STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

IN THE MATTER OF

TOPSHAM HYDRO PARTNERS LIMITED PARTNERSHIP Topsham, Lisbon, Durham, and Brunswick Sagadahoc, Cumberland, and Androscoggin Counties PEJEPSCOT HYDROELECTRIC PROJECT PROJECT #L007867-33-S-N (APPROVAL)	MAINE WATER QUALITY PROGRAM CLEAN WATER ACT WATER QUALITY CERTIFICATION

Pursuant to the provisions of 38 M.R.S. §§ 464 *et seq*., Section 401 of the Clean Water Act, 33 U.S.C. §§ 1341, and Department Rules 06-096 CMR Chapters 579-581, the Department of Environmental Protection (Department) has considered the application of TOPSHAM HYDRO PARTNERS LIMITED PARTNERSHIP (Applicant or Topsham Hydro) with all supporting data, agency review comments, public review comments, and other related materials in the administrative record. Based on the record evidence and its professional judgment and expertise, the Department makes the following findings of fact, determinations, and conclusions:

1. APPLICATION SUMMARY

A. Application

On June 9, 2021, the Applicant applied to the Department for Water Quality Certification (WQC) pursuant to Section 401 of the CWA for the proposed relicensing and continued operation of the existing Pejepscot Hydroelectric Project, P-4784, (Pejepscot Project, or Project) located on the Androscoggin River in the towns of Topsham, Lisbon, Durham, and Brunswick, Maine.

B. History

The site of the Pejepscot Project was first developed in 1893 as part of a paper mill. The original timber crib dam failed between 1893 and 1896, and the spillway was rebuilt in 1896 in the current alignment. The Project was first licensed by FERC in 1982 for a term of 40 years. Originally, the Project included a single powerhouse, constructed in 1898. The Project was redeveloped between 1985 and 1987, which included rehabilitation of the dam, construction of a new powerhouse and fish passage, and modifications to the original powerhouse.

C. Existing Project Features

The existing Pejepscot Project consists of a 560-foot-long dam; a 225-acre impoundment; a 480-foot-long spillway at the crest of the dam, consisting of five hydraulically operated steel gates; two intake structures (one for each powerhouse) that are integral to the dam and powerhouses; an original powerhouse containing three generation units with a combined rated capacity of 1.588 megawatts (MW); a newer powerhouse containing one generation unit with a rated capacity of 12.3 MW; a tailrace directly below the dam; upstream fish passage facilities; downstream fish passage facilities; and appurtenant facilities.

1) *Project Dam*: The Pejepscot dam is a 560-foot-long, 47.5-foot-high, rock- and gravel-filled, timber-crib, overflow structure with a sheet-pile cutoff to bedrock along the upstream side. The cribs are topped with a 5-foot-thick reinforced concrete slab to protect the dam from erosion during periods of high river flow. There is no cribwork on the west end of the dam where the abutment rock level is high. The dam is abutted on the west side by a high bedrock outcrop and on the east side by a mass-concrete and stone-masonry pier.

2) *Project Spillway*: The 480-foot-long spillway runs along the crest of the dam. Spillway capacity is provided by operating five, 96-foot-long by 3-foot-high, hydraulically operated, steel bascule gates separated by concrete piers. The gates can be operated automatically or manually. The hydraulic pump units that operate the gates are contained in the mass-concrete pier forming the east abutment of the dam. The crest gate seals are heated to permit operation of the gates during cold weather, including movement when subjected to heavy ice pressure. The spillway has a discharge capacity of 95,000 cubic feet per second (cfs). Overtopping of the dam does not occur until the headwater reaches elevation 81 feet,[1] at which point the spillway discharge is approximately 110,000 cfs.

3) *Project Impoundment*: The Project dam impounds approximately 3,278 acre-feet of water over 225 acres at a normal full pond elevation of 67.2 feet, which is 0.3 feet below the top of the spill gates. The impounded water extends approximately 3 miles upstream of the dam. The Project is operated in run-of-river mode. During low inflow conditions, Topsham Hydro operates the Project to maintain the impoundment level near 67.2 feet and to provide the required minimum downstream releases and flows necessary for operation of the fish

[1] All elevations described in this water quality certification are referenced to U.S. Geological Service (USGS) datum.

passage structures. Under higher river flow conditions, water in excess of the hydraulic capacity of the generating units is spilled at the dam.

4) *Original Powerhouse*: The original powerhouse was constructed in 1898 and measures approximately 146 feet long by 97 feet wide. Its concrete intake structure is integral to the dam and includes a 71.4-foot-wide trashrack with 1.5-inch clear spacing. The powerhouse contains three horizontal Francis turbine-generator units (identified as Units No. 21, 22, and 23) with a combined output capacity of 1.58 MW. The maximum flow through each turbine is 350 cfs. Each of the units has an intake gate for dewatering and the tailrace water passage for the three units can be isolated from the downstream tailwater by means of a bulkhead-type gate, which is operated from the newer powerhouse intake deck using a mobile crane. Wicket gates are used to adjust the flow settings of the units. Outflows from the original powerhouse discharge into the tailrace directly below the dam.

5) *Newer Powerhouse*: The newer powerhouse was constructed in 1987 and is a concrete building with a steel frame measuring approximately 115 feet long by 60 feet wide. Its concrete intake structure is integral to the dam and includes a 91.6-foot-wide trashrack with 1.5-inch clear spacing at the top and 2.5-inch clear spacing at the bottom. The powerhouse contains a single, vertical-shaft Kaplan turbine-generator unit (identified as Unit No. 1) rated at 12.3 MW. The turbine has a minimum flow of 1,170 cfs and a maximum flow of 7,550 cfs. Wicket gates are used to adjust the flow settings of the unit. Outflows from the newer powerhouse discharge into the tailrace directly below the dam.

6) *Upstream Fish Passage Facility*: The upstream fish passage facility is a vertical lift (elevator) that lifts migratory fish in a hopper about 30 feet vertically from near the powerhouse tailrace to the impoundment level. The hopper is constructed of steel and is approximately 20 feet long and 7 feet wide with a sloping bottom. The hopper has a capacity of approximately 1,000 gallons. The inlet to the hopper is a V-trap about 8 inches wide by 8 feet high. There are four attraction pumps in front of the entry gate that create an additional flow up to 160 cfs through the entry channel to attract fish to the lift. The hopper discharges fish into a metal flume about 6 feet wide by 8 feet high. The flume is approximately 110 feet long from the lift hopper to the gate at the dam. There is a continuous flow of about 30 cfs from the impoundment to the hopper to attract fish to the impoundment.

7) *Downstream Fish Passage Facility*: The downstream fish passage facility consists of two steel entry weirs, one on either side of the Unit 1 turbine intake. Each entry weir has an invert elevation of 65.5 feet. From each weir, an outlet pipe conveys downstream migrating fish in water down to the tailwater. The weir gates are 4 feet wide and are part of an inlet box with the outlet pipe located on the side opposite the weir. The northerly weir has a 30-inch-diameter steel transport pipe that is approximately 60 feet long. Both pipes have a free discharge to the water below the dam. Each downstream bypass can pass approximately 13 cfs, 29 cfs, and 87 cfs at headpond elevations of 66.5 feet (low), 67.2 feet (normal), and 69.0 feet (high), respectively.

D. Existing Project Operation

The Project is operated as a run-of-river facility. The main turbine generator unit (Unit 1) controls the turbine wicket gates to maintain a preset pond level which is normally at about elevation 67.2 feet or 0.3 feet below the top of the spill gates. When Unit 1 nears its maximum flow capacity of 7,550 cfs, one or more of the three small units (Units 21, 22, and 23) is manually started. The small units are mainly operated during high spring runoff and after large storm events that increase river flows. Inflows in excess of the hydraulic capacity of the units are passed at the dam spillway. Inflows to the Project exceed the maximum capacity of the units approximately 25 percent of the time, on average. When the pond level reaches 69.0 feet (1.5 feet above the spill gates), the gates begin to lower starting with the gate closest to the powerhouse. The gates operate on pond level control and as flow increases, they maintain the pond level of 69.0 feet until all five gates are open. When the flow starts decreasing and the pond level drops to 68.0 feet, the gates start to close in order to maintain a level above 68.0 feet. When all five gates are closed, outflow is discharged through the generating units until the pond level exceeds 69.0 feet.

The Project releases a continuous minimum flow of 1,710 cfs, as measured immediately downstream of the Project powerhouse, or inflow to the impoundment, whichever is less.

E. Project Proposals

No new power development structures or generating facilities are proposed in this license application for the Project.

In its Final License Application[2] (FLA), the Applicant proposes to modify the Project boundary to fully enclose Project transmission lines and to include the access road to the

[2] The Final License Application is incorporated into the WQC Application by reference.

Pejepscot Fishing Park recreation area. Additionally, the Applicant proposes to work with the licensee of the adjacent, directly upstream, Worumbo Project (FERC No. 3428) to clarify and establish an appropriate project boundary for an approximately 0.95-acre area where the boundaries for the two projects currently overlap.

