



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

IN THE MATTER OF

BROOKFIELD WHITE PINE HYDRO LLC)	MAINE WATER QUALITY PROGRAM
Lewiston, Auburn, and Durham)	
Androscoggin County)	CLEAN WATER ACT
LEWISTON FALLS HYDROELECTRIC)	
PROJECT)	
L-29808-33-D-N (approval)	) WATER QUALITY CERTIFICATION

Pursuant to the provisions of 38 M.R.S. § 464, *et seq.*, Section 401 of the Clean Water Act (CWA), 33 U.S.C. § 1341, and Department Rules 06-096 C.M.R. Chapters 579-582, the Department of Environmental Protection (Department) has considered the application for Water Quality Certification (WQC) of Brookfield White Pine Hydro LLC (the Applicant or BWPH), with all supporting data, agency review comments, public comments, and other related materials in the administrative record. Based on its best professional judgment and expertise, the Department makes the following findings of fact and conclusions.

I. APPLICATION SUMMARY

A. Application

In this certification decision, the Department evaluates whether WQC may be approved for the proposed relicensing of the Lewiston Falls Hydroelectric Project. On July 9, 2025, BWPH applied to the Department for WQC pursuant to Section 401 of the CWA for the proposed relicensing and continued operation of the existing Lewiston Falls Hydroelectric Project P-2302 (Lewiston Falls Project or Project), located on the Androscoggin River in the Towns of Lewiston, Auburn, and Durham, Androscoggin County, Maine. The application was accepted for processing on July 9, 2025.

B. History

The site of the current Lewiston Falls Project was originally developed for hydroelectric power in 1862. The existing dam consists of five sections: four stone-masonry dams constructed between 1862 and 1865, and a fifth dam, a concrete section that was constructed in 1956. A small section of concrete, now referred to as the “Island Cap,” was installed in 1920 to replace eroded bedrock.

On June 6, 1986, the Department issued a Maine Waterway Development and Conservation Act (MWDCA) permit and WQC for the construction of a hydroelectric generating facility at the Lewiston Falls Project, and the continued operation of six existing hydroelectric generating facilities known as the Lewiston Canal System. The WQC, #L-009206-35-A-N, was issued to Central Maine Power Company (CMP) and Union Water Power Company, who owned and operated the Project at the time. This Order was subsequently amended in 2008.

On December 24, 1998, Department Order #L-9206-35-N-T was issued for the license transfer of the Lewiston Falls Project from CMP and Union Water Power Company to FPL Energy Maine Hydro, LLC.

Department Order #L-9206-35-U-B was issued on April 19, 2017, for the removal of the Lewiston Canal System from the Project and to convey the canal system to the City of Lewiston for non-hydropower redevelopment and public use.

The first and current license issued for the Project by the Federal Energy Regulatory Commission (FERC) was issued on September 29, 1986, for a term of 40 years and expires on August 31, 2026. The name of the Applicant was changed to Brookfield White Pine Hydro LLC on July 29, 2013.

BWPH filed a Final License Application with FERC for the Lewiston Falls Project on August 27, 2024, and filed a WQC application with the Department on July 9, 2025.

C. Existing Project Features

The Lewiston Falls Project is located at river mile 30.8 on the Androscoggin River. There are 22 hydroelectric project dams on the mainstem of the Androscoggin River. The Project is situated between the upstream Gulf Island-Deer Rips Project and the downstream Worumbo Project.

The existing Project consists of a multi-section dam, a 169-acre impoundment, a powerhouse containing two generating units with an authorized installed capacity of 28.44 megawatts (MW), a canal gatehouse that regulates water into the Lewiston Canal, an equipment building, 12.5-kilo Volt (kV) generator leads, a 12.5/34.5-kV, 30 megavolt-amperes (MVA) transformer, a short 34.5-kV service-drop, and appurtenant facilities.

- 1) *Project Dams*: The dams consists of five sections with an elevation of 168.17 feet NGVD.¹ The four stone masonry dams, referred to as dam 1, dam 2, dam 3, and dam 4, are integrated into ledge outcroppings and islands to form a continuous barrier across the river, with a maximum height of 23 feet. Dam 5 has a maximum height of four feet with a fixed crest elevation of 166.83 feet. This crest is fitted with steel pins that support the 1.34-foot-high flashboards. The Island Cap is a concrete section abutted by bedrock and the left abutment of dam 3.

Dam 1 extends 154 feet from the Auburn shore to a ledge outcrop in the river. Beyond the outcrop, dam 2 stretches nearly 279 feet to a large island in the middle of the river. Dam 3 runs about 161 feet from the southern end of the island to the Island Cap and dam 5. Dam 4 extends about 279 feet to the northerly side of the Equipment Building on the Lewiston Shore. A single rubber dam is installed on each of dam 1, dam 2, and dam 3. Two separate bladder sections are installed on dam 4.

When the rubber dam sections are deflated, the crest of each spillway section is at an elevation of 164.17 feet. The crest of the rubber dams on dams 1 and 2, when fully inflated, is at an elevation of 169.07 feet. The crest of the rubber dams for dam 3 and dam 4 is at an elevation of 168.6 feet. The inflatable rubber dams serve as crest gates and are designed to maintain the existing normal pond elevation of 168.17 feet. The rubber dams are designed to deflate when the headwater reaches approximately 20 percent overtopping at approximately 169.95 feet. Dam 5 is topped with 1.34-foot-high flashboards.

