

# REVIEW OF APPLICATION FOR RE-CERTIFICATION BY THE LOW IMPACT HYDROPOWER INSTITUTE OF THE MEDWAY HYDROELECTRIC FACILITY, LIHI #65

Prepared by Patricia McIlvaine  
March 5, 2021

## I. INTRODUCTION

This report summarizes the review findings of the recertification application submitted by Black Bear Hydro Partners, LLC (BBHP), an indirect subsidiary of BBHP Renewable Energy Group, and affiliate of Brookfield Renewable (Brookfield), for the Medway Project, licensed by the Federal Energy Regulatory Commission (FERC) as Project No. 2666. Brookfield Renewable purchased BBHP in November 2013. The Medway Project, LIHI #65, is a 3.44 MW run-of-river (ROR) hydroelectric generating facility located on the West Branch of the Penobscot River in Medway, Maine. The Medway Project was one of several hydropower facilities incorporated into the Lower Penobscot River Basin Comprehensive Settlement Accord (“Agreement”), a settlement agreement which represented a collaboration of the licensee, numerous state and federal agencies, the Penobscot Indian Nation (PIN) and several non-governmental organizations, to restore 11 species of sea-run fish, while rebalancing hydropower generated on the Penobscot River and several tributaries. A detailed discussion of this Settlement Agreement can be found in the original Reviewer’s Report dated January 17, 2011.<sup>1</sup>

The Medway Project was first certified by the Low Impact Hydropower Institute (LIHI) on June 1, 2010, and recertified on June 1, 2015 with an expiration date of June 1, 2020. The Certification period was extended to April 30, 2021. The Medway Project has been owned and operated by the same entity, BBHP, since initial certification by LIHI, although the parent company of BBHP has changed. The two past review reports can be found on the LIHI website.<sup>2</sup>

The Project’s 2015 certification had one condition:

*The Owner shall be proactive in contacting Maine Inland Fish and Wildlife (MIF&W) a minimum of 30 days prior to any planned drawdown of the impoundment that would expose a significant portion of the river bottom, to determine if any special measures are needed to avoid or minimize adverse impacts to state-threatened mussels that may be in the impoundment. The Owner shall work with the MIF&W to implement appropriate mitigation measures should they be needed. The Owner shall advise LIHI of any such events, including the results of any activities conducted to minimize such impacts. Such notification shall be provided as part of the annual compliance statement to LIHI.*

In their annual compliance statements, BBHP reported there were no drawdowns that exposed a significant portion of the river bottom. Annual routine drawdowns of one foot were made between 2015 and 2020 to accommodate replacement of flashboards. Due to flashboard damage from ice

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<sup>1</sup> <https://lowimpacthydro.org/wp-content/uploads/2020/09/Medway-Report.pdf>

<sup>2</sup> <https://lowimpacthydro.org/lihi-certificate-65-medway-hydroelectric-project-maine/>

and high spring runoff, the Medway impoundment was operated at between 1 and 2 feet below normal full pond from January 28 to June 6, 2019. The annual BBHP compliance reports stated required agency notifications were made for all drawdowns.

## **II. RECERTIFICATION PROCESS AND MATERIAL CHANGE REVIEW**

Under the current LIHI Handbook (Revision 2.04: April 1, 2020), recertification reviews are a two-phase process starting with a limited review of a completed LIHI application, focused on three questions:

- (1) Is there any missing information from the application?
- (2) Has there been a material change in the operation of the certified facility since the previous certificate term?
- (3) Has there been a change in LIHI criteria since the Certificate was issued?

In accordance with the Recertification Standards, all Projects currently applying for renewal must go through a full review unless their most recent certification was completed using the 2016 version of the Handbook. Thus, this Stage II report was required for the Medway Project.

A review of the initial application, dated June 30, 2020, resulted in a Stage I or Intake Report, dated August 5, 2020. The Stage I report noted that data was missing for a number of criteria that was required to complete a full review. As a result, a revised application was submitted to LIHI on November 30, 2020.

This Stage II assessment included review of the application package, public records in FERC's eLibrary since the last LIHI certification in 2015 through February 10, 2021, and annual compliance statements received by LIHI during the past term of Certification. Also, follow-up communication with the Applicant, and outreach to several agencies and PIN was conducted for this review.

## **III. PROJECT'S GEOGRAPHIC LOCATION**

The Medway Project is located on the West Branch of the Penobscot River in Medway, Penobscot County, Maine at River Mile (RM) 0.30 (as measured from the confluence of the West and East Branches of the Penobscot River downstream of the Project). The Penobscot River Basin ("Basin") is New England's second largest river system with a drainage area of 8,570 square miles extending from its West Branch near Penobscot Lake, upstream of Seboomook Lake, near the Maine/Quebec border and its East Branch at East Branch Pond near the headwaters of the Allagash River, with the mainstem emptying into Penobscot Bay near the Town of Bucksport. The Basin includes the East and West Branches of the Penobscot River, the Piscataquis River, the Sebec River, the Pleasant River, the Mattawamkeag River, the Passadumkeag River, the Stillwater Branch and the mainstem of the Penobscot River, as illustrated on Figure 1. The Medway Project is the lowermost dam located on the West Branch of the Penobscot River, just before it joins the mainstem of the Penobscot River. The Mattawamkeag River remains free-flowing, while a total of 20 run-of-river dams are located on the other Basin waterways.

Figure 1 shows the location of the Medway Project and other dams in the river basin. Storage dams

on both the West and East Branches control a large portion of flows within the drainage area.

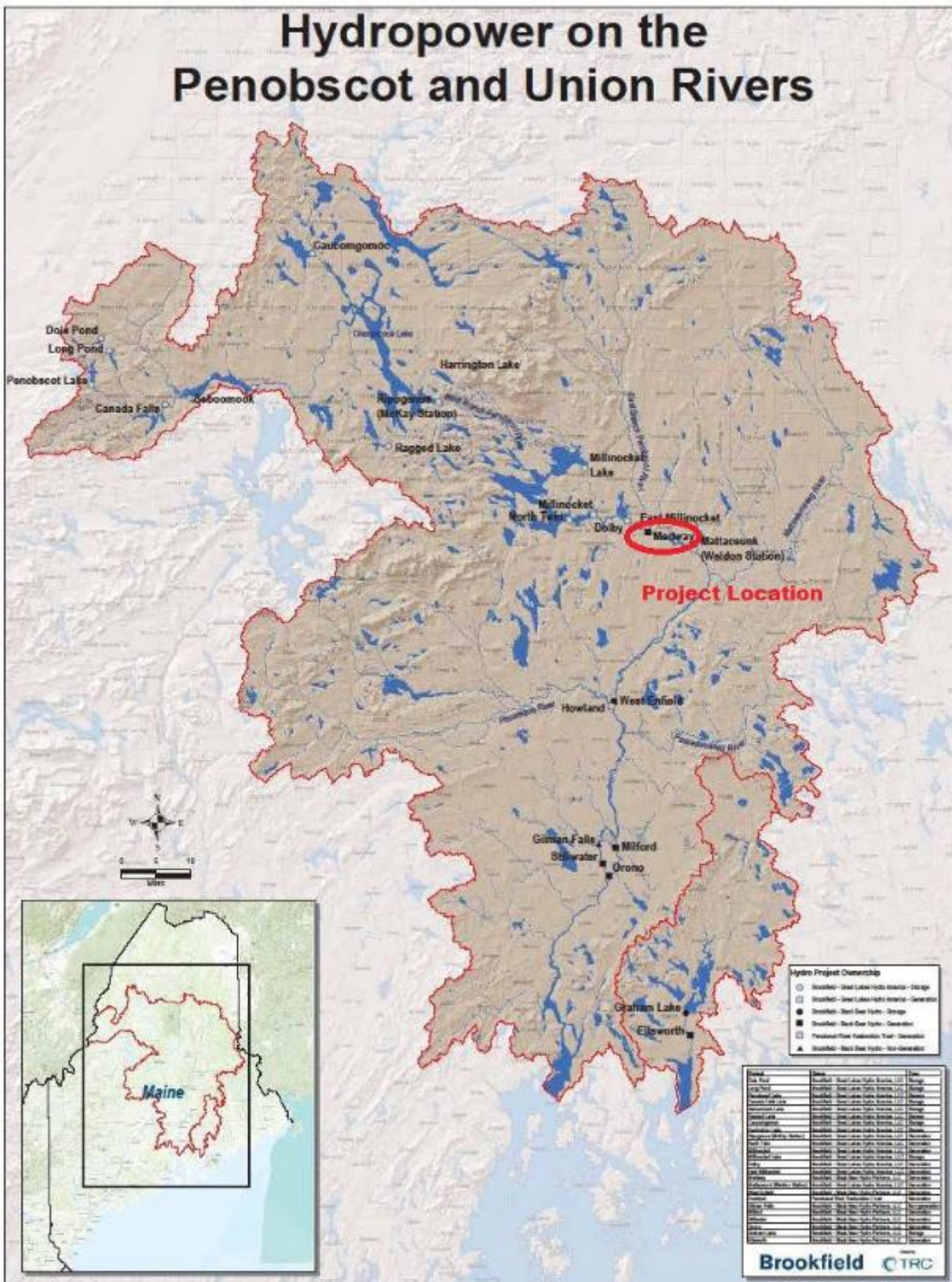


Figure 1 – Location of the Medway Project and Upstream and Downstream Dams



Brookfield operates the following five hydropower facilities on the Stillwater Branch, West Branch and mainstem of the Penobscot River. The Gilman Falls Dam is located near the beginning of the Stillwater Branch and is part of the Milford Project.