F. Proposed Operation, Minimum Flow, and Impoundment Water Level

The Project is located at river mile 14 on the Androscoggin River. The Androscoggin River flow regime is set by the Upper Androscoggin River Storage System, which consists of a series of headwater storage reservoirs located in Maine and New Hampshire. The upper portion of the Androscoggin River contains 16 run-of-river hydroelectric projects until reaching the Gulf Island Hydroelectric Project, which then re-regulates downstream flow for the lower Androscoggin River. The lower portion of the Androscoggin River contains 5 run-of-river hydroelectric projects, including the Project, which is the second dam upstream of the Androscoggin River's confluence with Merrymeeting Bay. The Project dam is approximately 4 miles upstream of the Brunswick Hydroelectric Project and 3.25 miles downstream of the Worumbo Hydroelectric Project.

The Applicant proposes to maintain year-round minimum flows of 1,710 cfs or inflow, whichever is less, and to operate in a run-of-river mode maintaining a normal pond elevation of 67.2 feet or 0.3 feet below the top of the spill gates.

G. Proposed Protection, Mitigation and Enhancement Measures

The Applicant proposes the following measures to protect and enhance environmental resources:

1) Topsham Hydro proposes to finalize and implement a Recreation Management Plan that includes measures improve and maintain Project recreation facilities.

2) Topsham Hydro proposes to finalize and implement a Historic Properties Management Plan.

3) Topsham Hydro proposes to finalize and implement an Operations Monitoring Plan.

4) Topsham Hydro executed two separate Settlement Agreement[s] for Modified Prescription for Fishways (Settlement Agreements) with the relevant federal agencies. One Settlement Agreement pertains to anadromous fish passage

and was signed by the National Marine Fisheries Service (NMFS), which is part of the U.S. Department of Commerce.[3] The other Settlement Agreement pertains to American eel passage and was signed by the U.S. Fish and Wildlife Service (FWS), which is part of the U.S. Department of Interior.[4] No Maine State agencies, including the Maine Department of Marine Resources (MDMR) and Maine Department of Inland Fisheries and Wildlife, are party to either Settlement Agreement or, to the Department's knowledge, to any other settlement agreement with the Applicant with respect to the Pejepscot Project.[5] Additionally, the Applicant did not revise its WQC application to reflect either Settlement Agreement nor did it notify the Department of any changes to its relicensing proposal as submitted in the FLA. The Department became aware of the Settlement Agreements when the Applicant filed copies with FERC via the FERC electronic filing system. On March 29, 2022, FERC staff issued an Additional Information Request to the Applicant asking it to clarify whether the Settlement Agreements were intended to modify its proposal in the FLA. On April 1, 2022, the Applicant responded to FERC staff and confirmed that the Settlement Agreements modify what it had proposed in the FLA.

2. JURISDICTION

The proposed continued operation of the Project qualifies as an "activity…which may result in [a] discharge into the navigable water [of the United States]" under Section 401 of the Clean Water Act (CWA). Section 401 of the CWA requires that any applicant for a federal license or permit to conduct such an activity must obtain a certification that the discharge will comply with applicable State water quality standards. State law authorizes

[3] Under the terms of the Settlement Agreement with NMFS, signed February 3, 2022, Topsham Hydro will implement interim and permanent downstream fish passage measures for anadromous fish (Atlantic salmon, river herring, and American shad), based on the outcome of studies to be conducted by Topsham Hydro. For upstream passage, the Settlement Agreement includes initial modifications to operations of the existing fish lift, effectiveness monitoring of the initial modifications for the target species, potential additional modifications to the existing fish lift in the event that defined performance standards cannot be met, and effectiveness monitoring of the modifications.

[4] Under the terms of the Settlement Agreement with FWS, signed January 28, 2022, Topsham Hydro will implement both interim and permanent downstream passage measures for American eel, based on the outcome of studies to be conducted by Topsham Hydro. For upstream passage of American eel, the Settlement Agreement includes temporary upstream passage measures, permanent upstream passage measures, and effectiveness testing of those permanent measures.

[5] Maine State resource agencies do enter into settlement agreements for fisheries mitigation measures at hydroelectric projects and have done so with respect to other projects operated by the Applicant's parent company.

the Department to issue a WQC pursuant to Section 401 of the CWA when the standards of classification of the water body and the State's antidegradation policy are met.[6]

State WQC for the Project was last issued by the Department on October 27, 1982. Under a 1996 Executive Order of the Governor of the State of Maine, the Department is designated as the certifying agency for issuance of Section 401 WQC for all activities in the State not subject to Land Use Planning Commission (LUPC) permitting and review. Therefore, the DEP is the certifying agency for the Project.[7]

The Project is licensed by FERC as a water power project under the Federal Power Act (FERC Project No. 4784). The original FERC license was issued on September 16, 1982, and expires on August 31, 2022. Topsham Hydro has filed an Application for New License with FERC to continue to operate the project for another 30-50 years. That application is currently pending before FERC.

3. APPLICABLE STATE WATER QUALITY STANDARDS

A. Classification

The Androscoggin River meets the definition of a river, stream or brook pursuant to 38 M.R.S. § 480-B(9). The portion of the Androscoggin River at issue in the application is designated as Class C waters from the confluence with the Ellis River to a line formed by the extension of the Bath-Brunswick boundary across Merrymeeting Bay in a northwesterly direction.[8,9]

B. Designated Uses

The Applicant must demonstrate that the Pejepscot Project riverine impoundment and Androscoggin River below the Project meet the Class C water classification standards and the designated uses described in 38 M.R.S. § 465(4)(A):

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[6] 38 M.R.S. § 464(4)(F)(3).
[7] Executive Order No. 3 FY 96/97.
[8] 38 M.R.S. § 467(1)(A)(2).
[9] On March 31, 2022, the Governor signed Public Law 2021 Chapter 551 into law. This law reclassifies certain waters of the state, including changing the classification for a portion of the lower Androscoggin River that includes the Pejepscot Project from Class C to Class B. The reclassification becomes effective on August 8, 2022, which is after the issuance date of this Water Quality Certification. Therefore, this Water Quality Certification applies Class C water quality standards to the Pejepscot Project. Chapter 2, § 11(F).

> Class C waters must be of such quality that they are suitable for the designated uses of drinking water supply after treatment; fishing; agriculture; recreation in and on the water; industrial process and cooling water supply; hydroelectric power generation, except as prohibited under Title 12, Section 403; navigation; and as habitat for fish and other aquatic life.

C. Numeric Standards

The Applicant must demonstrate that the Pejepscot Project impoundment and the Androscoggin River below the Project dam meet the following numeric Class C standard set forth in 38 M.R.S. § 465(4)(B):

> The dissolved oxygen (DO) content of Class C waters may be not less than 5 parts per million or 60% of saturation, whichever is higher, except that in identified salmonid spawning areas where water quality is sufficient to ensure spawning, egg incubation and survival of early life stages, that water quality sufficient for these purposes must be maintained.[10]

D. Narrative Standards

The Applicant must demonstrate that the Androscoggin River below the Pejepscot dam meets the following Class C narrative standards:

1) Discharges into Class C waters may cause some changes to aquatic life, except that the receiving waters must be of sufficient quality to support all species of fish indigenous to the receiving waters and maintain the structure and function of the resident biological community.[11]

2) Hydropower facilities managed under riverine classifications under 38 M.R.S. § 465 (such as the Pejepscot riverine impoundment) are additionally subject to 38 M.R.S. § 464(10) in recognition of some changes to aquatic life and habitat that have occurred due to the existing impoundments of these projects. Under Section 464(10), Class C riverine impoundments are generally deemed to meet classification standards if the aquatic life and habitat in those impounded waters achieve Class C aquatic life criteria found at 38 M.R.S. § 465(4)(C), provided that no changes can be made to improve such habitat that does not significantly affect existing energy generation capacity.[12]

[10] The Pejepscot Project is not located in an identified salmonid spawning area.
[11] 38 M.R.S § 465(4)(C).
[12] 38 M.R.S. § 464(10)(A)-(B).

E. Antidegradation

The Department may only approve WQC if the standards of classification of the waterbody and the requirements of the State's antidegradation policy will be met. The Department may approve WQC for a project affecting a waterbody in which the standards of classification are not met if the project does not cause or contribute to the failure of the waterbody to meet the standards of classification.[13]

F. Department Rules

Attainment of water quality standards is assessed through application of the following Department Rules.

1) 06-096 Chapter 579: Classification Attainment Evaluation Using Biological Criteria for Rivers and Streams.

Criteria to quantify aquatic life standards for Classes AA, A, B, and C waters are defined in this chapter. The benthic macroinvertebrate community is used as a surrogate to determine conformance with statutory aquatic life standards, related statutory definitions, and statutory provisions for the implementation of biological water quality criteria that are provided in Maine's standards for classification of fresh surface waters. Methods described in this chapter are used to make decisions about classification attainment.

2) 06-096 Chapter 581: Regulations Relating to Water Quality Evaluations.

These rules provide for the maintenance of stream and lake classifications without violations by computing capacity of the waters to break down waste and shows fish, wildlife, and organisms in the receiving water to migrate both up and downstream in an undisturbed section of river adjacent to the waste discharge outfall. In addition, a scale of 0-100 is established in order to measure the trophic state or degree of enrichment of lakes due to nutrient input.