- 2) *Project Impoundment*: The impoundment area extends upstream approximately 2.5 miles and covers an area of approximately 169 acres. The gross storage volume of the impoundment is approximately 2,102 acre-feet at the full pond elevation of 168.17 feet.
- 3) *Canal Gatehouse*: The canal gatehouse is located about 550 feet to the southeast of Monty Station, which serves as the intake and flow regulating structure for the Lewiston Falls Canal System. The gatehouse measures about 112 feet long and 26 feet wide.
- 4) *Powerhouse and Intake*: The powerhouse (Monty Station) is located at the east end of the falls on the Lewiston side of the river. The powerhouse is a

¹ All elevations are in National Geodetic Vertical Datum (NGVD) of 1929, unless otherwise specifically noted.

reinforced concrete structure constructed in-ledge that contains two vertical Kaplan generating units. Each turbine is rated at 18,000 horsepower (hp) under a 54-foot gross head and can pass up to 3,000 cubic feet per second (cfs). Each of the turbines is directly coupled to a 15,800 kilovolt-ampere (kVA) synchronous generator, with a power factor of 0.90. The total installed capacity of both generators is 28.44 MW.

The powerhouse intake is a section of reinforced concrete measuring 85 feet long, 2 inches wide by approximately 40 feet high. The intake opening is covered by trash racks that are 35 feet, 9 inches high. The trash racks are constructed of 0.75-inch bar steel at 4 inches on its center, resulting in a clear spacing of 3.25 inches. The intake contains four intake tubes, each 16 feet, 9.5 inches wide.

- 5) *Tailrace*: The Monty Station tailrace is a deep channel excavated into rock ledge. The tailrace channel is approximately 400 feet long and 75 feet wide. Substrate in the tailrace is solid bedrock.
- 6) *Fish Passage Facilities*: There are currently no upstream or downstream fish passage facilities at the Lewiston Falls Project.
- 7) *Recreation Facilities*: There are three FERC-approved Project recreation sites at the Lewiston Falls Project: The West Pitch Park Overlook, the Lewiston Falls Impoundment Boat Launch, and the Durham Boat Launch.

D. Existing Project Operations

Generation at the Lewiston Falls Project is coordinated with Brookfield's Gulf Island-Deer Rips Project, located approximately five miles upstream of Lewiston Falls. Lewiston Falls is normally operated as run-of-river, with impoundment fluctuations of one foot or less, daily. However, the Project is licensed to operate with up to four feet of impoundment fluctuation (between 168.17 feet and 164.17 feet) to allow for adjustments between inflow and minimum flow requirements, or to respond to operating emergencies or maintenance activities. The Lewiston Falls impoundment has a gross storage capacity of 2,102 acre-feet, and 642 acre-feet of that is usable storage.

The maximum hydraulic capacity of the Project's generating units is 6,600 cfs, and the minimum hydraulic capacity of a single unit is approximately 800 cfs. Flows in excess of the powerhouse capacity are spilled at the dam. The inflatable rubber bladders on dams 1, 2, 3, and 4 serve as crest gates and are designed to maintain

the existing normal pond elevation of 168.17 feet. The gates will automatically deflate when the headpond reaches approximately 20 percent overtopping of the rubber dam at an approximate elevation of 169.95 feet.

The Project is operated to provide a minimum flow of 1,430 cfs or inflow, whichever is less. The minimum flow for the Lewiston Canal System is 50 cfs. Any flows provided through the Canal System are considered part of the total 1,430 cfs required minimum flow. Additionally, under agreement with the City of Lewiston, BWPH provides periodic canal “refreshment flows” of 300 cfs (including the canal minimum flow) in accordance with a Stagnation Prevention Plan.

E. Project Proposals

No new power development structures or generating facilities are proposed in the license application² for the Project.

The Applicant proposes to remove a non-Project building from the boundary, which will remove 0.08 acres from the existing Project boundary.

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

The Project is located at river mile 30.8 on the Androscoggin River. The Applicant proposes the following regarding operation, minimum flow, and impoundment levels:

- 1) BWPH proposes to continue operating the Project as essentially run-of-river, with target impoundment fluctuations of one foot or less, on a daily basis, during the period of May 15 through June 30, but with the ability to operate with up to four feet of impoundment fluctuations during the rest of the year.
- 2) BWPH proposes to maintain the current minimum flow of 1,430 cfs, or inflow, whichever is less, of which 50 cfs is through the Lewiston Canal System. For the purpose of providing aesthetic flows over the falls, BWPH proposes to provide approximately 2,000 to 2,500 cfs over the falls, from either dam 1 or 3, six times each year during the months of July through September, between the hours of 10:00 AM and 4:00 PM.

² The Final License Application is expressly incorporated into the WQC application, as supplemented by BWPH.

II. JURISDICTION

The proposed continued operation of the Lewiston Falls Project qualifies as an “activity...which may result in (a) discharge into the navigable waters [of the United States]” under Section 401 of the CWA, 33 U.S.C. § 1341. Section 401 of the CWA requires that an 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 the Department to issue a WQC pursuant to Section 401 of the CWA when the continued operation of a project will maintain the standards of classification for the affected water bodies, including the State’s antidegradation policy, 38 M.R.S. § 464(4)(F)(3).

State WQC for the Lewiston Falls Project was last issued by the Department on June 6, 1986. 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 Department is the certifying agency for the Project. Executive Order No. 2 FY 96/97.

The Lewiston Falls Project is licensed by FERC as a hydropower project under the Federal Power Act (FERC Project No 2302). The initial FERC license was issued on September 29, 1986, and expires on August 31, 2026. BWPH has filed an Application for New License with FERC to continue to operate the project for another 40 years. That application is currently pending before FERC.

III. 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 Class C waters from its confluence with the Ellis River to the Worumbo Dam in Lisbon Falls. 38 M.R.S. § 467(1)(A)(2).

B. Designated Uses

The Applicant must demonstrate that the Lewiston Falls Project 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):

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 a habitat for fish and other aquatic life.

C. Numeric Standards

The Applicant must demonstrate that the Lewiston Falls Project Impoundment and the Androscoggin River below the Project meet the following Class C numeric standards set forth in 38 M.R.S. § 465(4)(B):

The dissolved oxygen (DO) content of Class C water may not be less than 5 parts per million or 60 percent 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.