<b>Project</b>	<b>River Branch</b>	<b>FERC License</b>	<b>LIHI Certified?</b>
Medway	West Branch	P-2666	# 65 on 6/1/15. In review now.
West Enfield	Mainstem	P-2600	No
Milford	Mainstem	P-2534	# 113 on November 13, 2018.
Orono	Stillwater Branch	P-2710	# 66 on 6/1/15. In review now.
Stillwater	Stillwater Branch	P-2712	# 67 on 6/1/15. In review now.

The nearest dams upstream of Medway are the East Millinocket and Dolby Developments (LIHI #167), both part of the Penobscot Mills Project (FERC No. 2458), respectively located at miles 4.2 and 2.3 as measured from the confluence of the East and West Branches of the Penobscot River. They are owned and licensed to Great Lakes Hydro America, LLC (GLHA) and these developments do not have upstream or downstream anadromous fish passage. The Mattaceunk Project (FERC No. 2520), also owned by GLHA, is downstream of the Medway Project and below the confluence of the West and East Branches. It is located approximately 7.5 miles downstream on the mainstem of the Penobscot River at RM 67 (as measured to head-of-tide in Bangor, Maine). This Project has upstream fish passage for Atlantic salmon only.

West Branch flows are dictated by GLHA's Storage Project (FERC No. 2364), Ripogenus (FERC No. 2572), and Penobscot Mills FERC licenses; operations of the Penobscot River mainstem facilities downstream of the Medway Project are dictated by the FERC licenses and the 2004 Settlement Agreement (which specifies flows below Milford Dam to the mainstem and Stillwater Branch of the Penobscot River).

#### **IV. PROJECT AND IMMEDIATE SITE CHARACTERISTICS**

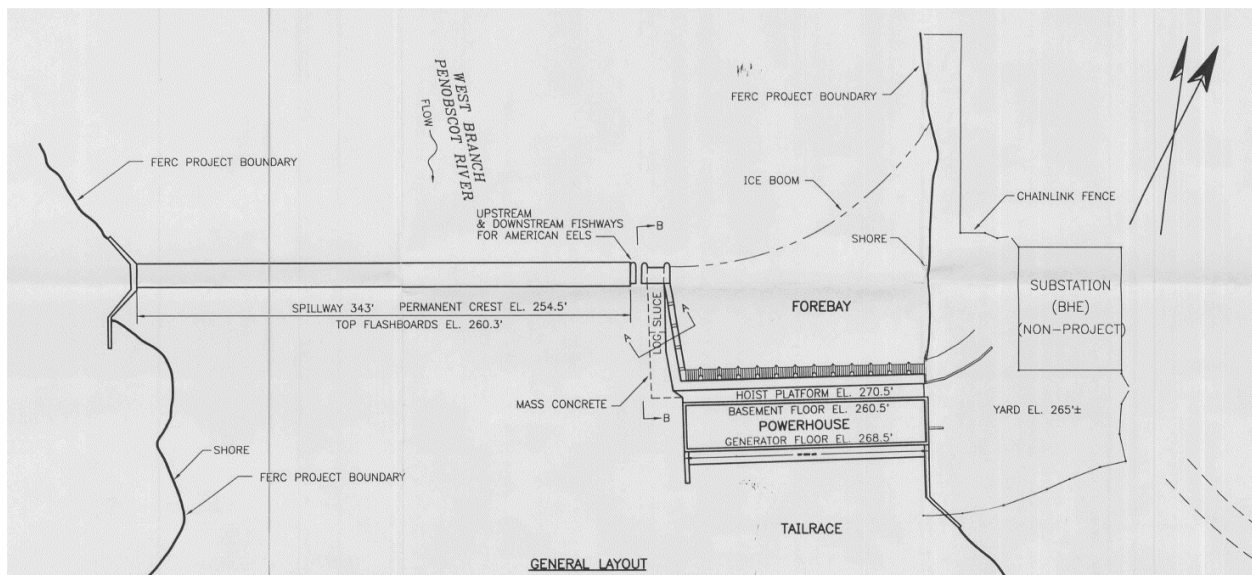
The Medway Project commenced initial commercial operations in 1923. It consists of a 343-foot-long concrete gravity dam surmounted by 5.75-foot-high flashboards, a 64-foot-long concrete gravity forebay wall, a powerhouse integral to the dam containing five generating units with a total installed capacity of 3.44 MW, an approximate 144-foot-long underground transmission line, and appurtenant facilities (see Figures 2 and 3). The Project has up and downstream American eel passage but no facilities for anadromous species.

The Project impoundment is approximately 1.8 miles long, with a surface area of about 101.5 acres at a normal headwater surface elevation of 260.3 feet National Geodetic Vertical Datum (NGVD). The Project has a gross storage capacity of an estimated 2,400 acre-ft, and the usable storage capacity is negligible given run-of-river operations. The normal headwater surface elevation is maintained when river flows are at or below the hydraulic capacity of the turbines, and the area occupied by the non-reservoir features described above is estimated at 0.4 acres. Approximately 82.4 acres of land is contained in a 200-foot zone extending around the impoundment. BBHP owns about 3.7 acres of land within the Project Boundary, as shown in Figure 4.

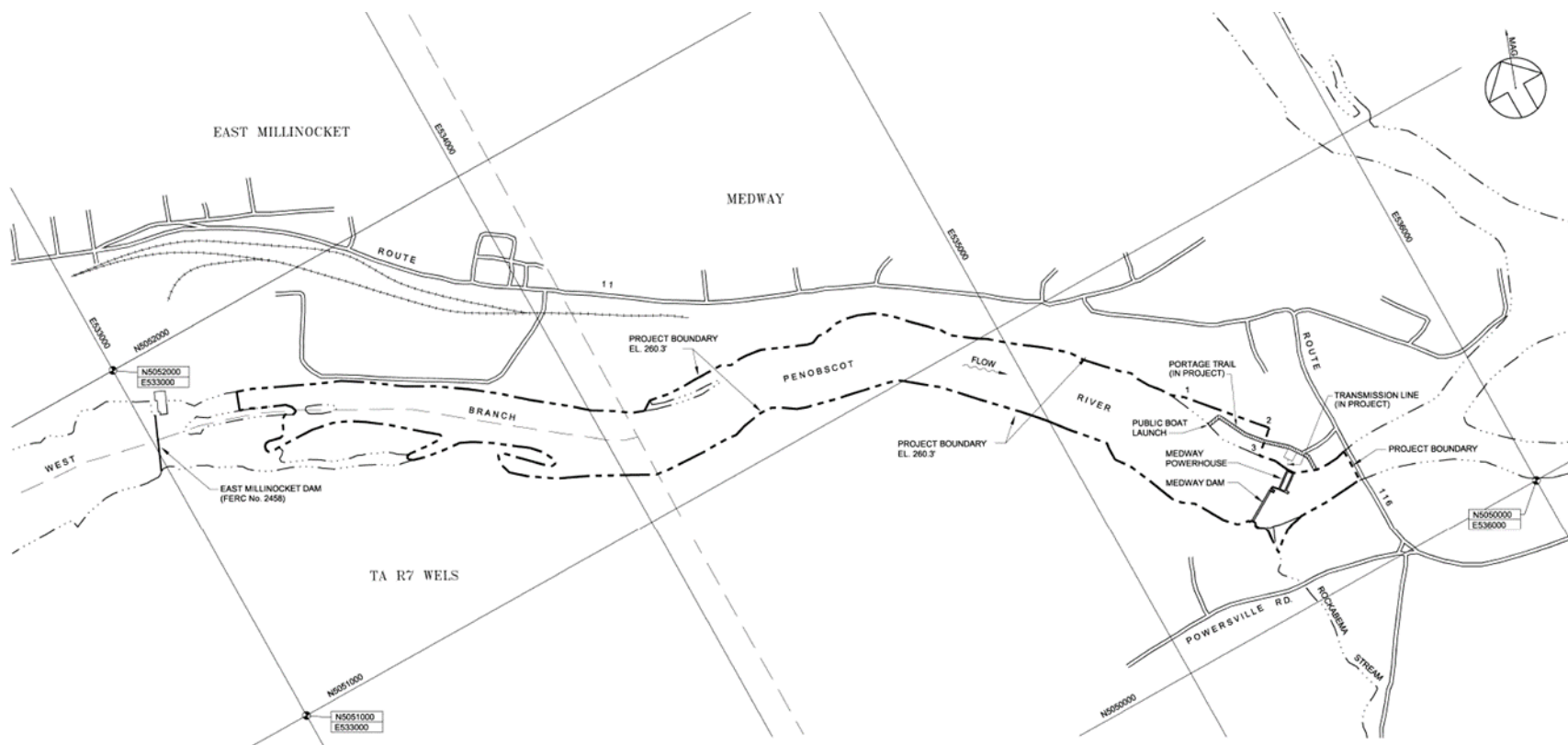
The drainage area at the Medway dam is approximately 2,113.5 sq. miles. The LIHI application noted an average annual generation of 29,944 MWh (Period of Record: 2014 to 2019). Key features are shown on Figures 5 and 6.