[13] 38 M.R.S. § 464(4)(F)(3).

4. DEPARTMENT ANALYSIS

A. Aquatic Habitat (38 M.R.S. § 465(4)(A); 38 M.R.S. § 464(10)(A)(1))

For this standard, the Applicant must demonstrate that the Pejepscot riverine impoundment and outlet stream below the dam are suitable for the designated use as habitat for fish and other aquatic life. The Applicant also must demonstrate that this impounded section of the Androscoggin River and portion of the river below the dam are of sufficient quality to support indigenous aquatic species consistent with the applicable narrative standard.

Additionally, since indigenous aquatic species native to the section of the Androscoggin River occupied by the Project, both above and below the Pejepscot Dam, include diadromous fish, the Applicant must demonstrate that the waters of the Androscoggin River, including where these waters flow through and over the Pejepscot Dam, provide for the safe, timely, and effective passage of diadromous fish, ensuring that the river is of sufficient quality to support all indigenous aquatic species and that the discharge of the river water from the dam does not cause an adverse impact to indigenous diadromous fish.

1) Aquatic Habitat – Riverine Impoundment (38 M.R.S. § 465(4)(A); 38 M.R.S. § 464(10)(A)(1))

Attainment of aquatic habitat standards can be demonstrated in a variety of ways, including through evaluation of the structure and function of the biotic community, and measurement or submission of other data or evidence that demonstrates a sufficient maintenance of the impoundment's littoral zone.[14] Absent other evidence, and based on its professional experience, expertise, and judgment, the Department generally presumes the presence and suitability of sufficient aquatic life and habitat, especially for small or young fish as well as other aquatic life that rely on that refuge and forage provided by nearshore aquatic vegetation, when at least 75% of an impounded area, called the littoral zone, as measured from full pond conditions, remains watered at all times. Conversely,

[14] The 'littoral zone' of lakes and lake-like waterbodies, including some riverine impoundments, is defined in limnology as the portion of a lake where light penetration allows plant growth on the bottom. The littoral zone extends from the shoreline to the maximum depth where plants on the bottom receive enough sunlight for photosynthesis. This depth, known as the euphotic zone, is commonly estimated as the depth which receives approximately 1% of incident light. (Cole, 1979.) While depth of the zone varies with many factors, it can be estimated as a multiple of the Secchi disk transparency (SDT). Based on Tyler (1968), for more than 20 years the Department has delineated the littoral zone using a depth two times the SDT for purposes of determining attainment of Maine's Water Quality Standards.

and again absent other evidence, water levels that provide wetted conditions for approximately 75% of the littoral zone of an impounded area, as measured from full pond conditions, are generally presumed necessary to meet aquatic life and habitat standards. This rebuttable presumption, as developed through the exercise of the Department's professional experience, expertise, and judgment also is reflected in the Department's Hydropower Project Flow and Water Level Policy, dated February 4, 2002 (Water Level Policy). This rebuttable presumption is not a rule, but a guideline the Department applies on a case-by-case basis, informed by best professional judgment, and considering site-specific circumstances.

a. Existing Habitat and Resources

The Department finds that the Pejepscot riverine impoundment extends approximately three miles upstream of the Project dam with a surface area of 225 acres at normal full pond elevation of 67.5 feet. The Project is operated as a run-of-river facility, has no significant storage capacity, and has no significant effect on the overall river flow of the Androscoggin River. Operation of the bascule gates minimizes impoundment fluctuations to approximately 1.5 feet of the normal full pond elevation (69.0 feet) when inflows exceed the hydraulic capacity of the units, and the impoundment is typically held near 67.2 feet (0.3 feet below the top of the bascule gates). High flow conditions beyond the Applicant's control may result in water levels exceeding 69.0 feet.

The Department finds that the run-of-river operations provide a relatively stable head pond elevation while passing inflows. Such operations protect existing littoral habitats from changes related to water level fluctuations.
The Little River enters the Androscoggin in the furthest upstream areas of the Project impoundment and is the only major tributary in the vicinity of the Project.

b. Studies

In the FLA, the Applicant provides historical discharge and impoundment water level data. The data indicates that Project operations generally maintain consistent water levels, and attenuate high-inflow events. Project operations limit impoundment water level fluctuations to approximately two feet, typically ranging from a baseline of 67.2 feet to a maximum of 69.0 feet during periods of high inflow.

c. Discussion and Findings

The Department finds that the Project is operated as a run-of-river facility and that the Applicant demonstrated this by providing discharge and impoundment water level data.

The Department further finds, based on data submitted by the Applicant, that Project operations do not cause the water level to fluctuate or draw down the riverine impoundment water level for the purpose of hydropower generation. Run-of-river operations maintain relatively stable water levels with minimal impoundment fluctuation from full pond conditions, subject only to natural variations related to precipitation events. Therefore, the Project maintains 75% of the littoral zone in wetted conditions as measured from full pond, protecting habitat in the littoral zone. Except for fish passage, which is discussed separately below in Section 4(A)(3), based on the evidence provided by the Applicant, the Department, applying its professional judgement through application of its Water Level Policy, determines that the Pejepscot riverine impoundment meets the applicable aquatic life and habitat criteria.

2) Aquatic Habitat – Outlet Stream (38 M.R.S. § 465(4)(A), (C))

For this standard, the Applicant must demonstrate that the Class C waters, such as those at the outlet of the Pejepscot dam, are of such quality that they are suitable for the designated use of habitat for fish and other aquatic life. Discharges to Class C waters may cause some changes to aquatic life, except that the receiving waters must be of sufficient quality to support all species of fish indigenous to the receiving waters and maintain the structure and function of the resident biological community.

To meet Class C aquatic life standards in the riverine outlet waters, the Applicant must demonstrate two things. First, the Applicant must show that the macroinvertebrate community attains Class C aquatic life criteria according to the Department's Chapter 579 rule. The benthic macroinvertebrate community is an indicator of the general state of aquatic life for the purpose of attainment of outlet stream aquatic classification standards.

Second, the Applicant must show that the flow of water in the Androscoggin River is sufficient to support the designated use of habitat for fish and other aquatic life. The Department generally presumes, absent evidence to the contrary, that flow providing wetted conditions for at least 75% of the cross-sectional area of the affected river or stream, as measured from bankfull conditions, is needed to meet aquatic life and habitat standards. The Applicant can demonstrate attainment of these standards by providing evidence that 75% of the cross-section of the outlet stream is wetted at all times. This rebuttable presumption, as developed through the exercise of the Department's professional experience, expertise, and judgement is also reflected in the Department's Water Level Policy.

a. Existing Habitat and Resources

The reach of the Pejepscot River downstream of the Project dam includes backwater, pool, riffle, run, and glide mesohabitat types with a variety of substrate types including gravel, cobble, sand, mixed bedrock, small boulder, rubble, and large bolder. The most common mesohabitat types are pool (38% of total habitat area), backwater (28% of total habitat area), and run (20% of total habitat area).

b. Studies

The Applicant completed a survey of aquatic habitat in the Androscoggin River downstream of the Pejepscot dam and a Benthic Macroinvertebrate study to determine if the aquatic community meets Maine's water quality standards in the waters downstream of the Project tailrace. Additionally, the Applicant submitted Project water level and flow data that indicate that the Project operates in run-of-river mode.

The Applicant conducted the Benthic Macroinvertebrate study downstream of the Project dam and tailwater in accordance with the Department's standard methods.[15] The Applicant installed rock baskets approximately 660 feet downstream of the Project at the approved sampling location on August 2, 2018, and retrieved them on August 29, 2018. The samples were sent to a laboratory for sorting and examination. The Department input the study data into its linear discriminant model and the results of the model indicate that the area below the Project dam meets Class C aquatic life criteria.

c. Discussion and Findings

Studies conducted by the Applicant demonstrate and the Department finds and determines that the existing Project flow regime maintains and supports habitat for aquatic species in the Androscoggin River downstream of the Project dam.

The Applicant demonstrated through a Benthic Macroinvertebrate study and the Department determined using its linear discriminant model that the benthic community downstream of the Project meets Class C aquatic life criteria.

The Applicant demonstrated through its submission of Project water level and flow data that the project operates in run-of-river mode and that the flow of water in the area downstream of the Project dam is sufficient to support a variety of aquatic habitat types. Project operations ensure a flow providing wetted conditions for at least 75% of the

[15] Davies and Tsomides. 2014. *Methods for Biological Sampling and Analysis of Maine's Inland Waters.*

cross-sectional area of the Androscoggin River below the Project dam, as measured from bankfull conditions. Except for fish passage, which is discussed separately below in Section 4(A)(3), based on the evidence provided by the Applicant, the Department, applying Chapter 579 and its professional judgement through application of its Water Level Policy, determines that the area downstream of the Project dam meets the applicable aquatic life and habitat criteria.

The Department, therefore, determines that flows provided by current and proposed Project operations provides sufficient water quality and sufficient water quantity to support the Class C designated use of habitat for fish and other aquatic life downstream of the Project.

