstream - entrapment protection and 25CFS minimum flow, upstream - Pool and weir or lift for Design capacity of 1.7 million river herring, 37,000 shad, 370 salmon with performance monitoring. MDEP issued CWA Certificate supporting prescription. KEI requested a review by the US Court of Appeals of the District of Columbia to dispute NMFS fish passage prescriptions. Alternative Dispute Resolution (ADR) process to contest MDEP Fish Passage Prescriptions. Settlement was finally achieved in July 2022 with fish passage by 2031, and the filings to formalize this are in their final stages. The settlement also covers KEI projects upstream. If KEI withdraws, the

project reverts to original prescriptions that will be effective immediately. It will be interesting to see if this ever comes to pass or KEI simply operates the project for the next 9 years and then surrenders the license. Term of new license extended to expire 3/31/2070 and includes fish passage provisions. In March, FERC submitted comments on KEI's Supporting Design Report (SDR) for the installation of Fish Passage Facilities submitted December 6, 2024. It included feedback on engineering drawings, compliance issues, etc*. KEI submitted revised design in September 2025.*

* P-2520 MATTACEUNK ISSUED 2/26/2021CAPACITY 19200 GREAT LAKES HYDRO AMERICA. LLC. PENOBSCOT RIVER
Next dam downstream from Medway on Penobscot. New license issued 2/26/2021. Brookfield submitted Draft Fishways Design Plan 2/28/2022. Incorporates helical eel ladder, one-inch mesh trash racks and changes to operations. On 12/14/2023, FERC approved the proposed changes with some modification and directed a three-year tagging study be conducted. Order modifying and approving upstream American Eel Passage Effectiveness Plan issued 05/14/2024. Construction completed August 9, 2024. *FERC Issued an Environmental Assessment (EA) on August 29, 2025 to address proposal to "draw the impoundment down to perform repair to the upstream fishway and log sluice at the Mattaceunk Project, replace the sluice gate due to deterioration, and perform concrete repairs to the leaking slots immediately downstream of the sluice gate. "*

P-3820 SOMERSWORTH EXPIRED 08/31/2021 ACLARA METERS, LLC SALMON FALLS (boundary water with New Hampshire) Aclara surrendering license - surrender process is proceeding. Agencies asking for dam removal. FERC rejects dam removal as option. On April 30, 2020, Green Mountain Power Corporation and the City of Somersworth, New Hampshire filed an application for a subsequent license. Project continuing to operate, relicensing in progress. Also of interest in watershed: P-3777 ROLLINSFORD EXPIRES 08/31/21 and P-4451 LOWER GREAT FALLS 4/30/22. NH Fish and Game working with USFWS to reestablish fish passage. On 10/23/2021, USFWS filed to extend deadline for fish passage prescriptions for Rollinsford Project to file its modified fishway prescription for the Project to January 31, 2022. New license issued 6/15/22. Rollinsford requested a rehearing 8/8/22 that FERC denied. On 11/14/2022, NH Senator Shaheen asked FERC to finalize the Aclara's surrender application that is still pending. FERC responded that "Hopefully, the Commission will be responding soon." On 5/22/2023, FERC approved the Aclara license surrender. Aclara need not remove the dams and leaves concerns regarding fish passage by TU and the agencies to "successor agencies." FERC did not require a Final Environmental Analysis saying that environmental comments "have been fully considered in the review of this proceeding and are addressed in this order." American Whitewater, Maine RIvers, and Conservation Law Center challenged the decision by FERC to allow the owner of a failed hydropower project in Somersworth, NH/Berwick, ME to abandon two dams in the Salmon Falls River rather than requiring them to remove them. Aclara has filed a motion to dismiss. The dams block migratory fish passage and recreation. Oral argument in the D.C. Circuit of the federal Court of Appeals was heard on November 20, 2024. The court ruled against the

appeal, and accepted that Somersworth's concerns about the reservoir were sufficient, even though the effect of removal was unknown according to the environmental analysis. They did not require FERC to look more closely at the effects and alternatives – a disappointing result. There are a few aspects of this that will help in future efforts to prevent dam abandonment. The court found that the NGOs had legal standing in this case based on AW members' desire to boat there in the future even though there was no past use. This will help in future cases. They also found that the court had jurisdiction to hear the case and that the case wasn't moot based on the completion of the terms for surrender. This removes several defenses put forward by the dam owner. The appeal got the attention and respect from FERC and the hydro industry, and they know that this will be an issue in future dam surrenders.