**Figure 2 – Aerial of the Medway Project**



**Figure 3 – Schematic Showing Key Project Features**



**Figure 4 – Medway Project Boundary**





**Figure 5 –Medway Powerhouse and Tailrace**

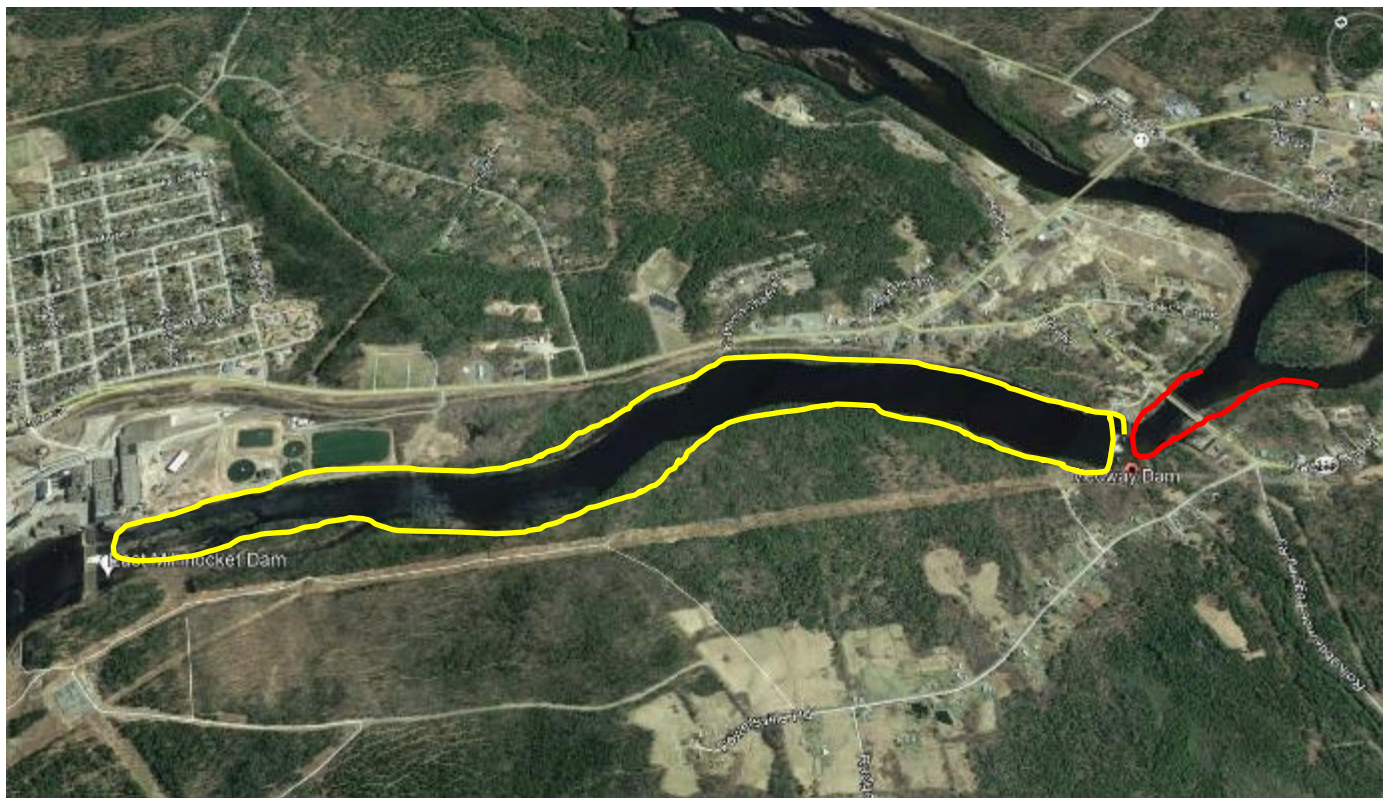


**Figure 6 – Medway Spillway and Eel Ladder**

## **V. ZONES OF EFFECT AND STANDARDS SELECTED**

Three Zones of Effect (ZOE) were appropriately designated by the Applicant. They are illustrated on Figures 7 and 8.

- ZOE #1 – Impoundment - RM 2.0 to 0.5 (measured from the confluence of the East and West Branches of the Penobscot River)
- ZOE #2 – Bypass Reach - RM 0.50 to 0.45 (measured from the confluence of the East and West Branches of the Penobscot River)<sup>3</sup>
- ZOE #3 – Tailrace/ Downstream Reach - RM 0.5 to 0.0 (measured from the confluence of the East and West Branches of the Penobscot River)

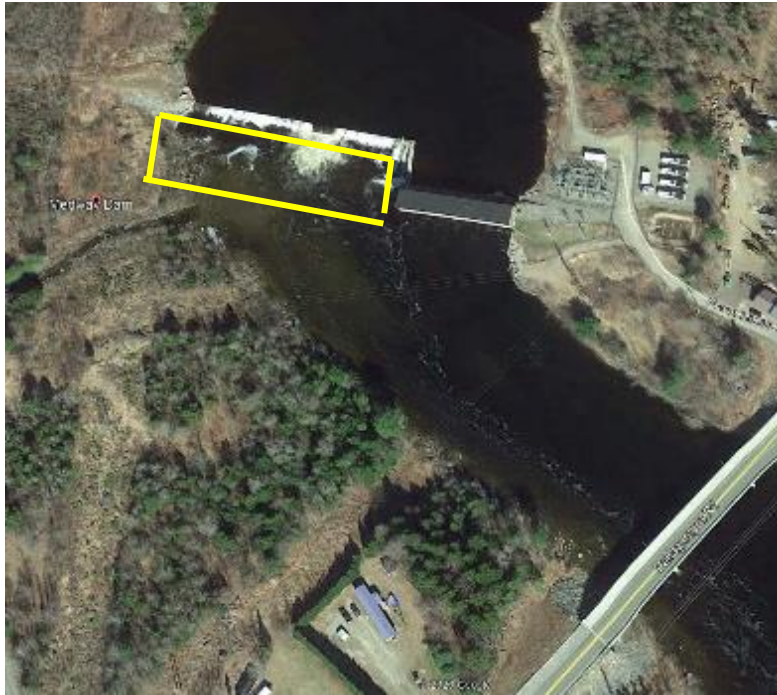


**Figure 7 – Project Zones of Effect #1 -Impoundment (Yellow) and #3 - Downstream Reach (Red)**

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<sup>3</sup> While the Applicant identified this section as a bypass, neither the FERC license nor Water Quality Certification identify a bypass, thus the only flow requirements are associated with run-of-river operation.





**Figure 8 – ZOE #2 – Bypass Reach**

The Standards identified in the final application for each ZOE are shown on the tables below. Shown in **red** are what I believe are better selections as discussed under the *Ecological Flow Regimes* and *Threatened and Endangered Species*. Details of compliance with the criteria are presented in Section VIII.

**Standards for the Impoundment (ZOE #1)**

Criterion		Alternative Standards				
		1	2	3	4	Plus
A.	Ecological Flow Regimes	X				
B.	Water Quality		X			
C.	Upstream Fish Passage	X				
D.	Downstream Fish Passage		X			
E.	Watershed and Shoreline Protection	X				
F.	Threatened and Endangered Species Protection		X	X		
G.	Cultural and Historic Resource Protection		X			
H.	Recreational Resources		X			

## Standards for the Bypass Reach (ZOE #2)

Criterion		Alternative Standards				
		1	2	3	4	Plus
A.	Ecological Flow Regimes	X	X			
B.	Water Quality		X			
C.	Upstream Fish Passage		X			
D.	Downstream Fish Passage		X			
E.	Watershed and Shoreline Protection	X				
F.	Threatened and Endangered Species Protection		X	X		
G.	Cultural and Historic Resource Protection		X			
H.	Recreational Resources	X				

## Standards are for the Tailrace/Downstream Reach (ZOE #3)

Criterion		Alternative Standards				
		1	2	3	4	Plus
A.	Ecological Flow Regimes		X			
B.	Water Quality		X			
C.	Upstream Fish Passage		X			
D.	Downstream Fish Passage	X				
E.	Watershed and Shoreline Protection	X				
F.	Threatened and Endangered Species Protection		X	X		
G.	Cultural and Historic Resource Protection		X			
H.	Recreational Resources		X			

## VI. REGULATORY AND COMPLIANCE STATUS

The original FERC license for the Medway Project was issued to Bangor Hydroelectric Company (Bangor Hydro) in 1979, which expired in 1999. A renewed license was approved on March 29, 1999 for a 30-year term, expiring in 2029. A new Water Quality Certificate (WQC) was issued on December 23, 1998 by the Maine Department of Environmental Protection (MDEP). The Medway license was transferred to Penobscot Hydro LLC, which later became PPL Maine, LLC, (PPL Maine) in October 2000.