3) Aquatic Habitat – Fish Passage (38 M.R.S. § 465(4)(A), (C))

The Pejepscot Project is a run-of-river project with all of the water of the Androscoggin River flowing through or over the dam, discharging to the river. By influencing the flow of the water in the river, the dam and its discharge impacts the ability of fish to pass the section of the river where the dam is located. By influencing fish passage, the dam and its discharge affect the biological integrity[16] of the waters in the river. As an aquatic ecosystem, the Androscoggin River is home to and supports a variety of aquatic life. Diadromous fish are part of the biological community in the river and, due to their migratory nature and life cycle needs, must be able to pass the Pejepscot Dam to spawn. Unless diadromous fish have the ability to pass the dam, the Androscoggin River cannot support these species of fish.

For the Applicant to satisfy applicable State water quality standards, the Applicant must demonstrate that the water flowing through and over the Pejepscot Dam, which discharges into the Androscoggin River, supports indigenous species and does not cause adverse impact to aquatic life. This requires showing that the discharge from the dam supports safe, timely, and effective upstream and downstream fish passage. Safe, timely, and effective fish passage is necessary to avoid detrimental changes in the resident biological community.

[16] The department understands biological integrity to generally mean the ability of an aquatic ecosystem to support and maintain a balanced, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of natural habitats within a region.

a. Existing Habitat and Resources

In the lower reaches of the Androscoggin River, including in the Project vicinity, the fish assemblage consists of but is not limited to native diadromous species such as Atlantic salmon, American shad, alewife, and blueback herring, sea lamprey, and American eel.

b. Studies

In 2019, the Applicant conducted studies evaluating the effectiveness of the existing upstream passage facilities for adult American shad and river herring (alewife and blueback herring), as well as downstream effectiveness studies for American shad, river herring, and American eel. No effectiveness testing was conducted for sea lamprey.

The results of the upstream passage studies indicate that overall fish lift effectiveness was poor, with passage rates of 19.8% for river herring and 0% for American shad. The results of the downstream passage studies indicate that the downstream fish bypass is similarly ineffective, with most river herring, American shad, and American eel passing the Pejepscot dam via the spill gates or through the Unit 1 turbine instead of through the downstream fish bypass. Specifically, 22% of adult river herring, 31% of juvenile river herring, 9% of adult American shad, and 2% of adult American eels passed downstream of the dam via the downstream fish bypass. These study results demonstrate that the Project's existing upstream and downstream fish passage facilities do not provide safe, timely, and effective fish passage.

c. Applicant's Proposal

The applicant proposes to improve fish passage at the Pejepscot dam. Its proposal is best reflected in the two separate Settlement Agreements that the Applicant developed with the FWS and NMFS, as opposed to in the FLA and WQC application filed with the Department. The Applicant's intent to modify its Project proposal to incorporate the terms of the Settlement Agreements is evident from the Applicant's April 1, 2022 filing with FERC, responding to questions from FERC staff and confirming that the Settlement Agreements modify what the Applicant had proposed in the FLA.[17] Therefore, the

[17] While in this case the Department learned of the Applicant's modification of its proposed operation of the Pejepscot Project with respect to fish passage – a modification that directly bears on the Department's evaluation of whether the Project meets State water quality standards – through monitoring and review of documents filed with FERC, the responsibility rests with applicants to provide the Department with its water quality certification application and any

Department reviewed the fish passage measures contained in the Settlement Agreements. The Settlement Agreement that the Applicant executed with NMFS includes the following measures:

1. Interim spillage for Atlantic salmon smolt passage.
2. Interim nighttime shutdowns for American eel downstream passage beginning in the first passage season after license issuance through 2032.
3. An optional study to determine the effectiveness of the interim nighttime shutdowns after three passage seasons with results reported in 2028.
4. If the nighttime shutdowns described in the Settlement Agreement with FWS are a viable long-term means of protection for American eel downstream passage, the Applicant will install a fish guidance boom to direct downstream migrating river herring and Atlantic salmon to a new bypass within bascule gate No. 1 to be operational for the 2029 downstream passage season.
5. Effectiveness testing of the fish guidance boom to be conducted over two seasons after a one-year shakedown.
6. If the nighttime shutdowns described in the Settlement Agreement with FWS are not a viable long-term means of protection for American eel downstream passage or if the Applicant chooses not to conduct the optional effectiveness study, then the Applicant will install permanent downstream protection measures consisting of seasonal trashracks with bar spacing of a maximum of ¾-inches by the 2033 downstream passage season.
7. Initial fish lift modifications to operate the attraction water system at full capacity unless monitoring studies indicate different operations are warranted.
8. Determination of fish lift operation schedule on an annual basis in consultation with NMFS and FWS.
9. Fish lift effectiveness monitoring beginning in the first full passage season after license issuance conducted over two passage seasons. The studies will evaluate the effectiveness of the initial modifications for adult Atlantic salmon, river herring, and American shad.
10. Identification of anticipated performance standards with establishment of final fish passage performance standards in consultation with NMFS.
11. No later than 2027, modification to the fish lift flap gate if the defined performance standards for river herring and American shad cannot be met.

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modifications to the proposed activity for which a federal license and corresponding WQC is sought. Filings with FERC associated with a FERC license application are not automatically incorporated in the WQC application record before the Department.

The Settlement Agreement that the Applicant executed with FWS includes the following measures:

1. Interim nighttime shutdowns for American eel downstream passage beginning in the first passage season after license issuance through 2032.
2. An optional study to determine the effectiveness of the interim nighttime shutdowns after three passage seasons with results reported in 2028.
3. If the nighttime shutdowns are not a viable long-term means of protection for American eel downstream passage or if the Applicant chooses not to conduct the optional effectiveness study, then the Applicant will install permanent downstream protection measures consisting of seasonal trashracks with bar spacing of a maximum of ¾-inches by the 2033 downstream passage season.
4. Deployment of temporary upstream eel ramps until permanent measures are implemented.
5. Final design, permitting, and construction of permanent upstream eelway during the third year of the new license. The eelway will be operational by the fourth year after license issuance.

The Department has reviewed the Settlement Agreements and finds that the two agreements contain similar but slightly different measures, particularly related to the proposed fish guidance boom included in the NMFS Settlement Agreement but not included in the FWS Settlement Agreement. Additionally, the FWS Settlement Agreement includes no mention of any consultation with other State or federal resource agencies, while the NMFS Settlement Agreement includes some requirements to consult with other resource agencies regarding some, but not all, conditional or adaptive management measures. Common among the two Settlement Agreements is that they are iterative in nature, involving interim measures, effectiveness testing, and permanent measures that are to be developed based on results.

The most important components of the Applicant's proposal involve the following three measures: 1) establishment of performance standards for fish passage, 2) permanent downstream fish protection measures consisting of seasonal trashracks with bar spacing of a maximum of ¾-inches, and 3) modifications to the fish elevator to install a flap gate. These measures are described in the Applicant's proposal and are contingent on the results of additional studies and future consultation. The Applicant's proposal, as reflected in the NMFS Settlement Agreement, identifies "anticipated performance

standards for alosines"[18] that may be similar to those from other river systems such as the Connecticut River. The anticipated performance standards for alosines described in the Applicant's proposal are upstream passage efficiency of at least 70% within 48 hours of a fish approaching the Project works and a downstream survival required to exceed 95%. The Applicant proposes to install permanent downstream fish protection measures only if it either chooses not to conduct an effectiveness study, or if its proposed, optional 3-year effectiveness study fails to indicate that nighttime shutdowns are a viable long-term means of protection for American eel passing downstream of the Project. Additionally, the Applicant proposes to modify the fish elevator to install a flap gate only if either it chooses not to conduct an effectiveness study or if its proposed, optional upstream passage effectiveness study indicates that the current entrance to the fish elevator does not meet performance standards.

d. Discussion and Findings

The data provided by the Applicant demonstrates that the Project's existing upstream and downstream fish passage facilities do not provide safe, timely, and effective fish passage. The study results indicate that the water flowing through and over the Pejepscot Dam, which discharges into the Androscoggin River causes adverse impacts to aquatic life and detrimental changes in the resident biological community.

The Applicant's proposal, which has been modified by the Settlement Agreements as indicated in the Applicant's April 1, 2022, response to FERC Additional Information Request, is reflected in these two separate agreements with NMFS and FWS. Central to both is the implementation of interim measures, monitoring of outcomes, further consultation with resource agencies, and implementation of permanent passage measures. The goal of both agreements is to improve upstream and downstream passage and, as stated in the Applicant's correspondence with FERC submitting the Settlement Agreements to the federal licensing agency, "to establish a comprehensive approach to safe, timely, and effective passage for all species at the Project."

To obtain certification, the Applicant must demonstrate that its proposed operation of the Project will meet State water quality standards. This includes demonstrating that the water flowing through and over the Pejepscot Dam, which discharges into the Androscoggin River, supports indigenous species and does not cause adverse impact to aquatic life. This requires showing that the discharge from the dam supports safe, timely, and effective upstream and downstream fish passage. Safe, timely, and effective fish passage is necessary to avoid detrimental changes in the resident biological community.

[18] Alosine refers to members of the subfamily Alosinae, which includes alewives, American shad, and blueback herring.