D. Narrative Standards

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

- 1) 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. 38 M.R.S. § 465(4)(C).
- 2) Hydropower facilities managed under riverine classifications under 38 M.R.S. § 465 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 § 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 do not significantly affect existing energy generation capability. 38 M.R.S. § 465(4)(10)(C).

E. Antidegradation

The Department may only approve WQC if the standards of classification of the water body and the requirements of the State's antidegradation policy will be met. The Department may approve WQC for a project affecting a water body in which the standards of classification are not met if the project does not cause or contribute to the failure of the water body to meet the standards of classification. 38 M.R.S. § 464 (4)(F)(3).

F. Department Rules

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

- 1) 06-096 C.M.R. 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 C.M.R. chapter 580: Regulations Relating to Sampling Procedures and Analytical Procedures.

This rule establishes standards whereby all sampling and analysis are performed according to accepted technical procedures for chemical and biological analysis.

- 3) 06-096 C.M.R. chapter 581: Regulations Relating to Water Quality Evaluations.

This rule, among other things, provides for the maintenance of water classifications by computing the assimilative capacity of the waters to break down waste and provides for the maintenance of zones of passage for free-swimming and drifting organisms.

IV. DEPARTMENT ANALYSIS

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

The Applicant must demonstrate that the Lewiston Falls impoundment and the Androscoggin River below the Project are suitable for the designated use of habitat for fish and other aquatic life. Conformance with the aquatic habitat designated use is determined by methods described in the Department's *Hydropower Project Flow and Water Level Policy*, dated February 4, 2002 (Water Level Policy). Under this policy guidance, the Department operates under the rebuttable presumption that a flow that provides wetted conditions in a weighted average of 3/4ths of the cross-sectional area of the affected river or stream, as measured from bankfull conditions, or a water level that provides wetted conditions for 3/4ths of the littoral zone³ of a lake or pond, as measured from full pond conditions, meets aquatic life and habitat standards. On a case-by-case basis, the Department may approve alternative flows or water levels under circumstances defined in the Water Level Policy, where the alternative flows or water levels can be shown to meet all applicable water quality standards.

The Applicant also must demonstrate that the Androscoggin River is of sufficient quality to support all species of fish indigenous to the receiving waters and to maintain the structure and function of the resident biological community in accordance with applicable narrative and numeric aquatic life standards. The resident biological community means aquatic life expected to exist in a habitat that is free from the influence of the discharge. 38 M.R.S. § 466(10). Accepted biomonitoring techniques with respect to rivers and streams are established in Department rule, 06-096 C.M.R. ch. 579, *Classification Attainment Evaluation Using Biological Criteria for Rivers and Streams* (effective May 27, 2003) (Chapter 579). Criteria to quantify aquatic life standards for Class AA, A, B, and C waters use the benthic macroinvertebrate community as a surrogate to determine classification attainment. Chapter 579 addresses how benthic macroinvertebrate samples must be collected and the process for analyzing these samples using the linear discriminant model to evaluate whether the sampled river or stream is in

³ The "littoral zone" of lakes and lake-like water bodies 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 that receives approximately 1 percent of incident light (Cole, 1978). 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.

Cole, GA. (1978) *Textbook of Limnology*, 2nd Ed. 165, St. Louis, MO.

Tyler, JE. (1968) *The Secchi disk, Limnology and Oceanography* 13(1): 1-6.

attainment. The selection of sampling sites, as well as data collection and processing, must be in conformance with the Department's Methods for Biological Sampling and Analysis of Maine's Rivers and Streams. Ch. 579, § 3(A).

1) Aquatic Habitat and Aquatic Life - Riverine Impoundment (38 M.R.S. § 465(4)(A), (C); 38 M.R.S. § 464(10)(C))

a. Existing Habitat and Resources

The Lewiston Falls impoundment extends approximately 2.5 miles upstream of the Project dam and has a surface area of 169 acres at a normal full pond elevation of 168.17 feet. The gross storage capacity is 2,102 acre-feet, and 642 acre-feet of that is usable storage. Generation at the Lewiston Falls Project is coordinated with Brookfield's Gulf Island-Deer Rips Project, located five miles upstream from Lewiston Falls. The Project is normally operated as run-of-river, with impoundment fluctuations of one foot or less, daily. However, the Project is licensed to operate with up to four feet of impoundment fluctuation to allow for adjustments between inflow and minimum flow requirements, for maintenance, or in response to operating emergencies, as needed.

b. Studies

The Applicant completed Impoundment Trophic State Studies in 2022 to determine the extent to which Project operations may affect the littoral zone and to assess the ability of the riverine impoundments to support habitat for fish and other aquatic life.

Secchi disk transparency (SDT), dissolved oxygen (DO), temperature, and water chemistry data were collected twice a month from May 31, 2022, to October 19, 2022. The impoundment monitoring location was approximately 15 meters deep throughout the study. Water temperature and DO profiles were taken at 1-meter intervals to 0.5 meters above the bottom. The bottom of the epilimnion was approximately 11 meters below the surface, and the bottom of the profile was observed at 14.7 meters on July 8. Integrated epilimnetic core samples were collected for total phosphorus, chlorophyll-a, color, pH, and total alkalinity throughout the monitoring period, and additional parameters were collected in August.

Total phosphorus in the Lewiston Falls impoundment ranged from 14 to 32 micrograms per liter ($\mu\text{g/L}$) with an average of 19.4 $\mu\text{g/L}$. Color ranged from 4 to

34 plutonium cobalt units (PCU) with an average of 22.8 PCU. Chlorophyll-*a* ranged from 0.001 to 0.005 milligrams per liter (mg/L). The SDT at the deep spot in the Lewiston Falls impoundment ranged from 1.14 meters to 4.34 meters, with an average of 3.14 meters. Total alkalinity ranged from 5 mg/L to 15 mg/L. Using the average Chlorophyll-*a* concentration for the entire sampling period (0.003), the Trophic State Index (TSI) for the Lewiston Falls impoundment is 39.8, which is categorized as mesotrophic.