The Medway Project is part of the Lower Penobscot River Multiparty Settlement Agreement (Settlement Agreement), signed on June 25, 2004<sup>4</sup>, the goal of which is to restore self-sustaining populations of 11 native species of sea-run fish along the Penobscot River in Maine. The Settlement Agreement involved the purchase and removal of the lower-most dams on the Penobscot River, Veazie (FERC No. 2403) and Great Works (FERC No. 2312), and installation of a fish bypass at, and decommissioning of the Howland dam (FERC No. 2721) on the Piscataquis

<sup>4</sup> <https://lowimpacthydro.org/wp-content/uploads/2020/08/Penobscot-Agreement-6-04-1.pdf>

River, a tributary of the Penobscot River. As part of the Settlement Agreement, the signatories agreed to amend the license for the Medway Project to increase the authorized maximum elevation of the Project reservoir by one foot. In June 2004, an application was filed with FERC for the amendment. On April 18, 2005, FERC issued its Order modifying and approving amendment of the Medway Project license. The Settlement Agreement was jointly entered into by:

- PPL Maine, PPL Great Works, PPL Generation (the owners of Medway at this time)
- Penobscot River Restoration Trust (PRRT)
- Penobscot Indian Nation (PIN)
- United States Department of Interior, acting through the Fish and Wildlife Service (USF&WS), Bureau of Indian Affairs (BIA) and the National Park Service (NPS)
- Maine State Planning Office
- Maine Atlantic Salmon Commission (MASC)
- Maine Department of Inland Fish and Wildlife (MIF&W)
- Maine Department of Marine Resources (MDMR)
- American Rivers, Inc
- Atlantic Salmon Federation
- Maine Audubon Society
- Natural Resources Council of Maine (NRCM), and
- Trout Unlimited (TU).

Notably, NMFS was not a signatory and has issued mandatory fish passage requirements for the Project, which were incorporated into the 2005 FERC license amendment that incorporated the 2004 Settlement Agreement and authorized increasing the normal reservoir impoundment by one foot.

Prior to the license amendment, on December 17, 2004, the MDEP issued a WQC under Section 401 of the Clean Water Act, adopting the applicable provisions of the Settlement Agreement and other requirements including water levels and flows, continued operation of upstream and downstream eel passage, a Contingent Mitigation Fund, limits of approval, and compliance with all applicable laws. The 2004 WQC was made part of the 2005 license amendment.

FERC incorporated the provisions of the Contingent Mitigation Fund in Attachment B of the Settlement Agreement into the license as Article 410 of the license amendment. The Contingent Mitigation Fund would provide mitigation for habitat impacts if the Veazie, Great Works and Howland projects are not acquired by the Penobscot River Restoration Trust and their respective dams not subsequently removed or the bypass at Howland not constructed. Under the Contingent Mitigation Fund, the contributions due to the effects of the headpond increases would be \$1,000 per year (adjusted annually in accordance with the Consumer Price Index) for the term of the license. The disposition of the monies would be determined upon mutual agreement among many of the Settlement Agreement signatories for replacing the fish and wildlife habitat lost or degraded by habitat effects, compensating for loss or degradation of fish and wildlife habitat due to habitat effects by means other than replacement, and supporting efforts directed at restoring the Penobscot River fisheries and the habitat on which these fisheries rely. However, as the Veazie and Great Works dams were removed and the Howland bypass constructed, the funding requirement is no longer applicable.



The Medway Project was subsequently purchased by Black Bear Hydro Partners (BBHP) and the license transferred on September 17, 2009. The original Reviewer Report dated January 17, 2011 includes additional details of the licensing history and Settlement Agreement.<sup>5</sup>

The FERC license was again amended on February 21, 2013, requiring the licensee to consult with NMFS, USF&WS, PIN, MDIF&W, and MDMR once every five years regarding the status of Atlantic salmon and other Endangered Species Act-listed fishes in the Penobscot River to ensure that operation of the Medway Project is consistent with the listing determinations for those species and with the then-current recovery objectives for such species. Additional discussion of this issue is found under *Criterion F – Threatened and Endangered Species Protection*. It does not appear that the WQC was amended to incorporate this requirement.

Seven deviations from FERC license requirements occurred in the last five year as identified in *Criterion A – Ecological Flow Regime*. None were found to be license violations by FERC.

## **VII. PUBLIC COMMENT RECEIVED OR SOLICITED BY LIHI**

The deadline for submission of comments on the LIHI recertification application was January 30, 2021. Agency outreach via email (See Appendix A) was made to the following agencies.

- Maine Department of Inland Fisheries and Wildlife (MDIF&W), Kevin Dunham, Regional Fisheries Biologist
- Maine Department of Marine Resources (MDMR), Gail Wippelhauser, Marine Resources Scientist
- National Marine Fisheries Service (NMFS), Jeff Murphy, Penobscot SHRU
- US Fish and Wildlife Service (USF&WS), Julianne Rosset, Migratory Fish/Hydropower Biologist
- Penobscot Indian Nation (PIN) - Dan McCaw, Fisheries Program Manager

The MDMR submitted combined comments on the Medway, Orono, and Stillwater applications, addressing my inquiries, with which the USF&WS concurred. Kevin Durham of MDIF&W also submitted limited comments, saying he has had limited interaction with the Applicant. MDMR stated that Jeff Murphy of NMFS would not be responding as he did not believe it would be appropriate to comment on projects with which he would be involved in regulatory proceedings in the near future. With an expiration date in 2029, Medway's re-licensing would commence in late 2023 or early 2024, about 2 to 3 years from now. BBHP also submitted a response to the agency comments, which refuted statements in the MDMR comments and should be reviewed for the details which are not completely enumerated in my discussion. All are incorporated into the two fish passage criteria discussions and are available on the LIHI website.

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<sup>5</sup> <https://lowimpacthydro.org/wp-content/uploads/2020/09/Medway-Report.pdf>

## VIII. DETAILED CRITERIA REVIEW

### A. ECOLOGICAL FLOW REGIMES

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

#### Assessment of Criterion Passage

The Applicant selected **Standard A-1 Not Applicable/De Minimis Effect** for the impoundment and **A-2 – Agency Recommendation** for the bypass and downstream reach ZOE. However, neither FERC nor MDEP identified a bypass, and thus, no minimum flow requirements were identified. Thus, I believe A-1 may be more appropriate for this ZOE. There have been no changes in requirements nor in the mode of operation of the Facility since it was last re-certified by LIHI.

The Medway Project is operated in a run-of-river (ROR) mode, pursuant to Article 402 of the new and amended Project licenses and various conditions of the Project's WQC. The plan to monitor flows and reservoir water levels required by Article 403, approved by FERC on March 23, 2000, is used to confirm compliance with the flow-related requirements. The Plan requires stable headpond management and inflows passed as outflows via the powerhouse and the spillway (spillage flows are discharged to the bypass reach). There is no prescribed minimum flow into the bypass reach (as identified by the Applicant) at the Project, because the powerhouse is integral with the dam, the bypass is very short, and is backwatered by the tailrace.

Between June 2015 and February 10, 2020, seven deviations of ROR or impoundment level limits occurred. The following table summarizes these events. All deviations were reported to the resource agencies, generally within 24 hours, and to the FERC within 10 days in compliance with the provisions of Article 402, with the exception of the 2019 event, which started in January but was not reported to FERC until June. None were found to be license violations by FERC.

Dates of Deviation	Summary of Event
March 2, 2017	Deviation of 1.5 inches from the minimum required impoundment surface elevation from approximately 8:48 am to 9:19 am when the Station was taken offline to perform lock out/tag out, breaker racking, and testing activities for unit #4.
Sept 17- 20, 2017	Deviation from headpond limits when the impoundment was drawn down to elevation 259.3 feet, or one foot below full pond, to perform dam safety inspections. Agency notifications were made prior to the drawdown.
May 12 to June 13, 2018	Deviation from ROR operation and headpond limits when ice and spring runoff damaged the flashboards, resulting in the lowering of the impoundment by 1 ft, within allowable license limits, until the flashboards could be repaired. The impoundment was drawdown to 255.06 ft (USGS) on June 5, to 255.34 ft on June 8, and to 258.8 ft on June 13. The impoundment was refilled close to its normal full pond elevation of 260.3 ft and returned to ROR operations the next day on all three occasions.