The Department finds that the Applicant's proposal for improving fish passage at the Project, as reflected in the Settlement Agreements, provides a framework for achieving safe, timely, and effective fish passage. However, adherence to this framework and the decisions made within this framework ultimately will determine whether this level of passage is achieved and the Project is operated to support indigenous species in accordance with State water quality standards.

For example, with respect to American eel passage, the Applicant proposes interim nighttime shutdowns during the downstream migration season. The Applicant proposes to study the effectiveness of the interim measures over three years and to determine whether the interim measures are sufficient in consultation with FWS and NMFS. If the interim measures are not effective, then the Applicant proposes to install permanent downstream protection measures for American eel consisting of angled 3/4-inch trashracks. The results of any decision to continue the proposed interim measures or to implement the proposed permanent measures has the potential to significantly influence fish passage at the Project. To ensure that the State's interest with respect to achieving safe, timely, and effective fish passage consistent with the State water quality law is represented and that the Applicant has the full benefit of the fisheries expertise of the State with respect to this Maine river, the Applicant must consult with MDMR as part of and prior to determining whether the proposed permanent measures must be implemented. If during this consultation and after review of the three years of effectiveness studies MDMR provides written comments to the Applicant that the interim measures have not achieved safe, timely, and effective passage for American eel, within 60 days of receipt these comments the Applicant must provide a written response the Department for review. The response must identify any points of agreement and explain the basis for any areas of disagreement.

Further, along with initial fish lift modifications the Applicant proposes, through the NMFS Settlement Agreement, to adaptively manage both the lift frequency and operating hours on an annual basis, with the schedule set annually prior to each fish passage season. This schedule has the potential to significantly influence fish passage at the Project. To ensure that the State's interest with respect to achieving safe, timely, and effective fish passage consistent with State water quality law is represented and that the Applicant has the full benefit of fisheries expertise of the State with respect to this Maine river, the Applicant must consult with MDMR as part of and prior to determining lift frequency and facility operating hours before each fish passage season. If during this consultation MDMR provides written comments to the Applicant recommending lift frequency or operating hours determined by MDMR to be necessary to provide safe, timely, and effective passage for all fish species using the lift, within 60 days of receipt of these comments the Applicant must provide a written response to the Department for review.

The response must identify any points of agreement and explain the basis for any areas of disagreement.

Additionally, an important component of the NMFS Settlement Agreement is the identification of anticipated performance standards for alosines with an upstream passage efficiency of at least 70% within 48 hours of a fish approaching the Project works and a downstream survival required to exceed 95%. Achievement of appropriately set performance standards will ensure safe, timely, and effective fish passage. The anticipated standards proposed by the Applicant appear, at least in part, to have been based on performance standards for a separate project located on a river in Massachusetts. To verify these standards are appropriate for translation to the Androscoggin River in Maine or to establish final, project-specific standards, consideration of the fisheries resources in this river is needed to ensure passage is adequate to support indigenous species and not cause adverse impact to aquatic life. Consistent with MDMR's comments on the draft Order, this involves recognition that each species of alosine (American shad, blueback herring, and alewife) has different life history requirements and measures that result in effective passage of one species may not yield the same results for another species. Therefore, the final standards should be tailored to each alosine species, which may result in different performance standards for individual species or clarification that a single standard applies individually to each alosine species. This will ensure inefficient passage for one species will not be masked by successful passage of another and is consistent with the Applicant's stated goal "to establish a comprehensive approach to safe, timely, and effective passage for all species at the Project."

To ensure that the State's interest with respect to achieving safe, timely, and effective fish passage consistent with the State water quality law is represented and that the Applicant has the full benefit of the fisheries expertise of the State with respect to individual alosine species in the Androscoggin River , as part of the establishment of final standards, the Applicant must consult with MDMR prior to establishment of final performance standards for alosines. The Project must then be operated to achieve these final performance standards. If during consultation MDMR provides written comments to the Applicant recommending specific performance standards determined by MDMR to be necessary to provide safe, timely, and effective passage for each species of alosine, within 60 days of receipt of these comments the Applicant must provide a written response to the Department for review. The response must identify any points of agreement and explain the basis for any areas of disagreement.

Until the establishment of final performance standards following consultation with MDMR, the Project must be operated to achieve the anticipated performance standards identified in the NMFS Settlement Agreement and incorporated into the Applicant's proposed operation of the Project.

The Applicant's proposal for passage for alosines includes a series of interim measures and related studies. For downstream passage, evaluation of the effectiveness of a fish guidance boom is proposed, but implementation of the boom depends on what measures are implemented for downstream American eel passage. Alternatively, trash racks will be installed as permanent downstream protection measures. For upstream passage, initial fish lift modifications followed by monitoring and potential flap gate modifications are proposed. If following the monitoring and study of downstream and upstream passage of alosines proposed by the Applicant as reflected in the NMFS Settlement Agreement, fish passage at the Project does not achieve the final downstream and upstream performance standards, or the anticipated downstream and upstream performance standards if they remain controlling as outlined above, the Applicant must prepare an adaptive management plan. The plan must contain improvements and a clear implementation timeline to efficiently and effectively achieve passage equal to or better than the performance standard(s) it failed to meet. Improvement measures may include, among other things, minor modifications to operation or building an additional upstream fishway. The plan must provide for testing and reporting to the Department on the success of implemented improvements. The adaptive management plan must be submitted to the Department for review and approval within six months of effectiveness monitoring, conducted in accordance with the Applicant's proposals as reflected in the NMFS Settlement Agreement, showing the upstream or downstream performance standards are not being met.

Provided the Applicant complies with the requirements included in this Section 4(A)(3)(d) and conditions below, the Department finds the fish passage proposed by the Applicant, as reflected in the Settlement Agreements, will be safe, timely, and effective and sufficient to avoid detrimental changes in the resident biological community. The water flowing through and over the Pejepscot Dam, which discharges into the Androscoggin River, will support indigenous species and will not cause adverse impact to aquatic life.

B. Dissolved Oxygen (38 M.R.S. § 465(4)(B))

For this standard, the Applicant must demonstrate that the dissolved oxygen (DO) content will not be less than 5 parts per million (ppm) or 60% saturation, whichever is higher. The Applicant also must demonstrate that DO will not be less than 6.5 ppm as a 30-day

average based on a temperature of 22 degrees centigrade or the ambient temperature of the water body, whichever is less.

1) Existing Habitat and Resources

The Department finds that the Pejepscot impoundment has a surface area of approximately 225 acres at full pond, with a water surface elevation of 67.5 feet. The impoundment extends approximately 3 miles upstream at full pond. The Androscoggin River below the Pejepscot Project powerhouse and dam receives flows released from the powerhouse, leakage flow from the dam, runoff, and ice melt. The Project is located approximately 14 miles upstream of the mouth of the Androscoggin River, 3.4 miles downstream of the Worumbo Hydroelectric Project and 4.7 miles upstream of the Brunswick Hydroelectric Project. The drainage area at the Pejepscot dam is 3,420 square miles.

2) Studies

The Applicant submitted data collected during water quality studies in the impoundment, collected twice each month between June and October 2018. Samples were collected at the deepest location of the impoundment (approximately 23 feet deep and 2,100 feet upstream of the Project dam), to assess the effects of Project operation on impoundment water quality. Water temperatures and DO were relatively uniform through the water column within the impoundment, with no indication of summer stratification. DO profiles in the Pejepscot riverine impoundment ranged from an average of 7.2 mg/L to 9.8 mg/L,[19] and DO saturation was above 60% throughout the monitoring period.

The Applicant collected continuous water temperature and DO data in the Androscoggin River downstream of the Project dam from August 2 to October 2, 2018. Data was collected using a datasonde deployed at approximately mid-depth within the water column. Water temperature ranged from 16.8 ºC to 27.3 ºC, averaging 23.5 ºC throughout the sampling period. Hourly DO concentrations ranged from 7.8 mg/L to 9.7 mg/L, and DO saturation was above 60% throughout the monitoring period.

3) Discussion and Findings

DO data collected by the Applicant in the Pejepscot riverine impoundment and submitted for Department consideration indicates that water in the Project riverine impoundment is sufficiently oxygenated. Based on evidence in the record, the Department finds that

[19] One ppm is equal to 1 mg/L.

upstream of the dam the Project meets Class C water quality standards under current and proposed operating conditions.

DO data collected by the Applicant indicates, and the Department finds, that water in the Androscoggin River downstream of the Project dam is sufficiently oxygenated. Based on evidence in the record, the Department finds that the Project meets Class C water quality standards under current and proposed operating conditions.

C. Fishing, Navigation and Recreational Access and Use (38 M.R.S. § 465 (4)(A))

For this standard, the Applicant must demonstrate that the project waters are suitable for the designated uses of recreation in and on the water, fishing, and navigation. It is the Department's longstanding position that a hydropower impoundment may be found suitable for recreation in and on the water if it has a stable or decreasing trophic state and is free of culturally induced algal blooms that impair its use and enjoyment.