Trophic parameter results are summarized below:

Table 1: Sampling Location LF-1 Results

Parameter	Range	Average
Secchi Disk Transparency (meters)	1.14 to 4.34	3.14
Color (Standard Plutonium-Cobalt Units)	4 to 34	22.8
Chlorophyll- <i>a</i> (mg/L or ppb)	0.001 to 0.005	0.003
Total Phosphorus (µg/L)	14 to 32	19.4

DO values in the impoundment were above the Class C standard of 5 mg/L and 60 percent saturation throughout the water column for all sampling events, except for the July 8 and July 20 events. On July 8, all low DO values were observed below the point of thermal stratification, and on July 20, one low DO reading was observed within 0.5 meters of the bottom. The DO and temperature profiles show that the impoundment was only thermally stratified on July 8. Low DO levels below 5 mg/L were only observed below 12 meters during this sampling event. DO values in the epilimnion of the impoundment were above 5 mg/L and 60 percent saturation throughout the study period, indicating that the DO in the Project impoundment meets Class C Standards.

c. Discussion and Findings

DO and temperature profiles indicate that the impoundment was stratified during one of the 10 sampling events and DO was above 5 mg/L and 60 percent saturation throughout the water column for all sampling events except two. Based on the sampling results and information contained within the WQC application, the Project impoundment meets applicable Class C water quality standards and is free of culturally induced algal blooms. Trophic data indicate that the impoundment is in the mesotrophic range. The Department finds that the Lewiston Falls impoundment meets the applicable aquatic habitat criteria.

Following Department protocol, the littoral zone was defined as the elevation range of 168.17 feet NGVD29 (licensed normal impoundment elevation) to 143.37 feet NGVD29 based on twice the mean summer SDT obtained from the Impoundment Trophic State Study. The Applicant provided the volume, surface area, and percent of the littoral volume and surface area maintained for various impoundment elevations, including the normal full pool impoundment elevation (168.17 feet), the typical one-foot operating range, the licensed four-foot impoundment maximum level fluctuation elevation (164.17 feet), and the bottom of the littoral zone (143.37 feet).

At four feet below the normal impoundment level, approximately 90.4 percent of the littoral surface area is maintained. The Applicant states that an analysis of hourly project operations data obtained from the Project's Supervisory Control and Data Acquisition system for 2017 through 2021 shows that an impoundment elevation of 164.17 (four feet below full pond) occurred only twice during that period and was for the purposes of Project maintenance and to maintain downstream minimum flows during a period of drought.

The Department's Division of Environmental Assessment (DEA) commented that if a drawdown of four feet is necessary for certain maintenance activities or severe drought conditions, those activities and conditions should be clarified in the license so that drawdowns occur under very limited circumstances. Regardless, under a four-foot drawdown, more than 75% of the littoral zone surface area is maintained. The Applicant proposes to target impoundment fluctuations of one foot or less on a daily basis during the period of May 15 through June 30 for bass spawning, but with the ability to operate with up to four feet of impoundment fluctuation during the rest of the year to allow for adjustments between inflow and minimum flow requirements, or in response to operating emergencies or maintenance activities as needed.

The Department finds that when the Project operates with a fluctuation of four feet or less, the Project maintains at least 75 percent of the littoral zone surface area in wetted conditions in the impoundment, demonstrating that an adequate zone of passage for aquatic species is maintained upstream of the Project, at the Project minimum flow, and that sufficient depth exists to maintain aquatic habitat. Except for fish passage, which is discussed separately below in Section IV(A)(3), based on the evidence provided by the Applicant, the Department, applying Chapter 579 and its best professional judgment, determines that the impoundment upstream of the Project dam meets the applicable aquatic life and habitat criteria. Based on the evidence provided and application of the Department's Water Level Policy, the Department finds that impoundment fluctuations of four feet or less maintain at least 75 percent of the littoral zone surface area in wetted conditions, which is

sufficient to support Class C designated uses for aquatic life and habitat.

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

To meet Class C aquatic life standards in the riverine outlet waters, the Applicant must demonstrate three 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 (BMI) 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 percent of the cross-sectional area of the affected river or stream, as measured from bankfull conditions, meets aquatic habitat standards. The Applicant can demonstrate attainment of these standards by providing evidence that 75 percent 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 judgment, is also reflected in the Department's Water Level Policy.

Third, the Applicant must demonstrate that the water flowing through and over the dam, which discharges into the Androscoggin River, supports indigenous species and does not cause adverse impacts to aquatic life. This requires showing that the discharge from the dams 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. This is discussed below in Section IV(C).

a. Existing Habitat and Resources

The Monty Station tailrace is a deep channel excavated into rock ledge. The tailrace channel is approximately 400 feet long and 75 feet wide. Substrate in the tailrace is solid bedrock. In the falls area, water spills onto the ledges when river flows exceed the maximum capacity of the Project's generating units (approximately 6,600 cfs) or falls below one of the unit's capacities to generate (approximately 850 cfs). During periods of no spill, flow into the reach is provided by leakage. The falls area downstream of dam 1 and dam 2 consists of a relatively

larger ledge pool, and smaller pools scattered amongst the solid ledge. The riverbanks are heavily altered by surrounding structures, including parks, roads, and bank armoring. The right bank (looking downstream) of the river is characterized by riprap along the Auburn Riverwalk boat launch. Further downstream, the left side of the river consists of riprap followed by mowed area within Simard-Payne Memorial Park. Across the river on the right side, the banks are steep and undercut, and appear to be modified to support the Auburn Riverwalk. Further down the river just below the Cedar Street Bridge (also known as Bernard Lown or Lown Bridge), there are very steep forested banks on both sides.

b. Studies

The Applicant completed benthic macroinvertebrate sampling consistent with the Department's *Methods for Biological Sampling and Analysis of Maine's Rivers and Streams*. The sampling included two locations downstream of Lewiston Falls, located along both shorelines at a point approximately 450 feet downstream of Monty Station. Macroinvertebrate samplers were installed on July 13 and retrieved 28 days later, on August 10, 2022. Department staff analyzed the resulting data using the Department's linear discriminant model and found that both sites met aquatic life criteria for Class C.