January 28 to June 6, 2019	Deviation from ROR operation and headpond limits from ice and spring runoff flashboard damage on Jan 28 resulting in the lowering of the impoundment 1-2 feet for the remainder of the winter. To make flashboard repairs, the impoundment was lowered 5.5 feet to a low of 254.61 ft on June 6, with the impoundment refilled close to its normal full pond elevation of 260.3 ft and ROR operation resumed the same day.
July 17, 2020	Deviation from ROR operation and headpond limits when the impoundment was lowered below full pond elevation of 260.3 ft to replace a safety cable across the dam.
July 24, 2020	Deviation from ROR operation and headpond limits when the impoundment was lowered below the full pond elevation to replace the wooden sluice gate extension.
August 25-26, 2020	A planned deviation from ROR operation and impoundment elevation requirements for divers to safely perform a dam safety inspection in the tailrace. Both were restored on Aug 26.

No stakeholders contacted during my review provided any comments about flow concerns at the Project. BBHP has complied with requirements for notification related to the planned and unplanned deviations except in the one case, and based on the information available, the Project appears to be in overall compliance with flow-related requirements. Therefore, I believe that the Project continues to pass this criterion.

### *The Project Passes Criterion A – Ecological Flow Regimes*

## **B. WATER QUALITY**

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

### **Assessment of Criterion Passage**

The Applicant appropriately selected **Standard B-2 Agency Recommendation** for all ZOEs as Project operations are governed by a WQC.

The Medway Project operates under the terms of the WQC as issued in 1998 and amended in 2004.

The application noted that the West Branch of the Penobscot River, from the confluence with Millinocket Stream to the confluence with the East Branch of the Penobscot River, including the Medway Project waters, was upgraded to Class B by the MDEP in 2019 (38 MRSA Section 467). Downstream of the Medway Project, the Penobscot River, from the confluence of the East and West Branches to its confluence with the Mattawamkeag River, was also upgraded to Class B at the same time. Water quality monitoring data collected by the Penobscot Indian Nation (PIN) in support of the 2019 reclassification shows that Class B criteria are attained in these reaches, including waters discharged by the Project, and that closure of two upstream paper mills has significantly improved the water quality of these segments.

The LIHI application noted that according to MDEP's 2016 Integrated Water Quality and



Assessment Report (305(b) report) and 303(d) list to the U.S. Environmental Protection Agency, the West Branch of the Penobscot River from Millinocket Stream to the confluence downstream of Medway is classified by MDEP as a Category 4B water— Rivers and Streams Impaired by Pollutants - Pollution Control Requirements Reasonably Expected to Result in Attainment—as a result of Nutrient/Eutrophication Biological Indicators and dissolved oxygen (DO), which are not influenced or caused by Project operations. Both impairments are attributed to discharges from the former paper mills in Millinocket and East Millinocket. The closure of the mills has resulted in attainment of Class B water quality standards, resulting in an upgrade in this river reach in 2019.

Attached to the LIHI application is a letter dated November 3, 2020, from MDEP, responding to BBHP's request for comment. In the letter, the MDEP detailed activities conducted by BBHP that satisfied various WQC requirements. The MDEP also stated that they believe that, provided BBHP continues to consult with the fisheries resource agencies on passage issues, as the Applicant has made provisions to mitigate the impacts of the Medway Project on American eel in the West Branch of the Penobscot River, they “find that BBHP continues to abide by the Terms and Conditions of the WQC.”

Based on my review of the application and eLibrary information, I believe the Project continues to satisfy the requirements for this criterion. No stakeholder contacted during my review provided any comments about water quality concerns at the Project.

### *The Project Passes Criterion B – Water Quality*

## **C. UPSTREAM FISH PASSAGE**

**Goal:** The facility allows for the safe, timely, and effective upstream passage of migratory fish. This criterion is intended to ensure that migratory species can successfully complete their life cycles and maintain healthy populations in areas affected by the facility.

### **Assessment of Criterion Passage**

The Applicant selected **C-1 - Not Applicable/De Minimis Effect** for the impoundment (ZOE #1) and **C-2 – Agency Recommendation** for the bypass and downstream reach.

FERC license Articles 401, 404, and 405 contain requirements regarding fish passage:

- Article 401 reserves authority to the FERC to require the licensee to install fish passage facilities as may be directed by the Secretary of the Interior under Section 18 of the Federal Power Act;
- Article 401(A) requires BBHP to consult with NMFS, USF&WS, PIN, MDIF&W, and MDMR once every five years regarding the status of Atlantic salmon and other Endangered Species Act-listed fishes in the Penobscot River to ensure that operation of the Medway Project is consistent with the listing determinations for such species and with the then-current recovery objectives for such species;
- Article 401(B) incorporates the terms and conditions of the incidental take permit included with the NMFS's Biological Opinion (BO), filed on August 31, 2012, as they pertain to the

Medway Project; These include filing of annual Incidental Take Reports.

- Article 404 requires BBHP to file design drawings for upstream and downstream American eel passage at the Project; and
- Article 405 requires development and implementation of a Plan to monitor effectiveness of the upstream and downstream American eel passage facilities.

The Medway Project has upstream passage for American eel but not for anadromous fish species. The NMFS' 2012 BO, page 130, states that the presence of the Medway dam without any upstream passage, blocks migration of anadromous species into the West Branch, although the downstream Mattaceunk Project has upstream passage that Atlantic salmon can navigate. According to the Applicant, the agency focus for anadromous species is on the mainstem Penobscot and the East Branch rather than the West Branch. Nonetheless, the LIHI application states that the West Branch is designated as critical habitat for Atlantic salmon upstream to the base of the dam. The river upstream of the dam is managed by the State of Maine for resident fish species, such as landlocked salmon, brook trout, and smallmouth bass. The 2013 FERC license amendment requires consultation with the fisheries agencies every five years to assess whether Project operation is in compliance with recovery efforts for the endangered Atlantic salmon. Based on email consultation with BBHP, the issue was typically discussed at the annual meeting held with the fisheries agencies and PIN.<sup>6</sup> However, it was agreed that as the NMFS is the key agency to make this assessment, BBHP could meet this requirement by submitting a letter to NMFS and copies to the others. A letter dated February 20, 2018 from NMFS, included in the LIHI application, stated that the Project is currently operating in compliance with their recovery efforts for endangered species in the river basin.

The permanent upstream eel fishway was completed in June 2004. It is located between the spillway and the downstream eel bypass slot within the Medway bypass reach. The eel passage structure is approximately 1.5 feet wide and 30 feet long, and follows the slope of the downstream fishway from the entrance to the exit. The eel passage floor contains an ABS<sup>7</sup> vacuum-molded pegged substrate that provides a climbing substrate for the eels and refuge from high velocity flows. It is generally installed August 1 through November 15 and operated from 1500 to 0730 hours.

Pursuant to Article 405, the Upstream Eel Fishway Monitoring Plan was approved by FERC on June 23, 2004. An assessment report was filed on February 26, 2007 indicating that insufficient numbers of eels were being collected for study purposes. FERC approved suspending studies at the Project for five years on March 27, 2007. Subsequently, a request to modify the monitoring plan was filed on May 23, 2016 and approved by FERC on June 20, 2016. Thus, this Order suspended BBHP's upstream eel monitoring and annual reporting requirement as FERC stated "BBHP's request to discontinue such monitoring provided an opportunity for the resource agencies and PIN to comment on the request; however, no comments were provided". The Order notes that the suspension will continue until FERC is provided information indicating that the requirement should be reinstated.

None of the stakeholders commented specifically on Medway upstream passage, although

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<sup>6</sup> See Appendix A for email consultation.

<sup>7</sup> Acrylonitrile Butadiene Styrene

comments submitted by the MDMR, which were also endorsed by the USF&WS, (see Appendix A) stated that numerical performance standards for upstream and downstream passage for diadromous species in Maine will be developed within the next five years. It is not clear that additional effectiveness studies will be required at all Penobscot River Projects. The MDMR also commented in general, that the iterative study process being used by BBH for the Penobscot River projects has resulted in an insufficient number of overall studies performed to make informed decisions about the success of fish passage. In their response letter, BBHP listed all of the studies and changes made to the various upstream and downstream facilities at each Project based on the findings of these studies. Most of these studies do not involve the Medway Project, but this issue is mentioned here for completeness. Based on the review of information provided in the application, follow-up communication with the Applicant, FERC eLibrary documents and stakeholder comments, I believe the Project continues to conditionally pass this criterion, as testing to confirm safe and effective passage of migratory species has not yet been determined.