P-2368 SQUA PAN ISSUED 4/18/2022 CAPACITY 1500 ALGONQUIN NORTHERN MAINE GEN.CO. SQUA PAN STREAM (Aroostook River feeder north of Masardis)
Operator pulsing releases devastating 4.5 miles of habitat below dam. MDIFW Frank Frost working to place structure downstream to create deep holding areas improving LLS habitat. NO NGO involvement. New license issued 4/18/22 requiring dissolved oxygen (DO) monitoring. Water quality data from Scopan Stream in 2023 were collected in accordance with Condition 3(B) of the Project's WQC. The data demonstrate that the water quality in Scopan Stream downstream of the Project was not in compliance with Maine's Class C numeric standards for DO during brief periods in late July. The aerator system was likely affected by drifting vegetation, which built up on one of the diffusers closest to the hydropower intake rack, likely gradually during periods of generation that occurred. Though generation is generally uncommon during most summer periods, it occurred frequently in 2023 and likely affected the study results. Aroostook Power proposes to continue deploying the same aerator system in 2024, but to incorporate additional maintenance measures to ensure that the aerator system is functioning at peak capabilities to encourage de-stratification of the water column upstream of the hydropower intake. Water Quality Report issued January 2025 stated: "Operation of the generating unit at the Project generally resulted in minimal changes in DO and temperature downstream relative to the prevailing conditions. The aerator was checked weekly and was mostly clean of vegetation throughout the season. Generation periods did not correlate with periods of low DO. Rather, as previous years of study data have demonstrated, the primary issue with water quality downstream of the Project is the low DO passing through the Project via leakage, as a result of stratification and oxygen depletion in the hypolimnion in the channel just upstream of the Project intake." The project still is not meeting Class C DO standards. Additional studies will be conducted in 2025.

P-2530 HIRAM ISSUED 9/23/2022 CAPACITY 10500 BROOKFIELD WHITE PINE HYDRO, LLC. SACO RIVER
Maine TU Council unsuccessfully appealed WQC in 2022. Project continues to provide minimum flows through the turbines dewatering potential aquatic habitat below the dam most of the year. No upstream or downstream fish passage. Local residents began collecting photos of eels seeking upstream passage in summer of 2024. MDMR is aware of the effort. Could affect fish

passage implementation schedule of existing Settlement Agreement. Saco Salmon Restoration Alliance submitted report showing numerous American eels seeking upstream passage during the summer of 2024. Brookfield responded by threatening legal action for trespass. Brookfield threats are contrary to to Maine law regarding an important doctrine called “SLAPP” or Strategic Lawsuits Against Public Participation which has both case law and is codified in Maine’s Uniform Public Expression Protection Act (UPEPA).