To maintain adequate habitat for aquatic life, the Department's Water Level Policy requires that a weighted average of 75 percent of an affected river/stream cross-sectional area, as measured from bankfull conditions, be wetted at all times. On a case-by-case basis, alternative flows may be established if it can be demonstrated that all applicable water quality standards are met, including standards for aquatic life.

Due to the steep gradient and complex ledge pools just below the dams, it was not possible to determine the bankfull elevation in the falls area; the ledge area below the dams does not exhibit typical characteristics of a river channel. Additionally, developing a relationship between water level and discharge in the larger pool is not possible because water flows from various angles over the multiple Project dams. This area could not be evaluated using the Department's standard 75 percent wetted width or cross-sectional area analysis. Therefore, the Applicant conducted an additional aquatic habitat evaluation of the ledge pool to characterize existing habitat conditions during non-spill conditions. Aquatic habitat mapping of the ledge area below the dams was completed on July 6, 2022, when there was no additional spillage onto the ledges aside from typical leakage. The ledges

consist of runs,⁴ riffles,⁵ cascades, pools, and backwater. The primary leakage pathway through the ledges below the dams was observed along river left downstream of Dam 4, with the main source appearing to originate near Dam 5. The average water depth in the run was estimated to be approximately 1 foot, and the length was approximately 40 ft, while maximum depth was observed to be approximately 3.5 feet. In the riffle, average water depth was estimated to be approximately 0.5 feet and the length was approximately 20 feet, while the maximum depth was observed to be approximately 1.5 feet. Although the riffle and the run through the primary small channel exhibited occasional diverse substrates, most of the ledge area exhibited a lack of diverse substrates and was dominated by bedrock and standing pools. The dominance of bedrock, high gradient, and lack of overhead cover in these areas provides limited aquatic habitat regardless of flow conditions.

The Applicant conducted a downstream cross-sectional flow study below the falls in consultation with the Department from July 7, 2022, to October 19, 2022. Three transects were chosen, and all three were found to be heavily altered by surrounding structures, including parks, roads, and bank armoring. Due to the modified nature of the riverbanks downstream of the Project, it was not possible to determine an accurate bankfull elevation using the typical indicators. While typical indicators were used to identify the bankfull elevation in the field at the three transects, inconsistencies with bankfull elevation between the three were observed. Given the inaccuracies observed, calculating bankfull cross-sectional area using the field measured bankfull elevations would not provide an accurate assessment of bankfull conditions downstream of the Project. Transect and water level data were instead used to compute average and maximum depth at the Project minimum flows, as well as wetted widths. Wetted widths at Project minimum flows were compared to the bankfull width. The results demonstrate that an adequate zone of passage for aquatic species is maintained downstream of the Project at the minimum flow with sufficient depth to maintain aquatic habitat.

At the minimum project flow of 1,380 cfs, average depth, maximum depth, and percent wetted bankfull width for the three downstream transects are summarized below:

Table 2: Downstream Cross-Sectional Flow Study Results

	Average Depth (feet)	Maximum Depth (feet)	Wetted Bankfull Width (percent)
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⁴ The run is an area identified in the additional aquatic habitat evaluation that is located between two cascades and consists of boulder, cobble, and small gravel, and has decent flow through the area.

⁵ The riffle is an area adjacent to the run, between two cascades on the ledges to form a primary channel.

Transect 1	4.4	8.8	98.2
Transect 2	11.1	16.7	91.0
Transect 3	10.8	21.5	98.2

In 1991, a report was prepared by CMP summarizing the results of an Instream Flow Study conducted in the reach of the Androscoggin River from the Gulf Island Dam to the Worumbo Project impoundment. The original purpose of the study was to analyze the continuous minimum flow requirements needed from the Gulf Island-Deer Rips and Lewiston Falls Projects to mitigate the effects of Gulf Island peaking operations on aquatic resources downstream of the Projects. The study was later expanded to include analysis of the whole flow regime controlled by the Gulf Island Project in combination with the operation of the Lewiston Falls Project (both minimum flows and plant design flows). The study utilized Instream Flow Incremental Methodology (IFIM) and included four transects in Dresser's Rips as well as four transects farther downstream of Dresser's Rips in a reach known as Run Reach (approximately 6.5 miles downstream of Lewiston Falls). The study evaluated habitat for American shad, Atlantic salmon, brown trout, and smallmouth bass. Flows evaluated in the IFIM study included low flows between 575 and 3,635 cfs, as well as a high flow component, which evaluated flows up to 15,000 cfs. Field data collected as a part of the study indicate that the Androscoggin River downstream of Lewiston Falls is between 300 ft and 800 ft wide. Cross-sectional figures included in the report show that even at minimum flows, the Androscoggin River maintains deep and wide characteristics, and that an adequate zone of passage for fish exists at a wide range of flows. Additionally, flows released at Lewiston Falls are augmented by contributing flows from the Little Androscoggin River. The overall results of the study indicated that the channel structure of the Androscoggin River downstream of Lewiston Falls is such that most of the transects maintain at least one foot of depth over the entire channel and still allow access to the main channel from small tributaries, even at flows of 1,100 cfs.