The recommended condition addresses a requirement to notify LIHI if/when upstream eel passage studies or resource agency requests to install upstream passage for anadromous species are issued within the certification period.

### *The Project Conditionally Passes Criterion C – Upstream Fish Passage*

## **D. DOWNSTREAM FISH PASSAGE AND PROTECTION**

**Goal:** The facility allows for the safe, timely, and effective downstream passage of migratory fish. For riverine (resident) fish, the facility minimizes loss of fish from reservoirs and upstream river reaches affected by Facility operations. Migratory species are able to successfully complete their life cycles and maintain healthy populations in the areas affected by the Facility.

### **Assessment of Criterion Passage**

The Applicant appropriately selected **D-1 - Not Applicable/De Minimis Effect** for the downstream reach (ZOE #3) and **D-2 – Agency Recommendation** for the impoundment and bypass.

Downstream passage is available only for American eel and was installed in 2000. The passage is located between the spillway and log sluice sections of the dam and consists of a sluice gate, which was retrofitted with a 3-foot-wide by 6-foot-tall bellmouth weir and flume. The bypass entrance is located at the end of the spillway adjacent to the forebay. The weir constricts down to a 5-inch opening, can pass approximately 15 cfs of flow, and sits in the top portion of the water column. The bypass reach receives flows from the downstream eel passage facility, and the powerhouse backwaters to the very short reach downstream of the dam. Flows in excess of station and gate capacity are likewise spilled into the bypass reach.

There is no downstream passage for anadromous species. The current trashrack clear spacing at the intake is 2¾-inch, larger than the typically required 1-inch clear spacing for downstream protection.

While eel passage effectiveness testing of the downstream passage facility is required by the



license, these studies had not been conducted until 2020 (discussed below), because based on studies done in 2007, an insufficient number of eels had historically been caught which would not provide a statistically significant assessment of downstream passage routes. A request to postpone evaluation for 5 years was approved by FERC on March 27, 2007. A survey was conducted in 2012 to confirm whether an adequate number of migrating eels could be collected to conduct the downstream study, but only 6 were caught.

In a letter to FERC (copied to BBHP) dated April 10, 2019, PIN raised concerns that the Medway Project was not in compliance with the testing requirements for downstream eel passage and other issues associated with the downstream passage measures.<sup>8</sup> BBHP responded in a letter to PIN and FERC dated April 18, 2019.<sup>9</sup> In their letter, BBHP proposed to conduct testing simultaneously with the downstream studies anticipated to be conducted during re-licensing studies for the downstream GLHA-owned Mattaceunk Project. BBHP also noted that general consensus from the agencies reviewing this issue was that coordinated studies would be beneficial.

In a letter dated September 26, 2019, FERC concluded the following.<sup>10</sup>

*We are unaware of any compelling reason that you would be unable to use eels from other basins to study downstream passage at the Medway Hydroelectric Project. Your filing also notes that NMFS is concerned that providing upstream passage may cause more harm than good if downstream passage results in high mortality. While you intend to wait until a license is granted for the Mattaceunk Project, we cannot anticipate if or when it may be issued. Nor are the requirements of the Medway Project contingent on those of the Mattaceunk or vice versa. As such, the current requirements at the Medway Project must stand independently and be fulfilled. We anticipate that you will consult with the resource agencies and PIN to finalize your study methods to be implemented in 2020.”*

This FERC letter went on to request that BBHP resume downstream eel studies in the fall 2020 season using radio telemetry methods and out-of-basin eels as study fish. BBHP prepared the required study plan, agencies and PIN reviewed it, and BBHP implemented it during September through November, 2020. While most stakeholder comments were adopted, a common recommendation not included in the study was a HI-Z balloon tagging and sensor fish component to evaluate survival of American eel passing through the turbines.

A copy of the final 2020 study results, which included agency comments, was provided as part of the comment response letter submitted by BBHP. The report showed:

- 84% (42/50) of the eels passed through the turbines;
- 12% (6/50) of the eels passed by an unknown route;
- no eels were detected using the spillway or the forebay sluice, as there was no spill recorded and the forebay sluice gate was restricted to minimal leakage during the study period;
- 2% (1/50) of the eels used the bypass;
- 2% (1/50) of the eels did not pass;
- 90% (44) of the 49 eels passed reached Weldon Dam. Downstream transit times ranged

<sup>8</sup> [https://elibrary.ferc.gov/eLibrary/filelist?document\\_id=14759761&accessionnumber=20190410-5058](https://elibrary.ferc.gov/eLibrary/filelist?document_id=14759761&accessionnumber=20190410-5058)

<sup>9</sup> [https://elibrary.ferc.gov/eLibrary/filelist?document\\_id=14762455&accessionnumber=20190418-5129](https://elibrary.ferc.gov/eLibrary/filelist?document_id=14762455&accessionnumber=20190418-5129)

<sup>10</sup> [https://elibrary.ferc.gov/eLibrary/filelist?document\\_id=14802030&accessionnumber=20190926-3054](https://elibrary.ferc.gov/eLibrary/filelist?document_id=14802030&accessionnumber=20190926-3054)

- between 3.0 hours to 23.0 days (median = 29.5 hours;
- the estimate of survival for the entire project reach was 92.0% (75% CI =88.0-96.0%) and
- when adjusted for transit time, 84.0% (75% CI = 78.0-90.0%) of the eels survived passage.

A number of technical study questions were raised about the draft report by MDMR, USF&W, and PIN at a study review meeting. The questions all appear to have been addressed. The USF&W recommended BBHP arrange a meeting with the agencies in February 2021 to discuss next steps (i.e., proposed operational changes, structural changes, etc.), which was endorsed by PIN. PIN also made specific recommendations to “commence the design of an angled rack structure and dedicated bypass similar to the system installed at the Stillwater B project, which has successfully deterred multiple species of fish at multiple life stages from passing through the turbines.” I reached out to MDMR asking if they would share with me the recommended changes to Medway’s eel passage they felt should be implemented in order to be LIHI certified, as mentioned in their comment letter to LIHI. The MDMR stated they wanted to discuss them with BBHP before sharing them with LIHI. In follow-up communication, BBHP stated they will be performing a Hi-Z balloon tag and sensor fish study of downstream-migrating eels in 2021 as suggested by MDMR in response to the 2020 study results. BBHP is currently developing a study plan for agency review. This study was also requested by the USFWS and PIN and will further quantify the baseline effects of the Project on downstream eel passage and will help to inform any structural or operational measures that may be needed to ensure safe, timely and effective downstream eel passage.

As noted previously under *Upstream Fish Passage*, MDMR also stated in their comments that they may be requiring additional studies once numerical performance standards are established for Maine diadromous species, which will likely be completed in five years, and that the limited number of studies being performed overall are limiting their detailed assessment of passage needs. However, it appears to me, that this latter comment does not apply to Medway as much as it does to other BBHP Projects.

Based on my review of all the application, eLibrary, and comments received, I believe that the Project continues to conditionally meet this criterion with the conditions identified in Section IX.

### ***The Project Conditionally Passes Criterion D – Downstream Fish Passage and Protection***

## **E. SHORELINE AND WATERSHED PROTECTION**

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

### **Assessment of Criterion Passage**

The Applicant has appropriately selected **Standard E-1, Not Applicable/De Minimis Effect** to pass this criterion for all three Project ZOEs.

There has been no change in the shoreline and watershed protection requirements for the Project since it was last certified by LIHI. No conservation buffer zone, watershed enhancement fund, or

Shoreland Management Plan are required by the FERC license.

The current Project boundary encloses the dam and powerhouse and follows the reservoir up to the 260.3 ft NGVD (normal full pond) elevation (see Figure 4). There are no shoreline lands along the impoundment, save for a small parcel upstream of the powerhouse that includes the egress of the canoe portage trail. Immediately adjacent to the powerhouse, the canoe portage ingress and the trail are located on lands outside of the Project boundary. BBHP's ownership is limited to those lands within the Project boundary which generally house the Project structures, for an estimated total of 3.7 acres. Lands to the north of the Project boundary are largely the developed areas of downtown Medway, road networks, and industrial sites, such as the municipal waste water treatment plant. Some forested areas exist to the south of the Project boundary, but they are actively managed for timber harvesting and are bifurcated by roads and transmission lines. As such, lands within the Project boundary are unlikely have significant ecological value.

Based on my review, I believe the Project continues to pass this criterion.

### *The Project Passes Criterion E – Shoreline and Watershed Protection*

## **F. THREATENED AND ENDANGERED SPECIES PROTECTION**

**Goal:** The Facility does not negatively impact federal or state-listed species.

### **Assessment of Criterion Passage**

The Applicant selected both **Standard F-2 – Agency Recommendation** and **F-3 - Recovery Planning and Action** for all three ZOE. I do not believe that Standard F-3 is appropriate for the impoundment as the Atlantic salmon does not currently exist in this ZOE as migratory fish cannot pass upstream of the dam. Applicants should select a single numbered standard rather than multiple standards for each ZOE.