* P-4784 PEJEPSCOT ISSUED 9/21/2023. CAPACITY 13880 TOPSHAM HYDRO PARTNERS LTD PT (MN) ANDROSCOGGIN RIVER
FLA filed August 2020. Settlement agreement issued for fish passage inc. eels, river herring and Atlantic salmon issued February 18, 2022. Changes project operations, provides for monitoring and adaptive management. FERC issued Final Environmental Analysis on 11/2/2022. MDEP issued Water Quality Certification requiring only Class C standards noting that the reclassification to Class B had not taken place yet. Friends of Merrymeeting Bay (FOMB) appealed the decision, Maine TU Council, DSF and other NGOs supported FOMB’s appeal. On 4/6/2023, the Maine Board of Environmental Protection resolved the issue at a meeting that agreed to reissue the Water Quality Certification under Class B and adopted additional language to prevent confusion. NOAA Fisheries issued Biological Opinion (BIOP) on 6/15/2023 supporting FLA provisions for project operations, continued project monitoring, and adaptive management. New License issued 9/21/2023. Includes Operation Monitoring Plan. “Topsham Hydro proposes to achieve an adult alosine upstream passage effectiveness rate of at least 70% of the fish passing within 48 hours of a fish approaching the project and a downstream passage survival rate of 95%. Topsham Hydro also proposes to achieve an upstream passage effectiveness standard for Atlantic salmon of 95%. Also includes ”two seasons of fish passage studies for Atlantic salmon and alosines; a third season would be conducted if needed to account for such factors as abnormal hydrologic conditions and project operations. Upstream passage studies for adult Atlantic salmon will be conducted if sufficient stocking occurs upstream of the project to produce at least 40 returning adult Atlantic salmon; the study will be conducted in the first year that sufficient adults are anticipated.” Eel passage will be studied as well. Post relicensing action continuing. The licensee must file an updated Fish Stranding Plan with the Commission for approval, concurrent with and based on the findings of its fish stranding report, due May 1, 2025 including the methods and timing, for each time spill ceases over bascule gate no. 5, to capture and relocate all stranded fish from the pools in the bedrock area below bascule gate no. 5 to an area downstream of the project tailrace as determined in consultation with the resource agencies. Atlantic salmon mortality report filed July 5, 2024. Cause of mortality to one adult Atlantic salmon undetermined. *Long-term fish stranding plan issued in May, 2025. Plan for Evaluation of Nighttime Shutdowns for Outmigrating Adult American Eels for 2025 to 2028 issued July, 2025.*

Exempt Dams

NOTE: As a group, FERC Exempt Projects constitute the greatest purchase and remove opportunities in Maine

P-14421 FREEDOM FALLS PROJECT (Sandy Stream in Freedom) Exemptee: Freedom Falls LLC
The Freedom Falls Project applied for Low Impact Certification for this FERC Exempt project. Although located on a feeder of the Sebasticook, it is above the historical range of river herring and shad, and there is no historical record of Atlantic salmon. Eel passage is provided, it's about as clean as hydro gets. LIHI awarded the certification in March 2021. **Not a removal candidate.**

P-8736 PIONEER DAM (West Branch of the Sebasticook in Pittsfield)
Exemptee: Christopher M. Anthony (also operates Waverly Project). Fish passage issues since 1990, last correspondence from licensee in 2015, no activity in docket since 2015. Overdue items include assessing spillway structure and foundation and fixing fish passage issues. Town owns dam, Exemptee maintains. [Information furnished by Sarah Vogel]

P-4293 WAVERLY (West Branch of the Sebasticook in Pittsfield upstream of Pioneer)
Exemptee: Christopher M. Anthony (also operates Pioneer Project)
Dam safety inspection overdue items (issues with fish way since at least 2015, current notice sent 01/31/2019, multiple requests unanswered): plan and schedule for repairs and date for comprehensive test of Emergency Action Plan in accordance with Chap 14 of FERC Engineering Guidelines. Repairs include fixing forebay wall masonry, downstream fish passage flume, deteriorated concrete, trees and brush clearing, and test of EAP Town owns dam, Exemptee maintains.

* P-5912 MOOSEHEAD (known more commonly as Mayo Mill Dam] (Piscataquis River)
Exemptee: Moosehead MFG Co. / Town of Dover-Foxcroft (Arnold Developer Group)
Not operational since 2007, town filed to amend the terms of the Exemption to repower the dam and resume operations. Town subsequently decided not to pursue relicensing and is working with The Nature Conservancy. Town obtained 2-year grant to study redevelopment options. TNC has retained Inter-Fluve to conduct studies; a baseline report has been completed. Periodic open meeting and status reports to FERC will continue. Town Steering Committee recommends removal, but have put the issue up to a vote by the voters. Dam has been shown to increase risk of flooding in the vicinity. Town voted against removal in the summer of 2024. Town has a year to decide what to do. *Town subsequently held referendum in June that rejected proposal to spend $9M to repair the dam. FERC granted request by town to delay filing of a surrender application until December 22, 2025.*

P-12629 CORRIVEAU (AKA Thurston Mill Dam, Swift River, upper Andro tributary). Exemptee: Green Power. Exemption has transferred twice since last apparent operation. Nothing had been

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filed to FERC docket since 2017. No current dam inspection report. Owner has inquired about requirements to resume operation. FERC letter of 7/20/2023 gave operator 60 days to submit plan to address multiple discrepancies, suspense date 9/18/2023. As of 5/17/2025, nothing on the docket indicating compliance.