The Department considers an impoundment to have stable or declining trophic state unless it exhibits (1) a perceivable and sustained increase in its trophic state as characterized by its Trophic State Index or other appropriate indices, or (2) the onset of algal blooms.[20] The trophic state is the ability of water to produce algae and other aquatic plants. The trophic state of a body of water is a function of its nutrient content and may be estimated using the Maine Trophic State Index (TSI), which includes measurements of chlorophyll, phosphorus or Secchi disc transparency.[21] An algal bloom is defined as a planktonic growth of algae that causes Secchi disk transparency to be less than 2.0 meters.[22]

1) Existing Facilities and Use

The Project includes three formal recreation sites: the Pejepscot Boat Ramp, the Pejepscot Fishing Park, and the Lisbon Falls Fishing Park.

2) Water Quality Data.

The Applicant conducted a Trophic State Study in accordance with the Department's Lake Trophic State Sampling Protocol for Hydropower Studies (2017). Water quality samples were collected from the deepest portion of the impoundment approximately 2,100 feet upstream of the Project dam at a depth of approximately 23 feet, once in the

[20] 06-096 C.M.R. Chapter 581 § 6(C).
[21] 06-096 C.M.R. Chapter 581 § 6(A).
[22] 06-096 C.M.R. Chapter 581 § 6(B).

month of June and twice per month from July through October 2018. Sample results indicate that the Pejepscot riverine impoundment does not stratify and is mesotrophic (total phosphorus ranged from 13 µ/L to 23 µ/L with an average of 19 µ/L; chlorophyll-*a* ranged from 0.001 mg/L to 0.004 mg/L, averaging 0.003 mg/L; and Secchi disk transparency measurements ranged from 2.42 meters to 4.66 meters, averaging 3.98 meters). Both phosphorus and chlorophyll-*a* concentration measured in the Pejepscot riverine impoundment were below the threshold for mesotrophic waters. Secchi disk transparency measurements indicate no nuisance algal blooms were present, supporting a finding that the Pejepscot impoundment is mesotrophic.

3) Discussion and Findings

Based on the evidence in the record, the Department determines that Project operations meet the Class C designated uses of recreation in and on the water, fishing, and navigation.

D. Hydroelectric Power Generation (38 M.R.S. § 465(4)(A))

For this standard, the Applicant must demonstrate that the Project waters are suitable for the designated uses of hydroelectric power generation.

1) Existing Generation

The Department finds that the Project has a total authorized generating capacity of 13.88 MW and is capable of producing a gross average energy output of 68,516 megawatt hours of electricity annually.

2) Energy Utilization

Topsham Hydro sells Project power wholesale to ISO[23] New England for the New England market. The Project interconnects with the electrical grid via a single 900-foot-long, 15-kV cable connection to both a main and a secondary substation.

[23] ISO means Independent System Operator. ISO New England serves as the independent system operator of the regional bulk power system and administers the wholesale marketplace. Its primary responsibilities are to coordinate, monitor, and direct the operations of the major generating and transmission facilities in the region while its objective is to promote a competitive wholesale electricity marketplace while maintaining the electrical system's integrity and reliability.

3) Discussion and Findings

The Applicant proposes to continue generating power under the current operational mode during the term of a new Project license, providing a dependable source of energy to the public power grid. The Applicant proposes no changes or additions to the existing turbine-generator units or other redevelopment activities. Based on the evidence on record, the Department determines that the Project operations meet the Class C designated use of hydroelectric power generation.

E. Drinking Water Supply (38 M.R.S. § 465(4)(A))

Class C standards indicate that water must be of sufficient quality to be used as drinking water after disinfection.

1) Discussion and Findings.

The Applicant did not submit information indicating that the Pejepscot Project impoundment or the Androscoggin River is used as a drinking water supply. However, water quality data collected for the Trophic State Study in the Project riverine impoundment and DO data collected downstream of the dam indicate that water quality meets State standards and there are no culturally induced algal blooms. Based on the evidence on record, the Department determines that the Project operations meet the Class C designated use of drinking water after disinfection.

F. Industrial Process or Cooling Water Supply (38 M.R.S. § 465(4)(A))

Class C standards indicate that water must be of sufficient quality to be used as industrial process or cooling water supply.

1) Discussion and Findings

The Applicant did not submit information indicating that there are any industrial process water uses in either the Pejepscot Project impoundment or the Androscoggin River downstream of the dam besides a cooling water supply for energy generation equipment at the Project. However, water quality data indicates that it would be suitable as an industrial process water supply in addition to its present use as a cooling water supply. Based on the evidence on record, the Department determines that the Project operations meet the Class C designated use of industrial process or cooling water supply.

G. Antidegradation (38 M.R.S. § 464(4)(F))

For this standard, the Applicant must demonstrate that the Project waters maintain existing in-stream water uses occurring on or after November 28, 1975. The Department may approve a WQC pursuant to Section 401 of the CWA if the standards of classification of the water body and the State's antidegradation policy are met, or for a project affecting a water body in which the standards are not met, if the Project does not cause or contribute to the failure of the water body to meet the standards of classification.[24]

1) Discussion and Findings

The Department finds that the Pejepscot Project was first developed for power generation in 1896 and included an original powerhouse. A second powerhouse, upstream fish passage facilities, and downstream fish passage facilities were constructed between 1985 and 1987. While structures have been replaced and maintained over time, in-stream uses are generally the same on and after November 1975 and include hydropower generation, recreation in and on the water including fishing and navigation, and as habitat for fish and other aquatic life. Based on the evidence on record, the Department determines that Project operations will meet the requirement of the antidegradation policy provide the Project is operated in accordance with the requirements and conditions of this WQC.

5. PUBLIC COMMENTS

On May 27, 2022, the Department issued a draft Order approving water quality certification for the continued operation of the existing Pejepscot Hydroelectric Project. At the Applicant's request, the Department provided a draft Order to the Applicant for comment. The Department also provided a draft Order to MDMR and Maine Department of Inland Fisheries and Wildlife. The deadline for comments was 5:00 P.M. on June 6, 2022. After the draft Order was issued for comments, but prior to the comment deadline, the Department received requests to review the draft Order from the Atlantic Salmon Federation (ASF) and the Natural Resources Council of Maine (NRCM). The Department provided a draft Order to those two groups. Maine Rivers contacted Department staff and requested a copy of the draft Order on June 7, 2022, and Department staff provided it. Additionally, Friends of Merrymeeting Bay (FOMB) obtained a copy of the draft order.

The Department received comments on the draft Order from the Applicant, ASF, FOMB, Maine Rivers, MDMR, and NRCM.

[24] 38 M.R.S. § 464(4)(F).

The Applicant's comments are generally minor corrections and are incorporated into the final Order, as appropriate.

MDMR comments that the draft Order does not provide assurances that fish passage will be effective enough to meet water quality standards, that it relies too heavily on the Applicant's Settlement Agreements with federal agencies, and that it is too deferential to the Applicant for critical decisions regarding fish passage measures. MDMR provides several suggested edits to the draft Order. MDMR recommends that separate performance standards be established for each alosine species (alewive, American shad, and blueback herring) rather than a single aggregate standard as proposed by the Applicant. The final Order has been modified to require the establishment of separate performance standards for each alosine species, which is consistent with the Applicant's stated goal to establish a comprehensive approach to safe, timely, and effective passage for all species at the Project.

The bulk of MDMR's remaining comments provide similar recommendations that it, or the Department, have review and approval authority for the various iterative steps in the Applicant's proposal for fish passage. Additional suggested edits include adding measures related to sea lamprey, including additional study requirements, modification to the description of the Department's findings related to fish passage, and modification to the reopener provision. The Department reviewed MDMR's comments on the draft Order and incorporated them into the final Order, as appropriate.

Comments from ASF, FOMB, Maine Rivers, and NRCM (conservation groups) dispute the application of Class C standards in this certification, and instead argue that the Department should apply the pending, but not yet effective, reclassification to Class B standards. The conservation groups also expressed concern with the adequacy of the fish passage measures proposed by the Applicant and required in this certification. The Department reviewed the conservation groups' comments on the draft Order and incorporated them into the final Order, as appropriate.

6. DEPARTMENT CONCLUSIONS

BASED on the above Findings of Fact and the evidence contained in the application and supporting documents, and subject to the conditions listed below, the Department CONCLUDES that the continued operation of the PEJEPSCOT HYDROELECTRIC PROJECT, as described above, will result in all waters affected by the project being suitable for all designated uses and meeting all other applicable water quality standards:

A. The Applicant provided sufficient evidence and the Department finds and determines that, as discussed in Section 4(A)(1) and (2), the Project meets the classification standards for aquatic habitat in the Project impoundment and in the outlet stream below the Project dam. The Department concludes that water discharged from the impoundment meets the classification standards for Class C waters.[25]

B. The Applicant provided sufficient evidence and the Department finds and determines that, as discussed in Section 4(A)(3) above and provided the Applicant complies with Conditions 3(A)-(C) below, Project operations related to fish passage will meet the narrative classification standards related to the designated use of habitat for fish and other aquatic life.[26]

C. The Applicant provided sufficient evidence and the Department finds and determines that the Androscoggin River in the Pejepscot Project impoundment and downstream of the Project dam meets the remaining narrative classification standards for Class C waters and is determined to be of such quality that it is suitable for the designated uses of drinking water after disinfection; recreation in and on the water; fishing; agriculture; industrial process and cooling water supply; hydroelectric power generation; and navigation.[27]

D. The Applicant provided sufficient evidence that DO concentrations in the Pejepscot Project impoundment meet the applicable Class C DO standard. The Applicant further provided evidence that DO concentrations in the Androscoggin River downstream of the Pejepscot dam meets the Class C standards of 60% of saturation and 5 parts per million all of the time. The Department concludes that the DO concentrations in the Androscoggin River meet applicable numeric Class C DO standards.[28]

E. The Applicant provided sufficient evidence and the Department finds and determines that existing in-stream uses which have actually occurred on or after November 28, 1975 and the level of water quality necessary to protect those uses are maintained. The Department concludes that the Project meets the state's antidegradation policy.[29]

[25] 38 M.R.S. § 465(4)(A).
[26] 38 M.R.S. § 465(4)(A) and 38 M.R.S. § 465(4)(C).
[27] 38 M.R.S. § 465(4)(A).
[28] 38 M.R.S. § 465(4)(B).
[29] 38 M.R.S. § 464(4)(F)(3).