However, F-3 is applicable to the bypass and downstream reach as there is a Biological Opinion with specific requirements as these lower sections of the West Branch of the Penobscot River are mapped as critical habitat for the federally and state endangered Distinct Population Segments of Atlantic Salmon. There is a Recovery Plan for this species. This designation occurred in 2009. The Biological Opinion was issued August 31, 2012. There are other protected species also potentially in these ZOE that do not have Recovery Plans which would imply Standard F-2; however, the higher numbered Standard takes precedence in the bypass and downstream reach ZOE. The following discussion has been developed per category of species type and status as all potential effects would be relatively similar between ZOE.

### Terrestrial Species

USF&WS data included in the application showed that two federally-protected terrestrial species may be present in the Project vicinity:

- Canada Lynx – Federally Threatened
- Northern Long- Eared Bat – Federally Threatened



No impacts are expected to Canada Lynx, which has designated critical habitat, but there are no habitats or significant lands within the Project boundary. Northern long-eared bat does not have designated critical habitat, but BBHP has committed to comply with the final Section 4(d) impact minimization requirements during any periodic vegetation clearing activities for dam safety, access, and other purposes, using the USF&WS streamlined consultation process. These activities would be extremely limited, given how little land is located within the Project boundary.

A Maine Natural Areas Program (MNAP) Project Review, dated October 19, 2020, was included in the application. MNAP identified no rare botanical features within the Project area. In accordance with information received from the MDIF&W, the following state-listed terrestrial species potentially occur within the Project boundary.

- Little brown bat (State Endangered)
- Northern long-eared bat (State Endangered)
- Eastern small-footed bat (State Threatened)
- Big brown bat (Special Concern)
- Red bat (Special Concern)
- Hoary bat (Special Concern)
- Silver-haired bat (Special Concern)
- Tri-colored bat (Special Concern)

Given run-of-river operations and limited shoreline management activities at the Project, normal Project operation is not expected to impact these species. It is assumed that BBHP would consult with MDIF&W if any significant construction activities are conducted at the site in the future.

#### Aquatic Species

USF&WS data in the application showed that the federally endangered Atlantic salmon is documented as historically occupying the West Branch of the Penobscot River, and for which critical habitat has been designated in the Project vicinity downstream of the dam. As previously discussed under *Upstream Passage*, FERC's February 21, 2013 Order for the Medway Project incorporated the portions of the Species Protection Plan (including the Atlantic Salmon Passage Plan) and BO associated with the Project. Annual Incidental Take Reports, identifying mortalities of any Atlantic salmon, shortnose or Atlantic sturgeon at the Project are also required by the BO.

It appears that these requirements are being met. The most recent five-year consultation with the fisheries agencies was completed in 2018, with a copy of the BBHP letter addressed to NMFS, and copied to the others, is included in the LIHI application. The NMFS response (also in the application) indicated that data is currently being collected by NMFS to determine opportunities to restore connectivity between the salmon and headwater streams having historical populations such as the West Branch of the Penobscot River. The goal is to have such data in advance of the upcoming re-licensing of the Medway Project with a current license expiration in 2029. NMFS also confirmed that BBHP met their Article 401(A) consultation requirements. Review of the FERC eLibrary confirmed the Incidental Take Reports are also being submitted.

In addition, the application noted that the state-threatened brook floater mussel has been identified

in the Project vicinity although no details as to where, were provided. Run-of-river operation ensures stable headpond elevation for the support of mussel species. However, it is theoretically possible that significant lowering of the headpond could expose some mussels if they are present in the impoundment. For this review, given that BBHP had made all required agency notifications when drawdowns were required during the past certification period, I have assumed that should significant lowering of the impoundment be required that could impact mussels occur, BBHP would proactively consult with MDIF&W to conduct recommended impact minimization activities during such events.

Based on this review, I believe that the Project continues to satisfy the requirements of this criterion. This is based on the ongoing efforts of BBHP to comply with the current Project requirements associated with Atlantic salmon protection and the unlikelihood of negative effects to other species that may occur, as no changes to the Project are planned.

### *The Project Passes Criterion F – Threatened and Endangered Species Protection*

## **G. CULTURAL AND HISTORIC RESOURCE PROTECTION**

**Goal:** The Facility does not inappropriately impact cultural or historic resources that are associated with the Facility's lands and waters, including resources important to local indigenous populations, such as Native Americans.

### **Assessment of Criterion Passage**

The Applicant has appropriately selected **Standard G-2, Agency Recommendation** for all Project ZOE's.

No historic or archaeological properties, either listed or eligible for listing on the National Register of Historic Places, are located in the Project area. As part of the original license and impoundment raising amendment, the Maine Historic Preservation Commission (MHPC) determined that there are no properties in the Medway Project area of prehistoric, historic, architectural, or archaeological significance that would be impacted by the Project.

There is no requirement in the Medway Project license for a Programmatic Agreement, and a CRMP is not expressly required as no culturally significant properties have been identified. Review of the Project's 1999 Final Environmental Assessment indicated that while PIN was active in the licensing proceeding, PIN had no cultural resource comments.<sup>11</sup> When contacted on January 4, 2011 during the initial LIHI certification review, Ms. Bonnie Newsom, PIN Tribal Historic Preservation Officer, said that she agreed with the finding that there were no native population cultural resources at the Project.

Article 406 of the license requires the licensee to consult with the State Historic Preservation Officer (SHPO) if any archaeological or cultural sites are discovered during ground-disturbing or land clearing activities to determine if a CRMP is required. No ground-disturbing or land clearing activities have been conducted at the Project since the Project was last certified by LIHI in 2015.

<sup>11</sup> <https://lowimpacthydro.org/wp-content/uploads/2021/02/1999-Medway-FERC-license-WQC-EA.pdf>

It is assumed that BBHP would comply with Article 406 of the Medway license should new properties be discovered. Thus, based on my review, I believe the Project continues to satisfy this criterion.

*The Project Passes Criterion G – Cultural and Historic Resource Protection*

## **H. RECREATIONAL RESOURCES**

**Goal:** The facility accommodates recreation activities on lands and waters controlled by the facility and provides recreational access to its associated lands and waters without fee or charge.

### **Assessment of Criterion Passage**

The Applicant has appropriately selected **Standard H-2, Agency Recommendation** for the impoundment and downstream reach and **Standard H-1, Not Applicable/De Minimis Effect** for the bypass reach as there are no recreational features in this very short ZOE.

The only recreational facilities required at the Medway Project by the FERC License Article 407, are the canoe portage trail and the boat launch on the north shore of the impoundment, approximately 200 feet upstream of the Project boater barrier. A gravel roadway provides access to the boat launch, and several parking spaces are provided. The portage trail goes around the dam with the take-out at the impoundment boat launch and the put-in immediately downstream of the Medway powerhouse. The canoe portage trail is accessible from the water or from the gravel roadway to the boat launch. There have been no changes since last certified by LIHI.

The most recent FERC Environmental Inspection was conducted on September 26, 2018. It reported that the recreational facilities were in excellent condition, although augmentation of the sign posted for recreational access to include all information pursuant to Part 8, Section 8.2(a) of FERC's regulations was identified as a minor deficiency which BBHP replaced in spring of 2019.

Based on my review, I believe the Project continues to satisfy this criterion.

*The Project Passes Criterion H – Recreational Resources*

## **IX. GENERAL CONCLUSIONS AND REVIEWER RECOMMENDATION**

Based on my review, I believe that this Project conditionally continues to meet the requirements of a Low Impact facility and recommend it be re-certified for a five-year period with the following conditions.

Condition 1 – The facility Owner shall provide LIHI a copy of agency correspondence documenting numerical performance standards that the agencies may establish for upstream and/or downstream passage for the Penobscot River basin that affect the Medway Project, within 60 days of publication of the standards.

Condition 2 – In annual compliance statements, the facility Owner shall summarize any new

agency or PIN requests for upstream eel passage studies or modifications to the eelway, and/or for provision of upstream passage for anadromous species. Documentation shall include the agency requests and any plans and schedule for implementing the requested activity(ies). Annual updates shall document agency communications, discussion of resolution of disagreements should they occur, and project modifications made or results of studies during the prior year. LIHI reserves the right to modify this condition in light of future Project changes.

Condition 3 – The facility Owner shall provide LIHI a copy of the 2021 downstream eel passage study results, agency and PIN comments, and plans and schedules for any agreed upon modifications needed as a result of the study. Should the Owner not agree to make all requested modifications, the rationale for these decisions shall be provided. LIHI reserves the right to modify this condition based on the study results and assessment of the effectiveness of downstream passage.