P-8505 ABBOTTS MILLS (Concord River, Androscoggin feeder in Rumford) Exemptee: Gray's Transport LLC, PO Box 1166 in Greenville, ME. 75 kw project inoperative. Is a concern to Town of Rumford who sees this as of no economic benefit and environmentally harmful. Town initiated correspondence with state and federal agencies in 2021. Exemptee has filed project restoration plan but lacks the means to execute. Town planner George O'Keefe has requested TU assistance, TU looking for NGO to purchase and remove. MDIFW supports removal. 7/12/2023 FERC inspection: "project features were observed to be in poor condition, with significant concrete deterioration noted on the base and downstream face of the right forebay wall." Also: "Public Safety Plan (PSP) was filed on August 1993 and is now over 30 years old. Please submit an updated PSP." Additionally: "You must complete the above repairs and other actions and submit the above documents as soon as possible." FERC letter of 8/30/2023 reiterated this. Nothing filed to the docket since.

P-7253 SEBEC (Sebec River) Exemptee: Dicotomy Capital. Project apparently purchased from previous owner in 2023. Safety inspection noted that no structures were in immediate need of repairs.

* P-8791 STARKS (Lemon Stream, Sandy River feeder, Kennebec Watershed)
Exemptee: Mark A. Vaughn (also owns Upper Spears Stream) Multiple issues, nothing filed to the docket since 2021. Maine Rivers has owner's permission to remove dam and applied for NOAA funding to do so. Removal possible in 2026.

P-7979 FOSS MILL (Marsh Stream)
Exemptee: Peter C. Graham / Lesia Sochor (owner) / John Purinton (Maintenance) Nothing filed to docket since 2021.

* P-2660 FOREST CITY DAM (St. Croix River)
https://m.facebook.com/groups/1778552792360444/permalink/3652509398298098/?mibextid=I6gGtw&refsrc=deprecated&__rdr Awaiting FERC Decision on ownership transfer. (entry relocated from Other Dams)

* P-8640 SEABRIGHT DAM
Exemptee: Town of Camden
Surrender Application accepted, not implemented. *The Town of Camden is considering removing the Montgomery Dam and potentially restoring fish passage at the upper dams (Seabright, East, and West).*

P-11365 SWAN'S FALLS. (Saco River) Active project.

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Apparently compliant: [Information furnished by Sarah Vogel]
P-5647 MILO (Sebec River) Exemptee: (Ridgewood Maine Hydro Partners)

P-5613 BROWN'S MILL (Piscataquis River)
Exemptee: Ridgewood Maine Hydropower Partners (KEI)
Applying for Species Protection Plan items to be added to the exemption. Section 7 consultation withdrawn by National Marine Fisheries Service subject to results of UMO salmon tagging study.

* Status unknown: all outside Kennebec and Penobscot watersheds:
P-7473 GILMAN STREAM, P-4413 KENNEBAGO, P-6684 DAY'S MILL, P-9411 BISCO FALLS, P-8788 LEDGEMERE DAM, P-8450 STONEY BROOK, P-9079 UPPER SPEARS STREAM, P-7591 WIGHT BROOK

Other Dams

* BRUSH MILL DAM in BUCKFIELD (Androscoggin River Watershed)
Small, deteriorating, functionless dam on the Nezinscot River. Town and dam owner support removal. Merrymeeting Bay TU Chapter working to effect removal. *American Rivers will be partnering with TU on the removal effort.*

FROST GULLY BROOK DAMS in FREEPORT (small coastal brook)
Sea run brook trout involved. Dams successfully removed June-July 2023 by Merrymeeting Bay TU Chapter and partners. Macro-invertebrate monitoring being conducted.