Additionally, in 2014, the Applicant conducted an instream flow demonstration assessment to evaluate the effects of peaking operations at the Gulf Island Project (which is transferred through the run-of-river operation of the Lewiston Falls Project) on riverine habitat downstream of Lewiston Falls. In October 2014, four cross-river transects (0.2, 0.3, 0.5, and 0.75 miles downstream of Lewiston Falls) were visited under both minimum flow conditions (2,421 cfs) and during a period of Project generation (7,812 cfs). Overall, the study concluded that, based on recorded depths at the four transect locations, peaking operations at Gulf Island that are translated downstream due to the run-of-river operation of Lewiston Falls do not significantly impact wetted habitat downstream of the Project. Additionally,

an adequate channel for fish passage existed under both operating scenarios. Further study at the four transects in 2015 showed that water level fluctuations become increasing attenuated further downstream, with the most downstream transect exhibiting the lowest potential fluctuation rate.

c. Discussion and Findings

The Department finds that the Lewiston Falls ledge area just below the dams consists mostly of high gradient, bedrock ledge. This high gradient bedrock creates poor habitat conditions for fish and most aquatic invertebrates at any flow. High gradient bedrock is not characterized by a diverse and abundant vegetative and biotic community that supports a resident aquatic community. Whether at the flows proposed by the Applicant or at higher flows, the water at the falls will be equally suitable for the designated use of habitat for fish or other aquatic life. The Department therefore finds that the proposed minimum flow of 1,380 cfs will not cause adverse impacts to aquatic life.

The Department finds that the tailrace is composed of a 400-foot-long and 75-foot-wide solid bedrock trailrace channel. The DEA reviewed the downstream aquatic habitat data the Applicant provided and found that the minimum flow of 1,380 cfs appears to provide adequate depth and wetted width to meet the Department's Water Level Policy. The Department finds that the minimum flow meets Class C aquatic habitat and life criteria.

Further, the Department finds that the sample sites submitted for the Benthic Macroinvertebrate Study meet Class C standards for aquatic life. The Applicant demonstrated through the 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 studies conducted by the Applicant demonstrate, and the Department finds, that the existing Project flow regime maintains and supports habitat for aquatic species in the Androscoggin River downstream of the Project.

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

Lewiston Falls is normally operated as a run-of-river project, with all the water of the Androscoggin River flowing through or over the dams and discharging to the river. By influencing water flow, dams and their discharges affect the ability of fish to pass through the section of the river where the dams are located. By influencing

fish passage, the dams and their discharge affect the resident biological community in the Androscoggin River.

For the Applicant to satisfy applicable State water quality standards, the Applicant must demonstrate that the water flowing through and over the Lewiston Falls Project, which discharges into the Androscoggin River, supports indigenous species and does not cause adverse impacts to aquatic life. This requires demonstrating that the dam's discharge supports safe, timely, and effective upstream and downstream fish passage. Safe, timely, and effective fish passage is necessary to achieve Class C standards by ensuring the receiving waters are 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.

a. Existing Habitat and Resources

The fish assemblage in the Androscoggin River reflects natural and anthropogenic gradients from its upper reaches in New Hampshire to the tidal waters near Brunswick, Maine. The Androscoggin River has a steep gradient, dropping more than 1,200 vertical feet from its origin at Lake Umbagog to tidewater. There are five major cascades in the drainage basin: Great Falls (Brunswick), Lewiston Falls, Rumford Falls, Snow Falls, and Biscoe Falls. These cascades exist as natural barriers to diadromous fish movement upstream within the watershed. Upstream of Rumford Falls, the river is referred to as the Upper Androscoggin. This section is managed for recreational cold-water salmonid fishing. Although wild populations of brook and rainbow trout contribute to the fishery, it is dependent on the annual stocking of brook, rainbow, and brown trout. Downstream of Rumford Falls, including the Lewiston Falls Project area, the fish assemblage consists primarily of a warmer-water community, with a greater prevalence of lentic species.

The historic extent of upstream passage for American shad, river herring,⁶ striped bass, and possibly sea lamprey has been reported to be Lewiston Falls. Rumford Falls was the historic natural barrier to Atlantic salmon. The historic upstream limit of American eel is unknown. Some American eel, Atlantic salmon, and sea lamprey passed as far upstream as Rumford Falls.⁷ As a result of fish passage facilities, stocking, and trap-and-transport programs, anadromous fish such as Atlantic salmon, American shad, alewife, and blueback herring are seasonally

⁶ River herring include blueback herring and alewife.

⁷ Foster and Atkins, 1868 as cited in the Draft Management Plan for the Lower Androscoggin River, Little Androscoggin River and Sabattus River, 2017.

present in the river below Lewiston Falls. Striped bass and sea lamprey are also present in the lower-most reaches of the river and upstream of Brunswick.

The stretch of river from the New Hampshire state line to Rumford Falls is actively managed for cold-water species. The upper riverine and impounded segments of the Androscoggin are dominated by smallmouth bass, common shiner, and fallfish, with longnose dace also abundant in the upper river cold-water segments. Currently, diadromous fisheries management downstream of the Lewiston Falls Project falls under the Androscoggin River Watershed Comprehensive Plan for Diadromous Fishes (NOAA 2020). The geographic scope of this plan focuses on the stretch of river between Brunswick and below Lewiston Falls as habitat for American shad, blueback herring, alewife, Atlantic salmon, American eel, sea lamprey, and striped bass. Fish passage is provided at the three lowermost hydroelectric project dams on the mainstem Androscoggin (Brunswick, Pejepscot, and Worumbo) for American shad, blueback herring, alewife, Atlantic salmon, and sea lamprey. The Worumbo Project is the only facility providing upstream passage for juvenile American eel.

Atlantic salmon, American eel, and sea lamprey are discussed in further detail below as diadromous species that may have historically been found above Lewiston Falls.

i. Atlantic salmon

Lewiston Falls represents the current upper extent of critical habitat for Atlantic salmon in the Androscoggin River; there is no critical habitat for Atlantic salmon upstream of the Project.⁸ The historical upstream limit for salmon migration is believed to be Rumford Falls.⁹ Designated critical habitat for Atlantic Salmon is outside the FERC Project Boundary, except for a very small portion of the FERC Project Boundary which encompasses the Durham Boat Launch. This area is adjacent to critical habitat waters, but the boat launch site has no effect on critical habitat.