7. DECISION AND ORDER

THEREFORE, the Department APPROVES the water quality certification of TOPSHAM HYDRO PARTNERS LIMITED PARTNERSHIP and CERTIFIES pursuant to Section 401(a) of the Clean Water Act that there is a reasonable assurance that the continued operation of the PEJEPSCOT HYDROELECTRIC PROJECT, as described above will not violate applicable Class C water quality requirements, SUBJECT TO THE FOLLOWING CONDITIONS:

1) WATER LEVELS

A. Except as temporarily modified by 1) approved maintenance activities, 2) extreme hydrologic conditions,[30] 3) emergency electrical system conditions,[31] or 4) agreement between the Applicant, the Department, and appropriate state and/or federal agencies, impoundment water levels must be maintained at 67.2 feet (0.3 feet below the top of the bascule gates). Project operation, described above in Section 1(D), may result in water level fluctuations up to 69.0 feet based on the operation of the bascule gates that are used to adjust the impoundment water level. High flow conditions beyond the Applicant's control may result in water levels exceeding 69.0 feet.

B. These conditions regarding water levels are necessary to ensure that the discharge from the Project will comply with water quality requirements, including those found at 38 M.R.S. § 465(4)(A) and as discussed above at Section 4(A) and (C). The water levels of the impoundment, which are determined by the discharge, affect, among other things, the water quality requirements of the designated uses of fishing; recreation in and on the water; navigation; and habitat for fish and other aquatic life.

[30] For the purpose of the certification and Order, extreme hydrologic conditions mean the occurrence of events beyond the Licensee's control such as, but not limited to, abnormal precipitation, extreme runoff, flood conditions, ice conditions, drought, or other hydrologic conditions such that operational restrictions and requirements contained herein are impossible to achieve or are inconsistent with the safe operation of the Project.

[31] For the purpose of this certification and Order, emergency electrical system conditions mean operating emergencies beyond the Licensee's control which require changes in flow regimes to eliminate such emergencies which may in some circumstances include, but are not limited to, equipment failure or other temporary abnormal operating conditions, generating unit operations or third-party mandated interruptions under power supply emergencies, and orders from local, state, or federal law enforcement or public safety authorities.

2) MINIMUM FLOWS

A. The Applicant must provide flow releases from the Pejepscot Hydroelectric Project in accordance with the Applicant's proposal in the FLA. Except as temporarily modified by 1) approved maintenance activities, 2) extreme hydrological conditions (see footnote 30), 3) emergency electrical system conditions (see footnote 31), or 4) agreement between the Applicant, the Department and appropriate state and/or federal agencies, the Applicant must provide a year-round minimum flow of 1,710 cfs or inflow, whichever is less. All required flows shall be the sum of generating flows from the powerhouse and bascule gates/leakage/spillage flows from the dam.

B. These conditions regarding minimum flows are necessary to ensure that the discharge from the Project will comply with water quality requirements, including 38 M.R.S. § 465(4)(A) as discussed above at Section 4(A) and (C). The flow of the discharge from the Project affects, among other things, whether the receiving waters are of sufficient quality to support the designated uses of fishing; recreation in and on the water; navigation; and habitat for fish and other aquatic life.

3) UPSTREAM and DOWNSTREAM FISH PASSAGE

A. The Applicant must consult with MDMR as part of and prior to determining whether interim nighttime shutdowns are an effective long-term protection measure for downstream passage of American eel.

B. With respect to passage for alosines (alewives, American shad, and blueback herring):

1. The Applicant must consult with MDMR as part of and prior to determining lift frequency and facility operating hours before each fish passage season.

2. The Applicant must consult with MDMR prior to establishment of final upstream and downstream performance standards. Final performance standards must be established for each individual alosine species (alewife, American shad, and blueback herring) as explained in Section 4(A)(3)(d) above. The Project must then be operated to achieve these final performance standards. Until the establishment of final performance standards following consultation with MDMR, the Applicant must operate the Project to achieve the anticipated performance standards identified in the NMFS Settlement

Agreement. Consistent with and as stated more fully in Section 4(A)(3)(d) above, the Applicant must evaluate achievement of the controlling performance standards and, if the Project does not meet the upstream or downstream performance standards, the Applicant must prepare a plan and schedule for additional modifications. The plan and schedule must also be submitted to the Department for review and approval within six months of effectiveness monitoring, conducted in accordance with the Applicant's proposals as reflected in the NMFS Settlement Agreement, showing the upstream or downstream performance standards are not being met.

C. Within 30 days of the issuance of a new license for the Project, the Applicant must submit a single plan detailing its proposed measures for both upstream and downstream fish passage to the Department for review and approval. The plan must be consistent with the Applicant's proposals as reflected in the Settlement Agreements and with the conditions of this Water Quality Certification, including, among other components, the consultation requirements in this Condition 3 as described more fully in Section 4(A)(3)(d). The Department will determine if additional consultation requirements are necessary when it reviews and approves the Applicant's plan.

D. As described more fully above in Section 4(A)(3)(d), and as required by Condition 3(A-C), this Certification requires the Applicant to consult with MDMR in several instances. During each required consultation, if MDMR provides written comments to the Applicant, then the Applicant must provide a written response to the Department for review within 60 days of receipt of MDMR's comments. The Applicant's response must identify any points of agreement and explain the basis for any areas of disagreement.

E. These conditions regarding fish passage measures are necessary to ensure that the discharge from the Project will comply with water quality requirements, including 38 M.R.S. § 465(4)(A) as discussed above at Sections 4(A) and (C). The nature of the Project's discharge affects, among other things, whether the receiving waters are of sufficient quality to support the designated uses of fishing and habitat for fish and other aquatic life, including use of all Project waters.

4) RECREATIONAL ACCESS AND USE

A. The Applicant must continue to provide formal and informal access to the Project waters upstream and downstream of the Project dam for the purpose of recreation in and on the water, for fishing, and for navigation to the extent possible, for the

term of a New License. The Applicant must submit a final Recreation Management Plan to the Department that provides for the maintenance and management of Project recreation sites.

B. This condition is necessary to ensure that the discharge from the Project will comply with water quality requirements, including 38 M.R.S. § 465(4)(A), as discussed above at Section 4(A) and (C). Because the discharge affects, among other things, the water level of the impoundment and the flow downstream of the dam, it necessarily affects the water quality requirements of the designated uses of fishing, recreation in and on the water, and navigation, among others.

5) WATER QUALITY

Upon any future determination by the Department that operation of the Pejepscot Project, as approved by the certification and as conditioned by FERC for the Project, may be causing or contributing to a decline in water quality or non-attainment of water quality standards, the Department reserves the right to, in its discretion and upon notice to the Applicant and opportunity for hearing in accordance with its regulations, reopen this certification to consider requiring modifications to the certification or additional conditions as may be deemed necessary by the Department to ensure that the Project does not cause or contribute to any decline in water quality or non-attainment of water quality standards.

6) STANDARD CONDITIONS

The Applicant must comply with all Standard Conditions attached to the certification, with such compliance to be determined by the Department.

7) LIMITS OF APPROVAL

This approval is limited to and includes the proposals and plans contained in the application and supporting documents submitted and affirmed to the Department by the Applicant. Any variations from the plans and proposals contained in said documents are subject to the review and approval of the Department prior to implementation.

8) COMPLIANCE WITH ALL APPLICABLE LAWS

The Applicant must secure and appropriately comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and Orders required

for the operation of the Project, in accordance with the terms and conditions of the certification, as determined by the Department.

9) EFFECTIVE DATE

This water quality certification will be effective concurrent with the effective date of the New License issued by FERC for the Project.

10) SEVERABILITY

In the event any provision, or part thereof, of this certification is declared to be unlawful by a reviewing court, the remainder of the certification will remain in full force and effect, and will be construed and enforced in all respects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

11) REOPENER

The Department reserves the right to, in its discretion and upon notice to the applicant and opportunity for a hearing in accordance with its regulations, reopen the certification for the Pejepscot Hydroelectric Project to consider requiring further modifications or additional conditions as may be deemed necessary by the Department to ensure that the Project does not cause or contribute to any non-attainment of water quality standards.

DONE AND DATED AT AUGUSTA, MAINE, THIS 8TH DAY OF JUNE, 2022.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:_____
For: Melanie Loyzim, Commissioner

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES.