WELCHVILLE DAM. (Little Androscoggin Watershed)
The Hogan-Whitney Ponds outlet channel grade controls were installed last fall. The post-construction monitoring required by the US Army Corps permit for the grade controls commences spring 2025; that permit calls for 3 years of post-construction monitoring to evaluate the performance of the grade controls to maintain pond elevations during the summer with the Welchville Dam gates left open. After the post-construction monitoring period is complete, the Town of Oxford would be required to remove the Welchville Dam if the grade controls prove to be effective, or remove the grade controls and restore the outlet channel to its original condition. Given these requirements, the best case scenario is dam removal is in 2028.

LITTLEFIELD DAM. (Little Androscoggin Watershed)
Defunct hydro dam in Auburn on Little Androscoggin. City of Auburn worked with the Auburn Conservation Commission and Androscoggin Land trust to generate a proposal under the NOAA

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fisheries grant program to remove the dam and effect fish passage on Taylor Stream, a Little Andro feeder. NOAA funding of project announced May 22, 2024, public engagement and design 2025, removal in 2026.

SABATTUS RIVER DAMS (lower Androscoggin Watershed)
DMR is working on passage on the Sabattus River. Mill Street: The dam at this site was removed in 2019, however the ledge under the dam was still a barrier to passage for most fish. MDMR and ASF worked with Interfluve complete a design for this site, and construction is currently underway to improve passage at this site. Completion is expected by the end of September. Farwell Dam: 75% designs for the dam removal and nature-like fishway were shared with stakeholders in the spring of 2024. DMR has a significant portion of the of the funding needed to complete the dam removal and construction of a nature-like fishway at the site, which will address the ledge falls that are the result of the river being moved ~200 years ago. DMR is working to complete this site in 2025. Upper Dam: Dam removed in 2022 with financial support from NFWF National Coastal Resilience Fund and USFWF National Fish Passage Partners and management support from ASF. Removal of this dam was a great success at it provides meaningful reduction in flood risk for landowners upstream. DMR has been awarded funding to complete a LOMR to FEMA to update flood zone mapping, which should reduce flood insurance costs for 10's of landowners and could total $100K a year in savings. The restored Upper Dam site was resilient to the two large storms, and high water in 2023. Fortier Dam: Maine Rivers has reached an agreement with the dam owner for permission to remove the dam. Funding is complete for this site, we have 60% design plans, and expect to go to bid for construction by January with work to be completed in 2025, depending on coordination with other projects being completed on the river. Mill Remnant Dam: Was removed in summer of 2024 and will get final planting at the site likely in the spring of 2025 or 2026. Sleeper Dam: Designs are complete, Acadia Civil Works is working with permitting agencies. Funding is complete for the site. DMR and Sabattus Lake Dam Commission will go to bid for construction in November 2024 and plan to complete construction in summer-fall of 2025 except for the Farwell Mill Dam that involves construction of a rock ramp and is now scheduled for 2026.

QUANTABACOOK LAKE DAM (St. George River watershed)
The lake is 2.5 mi in length, just north of Searsmont Village, Waldo County. A dye release indicates a leak below the easterly end of the dam. Also, springtime adult fish passage up to the lake is extremely impaired. George River TU engaged. The dam owner has continually and stubbornly rejected the engineering plans drafted by the U.S. Fish & Wildlife Service. She refuses to allow access to the dam for the required heavy earthmoving equipment. This project is stalled and the 1972 concrete dam is failing.

MILL POND DAM (Orange River) in Whiting between Lubec and Machiasport purchased by DFS. Built in the early 1800s to provide power to a sawmill, it has been without fish passage for much of its existence. The Town is providing estimates on possible dam repair and DSF is looking to jump starting the river herring run by passing fish over the dam and continuing to coordinate with DMR/IFW on fishways for the other dams in the system. Removal is currently

off the table, at least between DSF and the Town. The Town pledge nearly $700K and signed an agreement with DSF to work to repair the dam and provide fish passage. To that end the town got an earmark from Collins for 2.9 million for dam repair and fishway construction.