The National Marine Fisheries Service (NMFS) divided the Gulf of Maine Distinct Population Segment of Atlantic salmon into three Salmon Habitat Recovery Units (SHRUs): Downeast Coastal, Penobscot Bay, and Merrymeeting Bay. The Merrymeeting Bay SHRU includes the Kennebec, Androscoggin, Sheepscot, St.

⁸ National Marine Fisheries Service 10(j) Conservation Recommendation. Accession No. 20250710-5029.

⁹ Foster and Atkins, 1868 as cited in the Draft Management Plan for the Lower Androscoggin River, Little Androscoggin River and Sabattus River, 2017.

George, and Medomak watersheds. The Androscoggin River contains 12 percent of the total habitat units of the critical habitat for Atlantic salmon, and 5 percent of that is high-quality habitat.¹⁰

Although few Atlantic salmon are known to migrate upriver of all three passable dams in the lower Androscoggin River, annual counts of pre-spawn migrating Atlantic salmon trapped at the Brunswick and Worumbo Dams confirm that salmon enter the river and ascend the three passable dams in some years.¹¹

ii. American eel

American eel occur and have been documented at many locations downstream of the Gulf Island Dam, including areas in the vicinity of the Project. The historic extent of American eel is currently unknown; however, the Maine Department of Inland Fisheries and Wildlife (DIFW) has documented American eel above Rumford Falls, and even Snow Falls. The Maine Department of Marine Resource's (DMR) current management objective in this region is to maximize the production of catadromous American eel by providing access to and from historical growth habitat within the watershed through safe, timely, and effective upstream and downstream passage at barriers.

iii. Sea lamprey

The historic extent of upstream passage has been reported to be Lewiston Falls, with some reporting passage as far upstream as Rumford Falls.¹² Sea lamprey are co-evolved with other anadromous fish, including Atlantic salmon, and benefit the endangered fish by improving spawning habitat for salmon redds by their own nest-building habits, which flush compacted silt and sediment from the riverbed. The current presence and distribution of sea lamprey in the Androscoggin River is not well known.

b. Studies

The Applicant conducted an upstream American eel study to understand the distribution and relative abundance of juvenile American eels downstream of the Project and to assist in potential future placement of an upstream passage structure. 14 daytime backpack electrofishing surveys and 15 nighttime visual

¹⁰ National Marine Fisheries Service Endangered Species Act Biological Opinion. Accession No. 20211228-5096.

¹¹ *Id.*

¹² DMR Comments on WQC application at 2.

surveys were conducted from early June to mid-September of 2022. The daytime backpack electrofishing method produced a total of 34 eels, either captured or observed. The nighttime visual surveys resulted in two eel sightings. Three potential congregation locations were identified. These locations were located within the leakage flow downstream of dams 3 and 5, and in the northwest corner of the powerhouse tailrace channel.

The Applicant conducted a downstream American eel study to evaluate the passage of adult (silver-phase) American eels at the Project during the fall outmigration period. A total of 86 adult silver eels were surgically tagged and released above the Project during the evening hours on four different nights in October of 2022. Passage survival for the eels from 500 meters upstream of the dam to a point 11.2 kilometers downstream of the dam was estimated at 83.7 percent. The radio-tagged eels classified as mortalities were identified as having utilized the turbines for downstream passage. Passage survival for eels utilizing the turbines was estimated at 74.5 percent. No mortalities were observed among eels determined to have passed the Project via spill through the Lewiston Canal System.

c. Discussion and Findings

To ensure that the State's interest with respect to achieving safe, timely, and effective fish passage consistent with State water quality standards is represented and that the Department has the full benefit of the fisheries expertise of the State with respect to diadromous species in the Androscoggin River Basin, the Department carefully considered comments from DMR¹³ when evaluating whether the Applicant's proposed fish passage measures are sufficient to address adverse impacts to aquatic life. Evaluating whether a discharge will comply with applicable State water quality standards is a responsibility that lies solely with the Department, and that is best informed by the expertise of the state resource agencies with deep knowledge of Maine's diadromous species.

i. Atlantic salmon

In 2013, the Applicant voluntarily prepared an Interim Species Protection Plan for the Lewiston Falls Project to address potential stranding of Atlantic salmon below the dam. BWPH proposes to implement the provisions of the current Species Protection Plan for the protection of listed Atlantic salmon.

¹³ See DMR Comments on WQC application at 3.

DMR recommends that upstream passage for Atlantic salmon be provided at the Project if determined necessary by the Department following the relicensing of lower dams on the Androscoggin River, namely the Worumbo and Brunswick Projects (FERC Nos. 3428 and 2284, respectively).

The Lewiston Falls Project does not contain critical habitat for Atlantic salmon, and very few if any salmon currently can access the Project area due to the three lower Androscoggin dams. Lack of access will not change until fish passage is addressed at the lower dams. In the future, if data (such as fish counts at downstream dams) confirms that Atlantic salmon are reaching the Lewiston Falls Project in significant numbers, as determined by the Department in consultation with DMR, the Department will prescribe Atlantic salmon passage measures for the Project in consultation with DMR and the Applicant, and the Applicant must implement the prescribed measures within two years. The Department will engage with the Applicant to determine if passage measures for Atlantic salmon must be implemented.

ii. American eel

The Applicant proposes to provide upstream and downstream passage measures for American eel in accordance with a fish passage plan and schedule to be developed in consultation with the U.S. Fish and Wildlife Service and other fisheries agencies and aligned with the Settlement Agreement for Modified Prescription Fishways for the Pejepscot Hydroelectric Project (FERC No. 4784). BWPH proposes to install temporary upstream eel passage for the first two passage seasons (2027-2028). In conjunction with the temporary eel passage, BWPH proposes to conduct appropriate surveys and monitoring efforts to determine the proper siting of a permanent upstream eel passage facility (eelway). In the third year following the issuance of the new license (2029), BWPH will install the permanent upstream eelway, to be operational in 2030. Once the eelway is operational, BWPH will consult with the fisheries agencies to implement adjustments to or expansions of the eelway operation period.