KO/L007867SN/ATS87712

FILED
June 8th, 2022
State of Maine
Board of Environmental Protection

STANDARD CONDITIONS

1. Noncompliance. Should the project be found, at any time, not to be in compliance with any of the conditions of this approval, or should the permittee construct or operate this project in any way other than specified in the application or supporting documents, as modified by the conditions of this approval, then the terms of this approval will be considered to have been violated.

2. Inspection and Compliance. Authorized representatives of the Commissioner or the Attorney General must be granted access to the premises of the permittee at any reasonable time for the purpose of inspecting the operation of the project and assuring compliance with the conditions of this approval.

3. Assignment of Transfer of Approval. This approval will expire upon the assignment or transfer of the property covered by this approval unless written consent to transfer this approval is obtained from the Commissioner. To obtain approval of transfer, the permittee must notify the Commissioner 30 days prior to assignment or transfer of property which is subject to this approval. Pending Commissioner determination on the application for a transfer or assignment of ownership of this approval, the person(s) to whom such property is assigned or transferred must abide by all of the terms and conditions of this approval. To obtain the or Commissioner's approval of transfer, the proposed assignee or transferee must demonstrate the financial capacity and technical ability to (1) comply with all terms and conditions of this approval and (2) satisfy all other applicable statutory criteria.

   A "transfer" is defined as the sale or lease of property which is the subject of this approval or the sale of 50 percent or more of the stock of or interest in a corporation or a change in a general partner of a partnership which owns the property subject to this approval.

DEP INFORMATION SHEET

Appealing a Department Licensing Decision

Dated: August 2021 **Contact: (207) 314-1458**

SUMMARY

This document provides information regarding a person's rights and obligations in filing an administrative or judicial appeal of a licensing decision made by the Department of Environmental Protection's (DEP) Commissioner.

Except as provided below, there are two methods available to an aggrieved person seeking to appeal a licensing decision made by the DEP Commissioner: (1) an administrative process before the Board of Environmental Protection (Board); or (2) a judicial process before Maine's Superior Court. An aggrieved person seeking review of a licensing decision over which the Board had original jurisdiction may seek judicial review in Maine's Superior Court.

A judicial appeal of final action by the Commissioner or the Board regarding an application for an expedited wind energy development (35-A M.R.S. § 3451(4)) or a general permit for an offshore wind energy demonstration project (38 M.R.S. § 480-HH(1)) or a general permit for a tidal energy demonstration project (38 M.R.S. § 636-A) must be taken to the Supreme Judicial Court sitting as the Law Court.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

A person filing an appeal with the Board should review Organization and Powers, 38 M.R.S. §§ 341-D(4) and 346; the Maine Administrative Procedure Act, 5 M.R.S. § 11001; and the DEP's *Rule Concerning the Processing of Applications and Other Administrative Matters* (Chapter 2), 06-096 C.M.R. ch. 2.

DEADLINE TO SUBMIT AN APPEAL TO THE BOARD

Not more than 30 days following the filing of a license decision by the Commissioner with the Board, an aggrieved person may appeal to the Board for review of the Commissioner's decision. The filing of an appeal with the Board, in care of the Board Clerk, is complete when the Board receives the submission by the close of business on the due date (5:00 p.m. on the 30th calendar day from which the Commissioner's decision was filed with the Board, as determined by the received time stamp on the document or electronic mail). Appeals filed after 5:00 p.m. on the 30th calendar day from which the Commissioner's decision was filed with the Board will be dismissed as untimely, absent a showing of good cause.

HOW TO SUBMIT AN APPEAL TO THE BOARD

An appeal to the Board may be submitted via postal mail or electronic mail and must contain all signatures and required appeal contents. An electronic filing must contain the scanned original signature of the appellant(s). The appeal documents must be sent to the following address.

Chair, Board of Environmental Protection
c/o Board Clerk
17 State House Station
Augusta, ME 04333-0017
ruth.a.burke@maine.gov

The DEP may also request the submittal of the original signed paper appeal documents when the appeal is filed electronically. The risk of material not being received in a timely manner is on the sender, regardless of the method used.

At the time an appeal is filed with the Board, the appellant must send a copy of the appeal to: (1) the Commissioner of the DEP (Maine Department of Environmental Protection, 17 State House Station, Augusta, Maine 04333-0017); (2) the licensee; and if a hearing was held on the application, (3) any intervenors in that hearing proceeding. **Please contact the DEP at 207-287-7688 with questions or for contact information regarding a specific licensing decision.**

REQUIRED APPEAL CONTENTS

A complete appeal must contain the following information at the time the appeal is submitted.

1. *Aggrieved status*. The appeal must explain how the appellant has standing to bring the appeal. This requires an explanation of how the appellant may suffer a particularized injury as a result of the Commissioner's decision.
2. *The findings, conclusions, or conditions objected to or believed to be in error*. The appeal must identify the specific findings of fact, conclusions of law, license conditions, or other aspects of the written license decision or of the license review process that the appellant objects to or believes to be in error.
3. *The basis of the objections or challenge.* For the objections identified in Item #2, the appeal must state why the appellant believes that the license decision is incorrect and should be modified or reversed. If possible, the appeal should cite specific evidence in the record or specific licensing criteria that the appellant believes were not properly considered or fully addressed.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license to changes in specific license conditions.
5. *All the matters to be contested*. The Board will limit its consideration to those matters specifically raised in the written notice of appeal.
6. *Request for hearing.* If the appellant wishes the Board to hold a public hearing on the appeal, a request for hearing must be filed as part of the notice of appeal, and it must include an offer of proof regarding the testimony and other evidence that would be presented at the hearing. The offer of proof must consist of a statement of the substance of the evidence, its relevance to the issues on appeal, and whether any witnesses would testify. The Board will hear the arguments in favor of and in opposition to a hearing on the appeal and the presentations on the merits of an appeal at a regularly scheduled meeting. If the Board decides to hold a public hearing on an appeal, that hearing will then be scheduled for a later date.
7. *New or additional evidence to be offered.* If an appellant wants to provide evidence not previously provided to DEP staff during the DEP's review of the application, the request and the proposed supplemental evidence must be submitted with the appeal. The Board may allow new or additional evidence to be considered in an appeal only under limited circumstances. The proposed supplemental evidence must be relevant and material, and (a) the person seeking to add information to the record must show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process; or (b) the evidence itself must be newly discovered and therefore unable to have been presented earlier in the process. Requirements for supplemental evidence are set forth in Chapter 2 § 24.

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record.* A license application file is public information, subject to any applicable statutory exceptions, and is made accessible by the DEP. Upon request, the DEP will make application materials available to review and photocopy during normal working hours. There may be a charge for copies or copying services.

2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing the appeal.* DEP staff will provide this information upon request and answer general questions regarding the appeal process.
3. *The filing of an appeal does not operate as a stay to any decision.* If a license has been granted and it has been appealed, the license normally remains in effect pending the processing of the appeal. Unless a stay of the decision is requested and granted, a licensee may proceed with a project pending the outcome of an appeal, but the licensee runs the risk of the decision being reversed or modified as a result of the appeal.

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD

The Board will acknowledge receipt of an appeal, and it will provide the name of the DEP project manager assigned to the specific appeal. The notice of appeal, any materials admitted by the Board as supplementary evidence, any materials admitted in response to the appeal, relevant excerpts from the DEP's administrative record for the application, and the DEP staff's recommendation, in the form of a proposed Board Order, will be provided to Board members. The appellant, the licensee, and parties of record are notified in advance of the date set for the Board's consideration of an appeal or request for a hearing. The appellant and the licensee will have an opportunity to address the Board at the Board meeting. The Board will decide whether to hold a hearing on appeal when one is requested before deciding the merits of the appeal. The Board's decision on appeal may be to affirm all or part, affirm with conditions, order a hearing to be held as expeditiously as possible, reverse all or part of the decision of the Commissioner, or remand the matter to the Commissioner for further proceedings. The Board will notify the appellant, the licensee, and parties of record of its decision on appeal.

II. JUDICIAL APPEALS

Maine law generally allows aggrieved persons to appeal final Commissioner or Board licensing decisions to Maine's Superior Court (see 38 M.R.S. § 346(1); 06-096 C.M.R. ch. 2; 5 M.R.S. § 11001; and M.R. Civ. P. 80C). A party's appeal must be filed with the Superior Court within 30 days of receipt of notice of the Board's or the Commissioner's decision. For any other person, an appeal must be filed within 40 days of the date the decision was rendered. An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. See 38 M.R.S. § 346(4).

Maine's Administrative Procedure Act, DEP statutes governing a particular matter, and the Maine Rules of Civil Procedure must be consulted for the substantive and procedural details applicable to judicial appeals.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, for administrative appeals contact the Board Clerk at 207-287-2811 or the Board Executive Analyst at 207-314-1458 bill.hinkel@maine.gov, or for judicial appeals contact the court clerk's office in which the appeal will be filed.

Note: This information sheet, in conjunction with a review of the statutory and regulatory provisions referred to herein, is provided to help a person to understand their rights and obligations in filing an administrative or judicial appeal. The DEP provides this information sheet for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.