* LOWER ROYAL RIVER (small coastal stream) Formerly P-8417 OLD SPARHAWK MILL
The Town of Yarmouth owns two dams that lack functional fish passage. Exemption surrendered for Bridge Street Dam. Town has approved funds for dam repair. Royal River Alliance, Sebago TU Maine Rivers involvement. The Army Corps of Engineers held a teleconference for the Yarmouth town government on November 10 to discuss use of approved ACE funding of further studies and possible dam removal. The Royal River Alliance is recommending that the town proceed with removal of Bridge Street Dam (the lower one) and do further studies before removing the Elm Street Dam. Abandoned penstock is problematic. Army Corps of Engineers presented their final draft report on their Tentative Selected Plan that is expected to include recommendations to remove Mill Street Dam, portions of the Elm Street Dam and other measures to implement fish passage on October 9th at 6 pm at the Patriot Insurance Building on Route 1 in Yarmouth. After another public meeting in December, the Town Council voted for removal in January 2025. American Rivers expected to be heavily involved. Although serious concerns exist, no perturbations to government funding of the project have been announced. *Removal possible in 2026.*

GUILFORD DAM (Piscataquis River). TNC removal project slipped to 2026.

BRANCH LAKE DAM (On Branch Lake Stream northwest of Ellsworth) Downeast Salmon Federation engaged. Goal is to incorporate fishway into dam repair. Branch Lake is Ellsworth water supply. Removal not seen as a viable option. Town fired engineering firm, project delayed pending hiring of new firm.

GARDINER PAPERBOARD DAM AKA Yorktown Dam. (Kennebec Watershed) A local group (Upstream) is working to restore sea-run fish in the Cobbosseeconte Watershed. The effort is focused on getting alewife, blueback herring, and American eel past this dam, the lowermost dam on Cobbosseeconte Stream. The Cobbosseecontee Watershed has the potential to create a significant run of river herring in the watershed's large, warm water lakes and ponds.

WOODLAND DAM (St. Croix River) The Passamaquoddy Tribe at Pleasant Point will receive $12 million to improve fish passage. The dam is one of two remaining barriers for migratory fish in the lower river.

CHERRYFIELD ICE CONTROL DAM (Narraguagus River)
The Downeast Salmon Federation will receive about $9 million to remove the ice retention dam spanning the Narraguagus River in Cherryfield which blocks salmon from migrating upstream. DSF will then build a new incline, across the entire river, to allow fish to travel freely, and maintain the current elevation and pond that the dam holds in place. Dam removal expected this summer.

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GOOSE RIVER (small coastal stream formerly P-2804)
Small project. Needs upstream eel passage. IFW raised concerns about lake levels and spawning lake trout in recent comments. 5 dams in the project. FERC rejected the License Application based on its “repeated failure to provide the Commission with the information it needs.” FERC ordered license surrender - surrender in process. Dam owners declared insolvency. Swanville bought first dam, a private investor bought the second. Downeast Salmon Federation has gotten appraisals for next two and old CMP dam at head of tide. Town submitted comments supporting license surrender. Owners claim to not need to file for surrender as they "never owned" the dams. Alleging a real estate company with no FERC license was the actual owner (the humans in charge run both). Surrender filing deadlines passed with no FERC action. The most downstream dam in the project has breached (at least temporarily) from lack of maintenance – may have been repaired. On 4/27/2023, FERC found that the licensee discontinued good faith operation of the project and failed to demonstrate its ability to hold its license, and that it was in the public interest to terminate the license for by implied surrender with the project facilities left in place. This was a final FERC action.

License Surrenders

Some aspect of license (or exemption) surrender is currently ongoing for the following projects:
P-8417 OLD SPARHAWK MILL (formerly exempted)
P-5362 LOWER MOUSAM
P-2194 BAR MILLS
P-8791 STARKS
P-8640 SEABRIGHT

And likely upcoming:
P-5912 MOOSEHEAD
P-8505 ABBOTTS MILLS
P-12629 CORRIVEAU
P-8736 PIONEER

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