**Appendix A**  
**Responses to Reviewer Inquiries**

From: "Maloney, Kelly" <Kelly.Maloney@brookfieldrenewable.com>  
To: "PBMwork@maine.rr.com" <PBMwork@maine.rr.com>  
Cc: "Bernier, Kevin" <Kevin.Bernier@brookfieldrenewable.com>  
Bcc:  
Priority: Normal  
Date: Tuesday December 22 2020 8:19:18AM  
FW: Medway Questions

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Pat,

I wasn't sure of the response to whether or not Medway was part of the annual discussion so I reached out to Kevin Bernier. His response is below.

Thanks!

Kelly

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**From:** Bernier, Kevin  
**Sent:** Tuesday, December 22, 2020 8:04 AM  
**To:** Maloney, Kelly <Kelly.Maloney@brookfieldrenewable.com>  
**Subject:** RE: Medway Questions

Yes, we discuss Medway annually at the diadromous fish passage meetings. As you noted below, the 5-year consultation was required by the February 21, 2013 license amendment. In preparation for this consultation, on December 8, 2017, Richard sent out an agenda that included this 5-year consultation (I don't have his 12/8/17 e-mail or the agenda that was attached to that e-mail). In their response (attached), NMFS (Jeff Murphy) suggested that the Medway 5-year consultation be dropped from the agenda, and instead, Black Bear *"could simply send us a letter referencing this obligation under your license and asking us if "operation of the Medway Project is consistent with the listing determinations for such species and with the then-current recovery objectives for such species". This will satisfy the consultation requirements."* Per this direction, Richard sent out a revised agenda (attached) for the December 21, 2017 meeting indicating that the 5-year consultation wouldn't be discussed. My handwritten notes from the December 21<sup>st</sup> meeting (attached) indicate that we briefly explained at the meeting that we would be sending out a letter to satisfy the 5-year consultation requirement. There were no objections to this approach aired at the meeting, and the letter was then sent out on January 19, 2018 to NMFS, PIN, and the other resource agencies. Only NMFS responded (on February 12, 2018) indicating that Black Bear was in compliance with the 5-year requirement.

The bottom line is that we consulted with the required agencies and PIN on this requirement, and only NMFS provided any feedback. We followed the direction we received from NMFS on how to do this consultation, and they concluded that we had satisfied the 5-year consultation requirement. Further, on September 26, 2018, FERC (with USFWS also participating) did an environmental inspection of the Medway Project that included this 5-year consultation requirement (see attached report). FERC required no follow-up regarding this requirement, and stated in the report the following:

***"Fish Passage:*** *The Licensee has installed and is operating the American eel upstream and downstream passage facilities. Eel monitoring and annual reporting for upstream passage was suspended by Order dated June 20, 2016 since throughout the monitoring period, the licensee, the Penobscot Indian Nation (PIN) and resource agencies have not identified any modifications to project operations or infrastructure that would benefit eel populations. The upstream eel passage facility is generally operated from June through August and was already closed prior to the inspection. The downstream facility was opened and operating at the time of inspection.*

*Present restoration plans for Atlantic salmon do not require upstream passage at the Medway project at this time. The West Branch of the Penobscot River upstream of the Medway Project is primarily managed for resident fisheries. If the fisheries agencies and/or PIN require Atlantic salmon passage at the Medway Project in the future, additional consultation under the ESA would be necessary."*

Hope this helps – Kevin

---

**From:** Maloney, Kelly  
**Sent:** Monday, December 21, 2020 8:10 PM  
**To:** Bernier, Kevin <Kevin.Bernier@brookfieldrenewable.com>  
**Subject:** FW: Medway Questions

? I don't think Medway is required in the meeting, right?

---

**From:** PBMwork@maine.rr.com <PBMwork@maine.rr.com>  
**Sent:** Monday, December 21, 2020 5:47 PM  
**To:** Maloney, Kelly <Kelly.Maloney@brookfieldrenewable.com>  
**Subject:** RE: Medway Questions

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See below some additional notes to help understand my questions.

Thanks,

Pat

-----  
From: "Maloney, Kelly"  
To: "PBMwork@maine.rr.com"  
Cc: Kevin"  
Sent: Monday December 21 2020 2:57:05PM  
Subject: RE: Medway Questions

Hi, Pat,

Please see below.

Thanks,  
Kelly

**From:** PBMwork@maine.rr.com <PBMwork@maine.rr.com>  
**Sent:** Monday, December 21, 2020 2:45 PM  
**To:** Maloney, Kelly <Kelly.Maloney@brookfieldrenewable.com>  
**Subject:** Medway Questions

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Hi Kelly

I have only three follow-up requests/questions on the Medway project.

1) The BO, page 130, notes that presence of the Medway dam having no upstream passage, prohibits use of the West Branch for migratory species, which explains the application statement that anadromous species do not exist in the West Branch. Given that, it's important that I can review the meeting notes with the stakeholders regarding fish passage from 2018-2020. (If you recall, in my Stage I Report I requested the 2018 meeting notes.) Review of this is critical as it would provide the "evidence" that these stakeholders are still not requiring upstream passage for anadromous species at this time, and that they are in agreement that resumption of testing for upstream eel passage is not yet needed. I'm not sure what meeting notes you are referring to? A few clarifications, there is no passage for Atlantic salmon into the West Branch due to a lack of facilities at Medway. The BO requires that we consult with the NMFS every 5 years to be sure that we are still compliant with the BO and there is not a need for upstream Atlantic salmon passage facilities as referenced in your Question #3. That information is provided in Section 6.0.

Regarding the meeting notes, I assumed that Medway is included in discussions during the annual meetings with the fisheries agencies that I understand are done for Stillwater and Orono. If that is not the case, I will assume that the letter from NMFS is the only documentation regarding possible fish passage changes at Medway.

There is no passage for other migratory species above the downstream West Enfield Project (i.e. there are passage facilities for Atlantic salmon at Mattaceunk but not for other migratory species). So, Medway is not the reason that other migratory species are absent from the West Branch; the downstream Mattaceunk Project is.

Page 37 of the application states there are both up and downstream fish passage facilities at Mattaceunk, West Enfield and Milford. Nothing was stated about it being limited to salmon passage only. Based on that, and the wording in the BO, it seemed like Medway was now the only obstacle to access to the West Branch,

2) Can you tell me the dates of when the downstream eel passage study was implemented this year? September through November 2020.

3) It appears that BBHP implements the five-year ESA consultation by submitting a letter to NMFS asking for comments and copying the other agencies required to be consulted with by your license. The application only included a response from NMFS. Have the other agencies ever submitted a response? One could read this approach as asking only for NMFS input. You are correct. The other agencies do not weigh in on whether we are compliant with the ESA. We are required to consult with NMFS and we include the other agencies in case they have anything to contribute.



As noted in the application. Article 401(A) of the license, "as amended on February 21, 2013, requires Black Bear to consult with the National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service(USFWS), PIN, Maine Department of Inland Fisheries and Wildlife (MDIFW), and Maine Department of Marine Resources (MDMR) once every five years regarding the status of Atlantic salmon and other Endangered Species Act-listed fishes in the Penobscot River to ensure that operation of the Medway Project is consistent with the listing determinations for such species and with the then-current recovery objectives for such species."

While maybe only NMFS responds, it does seem that all agencies must be consulted with. Nonetheless, if the other agencies seem to be accepting the approach you use, than I guess we can also.

Thanks for your help.

Pat

From: "Wippelhauser, Gail" <Gail.Wippelhauser@maine.gov>  
To: "PBMwork@maine.rr.com" <PBMwork@maine.rr.com>, "Clark, Casey" <Casey.Clark@maine.gov>, "Rosset, Julianne" <julianne\_rosset@fws.gov>  
Cc:  
Bcc:  
Priority: Normal  
Date: Tuesday February 16 2021 8:56:15AM  
RE: Follow-up on Medway downstream eel passage

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We have not yet discussed improvements with the Licensee.

Gail Wippelhauser, Ph. D.  
Marine Resources Scientist  
Maine Department of Marine Resources  
#21 State House Station  
Augusta, ME 04333

Cell: [207-904-7962](tel:207-904-7962) (teleworking during COVID)

Phone: 207-624-6349

email: [gail.wippelhauser@maine.gov](mailto:gail.wippelhauser@maine.gov)

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**From:** PBMwork@maine.rr.com <PBMwork@maine.rr.com>  
**Sent:** Friday, February 5, 2021 10:09 AM  
**To:** Wippelhauser, Gail <Gail.Wippelhauser@maine.gov>; Clark, Casey <Casey.Clark@maine.gov>; Rosset, Julianne <julianne\_rosset@fws.gov>  
**Subject:** Follow-up on Medway downstream eel passage

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Good morning

Thank your for your comments on the three Brookfield Renewable Penobscot River Projects. I would be interested in knowing what your specific recommendations were in regards to improving downstream eel passage at Medway. I am unsure when the final eel passage report (which would show them) will be issued which would include your comments/recommendations.

Thanks

Pat