BWPH proposes to install permanent downstream eel passage 10 years after the permanent upstream eel passage becomes operational. In the interim, BWPH proposes to implement nighttime turbine shutdowns at the Project during the downstream eel passage season (September 1 to October 31). Following the implementation of the nighttime shutdowns, BWPH will conduct a two-year study to assess the effectiveness of nighttime shutdowns as a long-term passage measure for American eel. BWPH proposes to consult with the fisheries agencies

to implement adjustments to or expansions of the shutdown period.

The applicants' proposals mostly align with DMR's recommendations, except for differences regarding a siting study, passage effectiveness standards and testing, the timeline for nighttime shutdowns for downstream passage, and the downstream passage season.

DMR recommends monitoring to determine proper siting of upstream passage during the first two full passage seasons after license issuance (during temporary passage measures) in accordance with a United States Geological Survey (USGS) standard for upstream eel siting studies, consisting of multiple repeated nighttime surveys conducted on foot immediately downstream of the dam.¹⁴ The Department finds that to ensure safe, timely, and effective passage for American eel, the Applicant must conduct appropriate surveys and monitoring efforts to determine the proper siting of permanent upstream eel passage in accordance with a USGS standard for upstream eel siting studies, consisting of multiple repeated nighttime surveys on foot immediately downstream of the dam. The monitoring results and siting plans must be approved by the Department after a 30-day review period and in consultation with DMR. If, following receipt of monitoring and siting results from the first two passage seasons, the Department determines in consultation with DMR that additional eelways are necessary, the Applicant must implement those in its permanent upstream passage.

DMR also recommends effectiveness testing to determine whether a 90 percent upstream passage effectiveness standard is met. Other Maine hydroelectric projects have a 90 percent upstream passage standard with exit within 24 hours (See FERC Nos. 2555, 2556, 2364, 2365, 2611, 2574, 2322, 2325, 5073, 2942, 2984, 2931, 2941, and 2932). The Applicant does not propose an upstream passage effectiveness standard. The Department finds that permanent upstream eel passage at the Lewiston Falls Project must meet a 90 percent effectiveness standard to ensure safe, timely, and effective passage.

The Applicant proposes to implement downstream eel passage 10 years after permanent upstream eel passage becomes operational. The applicant provides no justification for such a delay. Downstream passage would consist of nighttime turbine shutdowns from September 1 through October 31 to protect out-migrating eel, and a one- to two-year study to assess the effectiveness of those shutdowns long-term.

¹⁴ DMR Comments at 4; Haro, A., Gephard, S., *Protocol for Observational Surveys for Upstream Migrant Eels*, USGS Memorandum (March 2023).

DMR recommends nighttime shutdowns be implemented in the first year following license issuance, and states that the downstream passage season for American eel is August 15 through November 15. DMR additionally comments that nighttime shutdowns may not be sufficient to achieve its recommended 95 percent malady-free¹⁵ downstream passage effectiveness standard.

Downstream passage studies indicated that 90 percent of tagged American eels passed through Project turbines.¹⁶ While downstream passage survival overall was 68.9 percent, all mortalities occurred when eels utilized passage through turbines.¹⁷

The Department finds that the Applicant's proposal to delay permanent downstream passage is without justification and would not provide safe, timely, and effective downstream passage for American eel due to the significant delay following relicensing. The Department further finds that downstream passage must be provided for the duration of the eel passage season, August 15 through November 15. Therefore, the Department finds that nighttime shutdowns must occur from August 15 through November 15 during the two-year study period, and the Applicant must subsequently implement permanent downstream passage measures to achieve 95 percent malady-free downstream passage for American eel from August 15 through November 15 in accordance with an adaptive management plan as described in condition VII(3)(B) below.

The Department finds these conditions are necessary to ensure safe, timely, and effective passage of American eel.

iii. Sea lamprey

The Applicant has not proposed passage enhancements or a passage effectiveness standard for sea lamprey.

DMR recommends that upstream passage for sea lamprey be provided if determined necessary by the Department following the relicensing of lower dams on the Androscoggin River, namely the Worumbo and Brunswick dams.

There is no evidence that sea lamprey are currently present in the Project area. The historical extent of sea lamprey may have been Lewiston Falls or Rumford

¹⁵ Malady-free is defined here as passage without mortality or injury to ensure eels can successfully migrate downstream and complete their lifecycle.

¹⁶ FLA at E4-121.

¹⁷ FLA at E4-122; DMR Comments at 6.

Falls; there are conflicting accounts. In the future, if data (such as fish counts at downstream dams) confirms that sea lamprey are reaching the Lewiston Falls Project in significant numbers, as determined by the Department in consultation with DMR, the Department will prescribe sea lamprey passage measures for the Project in consultation with DMR and the Applicant, and the Applicant must implement the prescribed measures within two years.

Provided the Applicant complies with the conditions outlined above and below, the Department concludes that fish passage at the Lewiston Falls Project will be safe, timely, and effective and sufficient to avoid detrimental changes in the resident biological community, and that the water flowing through and over the Lewiston Falls Project, which discharges into the Androscoggin River, does not cause adverse impacts to fish passage.

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

For this standard, the Applicant must demonstrate that the DO content of the Class C waters below the Lewiston Falls Project will not be less than 5 parts per million or 60 percent 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. The Applicant must also demonstrate that DO will not be less than 6.5 parts per million (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 Conditions

The Department finds that the Lewiston Falls Project operates as a run-of-river facility and its impoundment receives waters discharged to the Androscoggin River. The impoundment has a surface area of 169 acres at full pond, with a headwater elevation of 168.17 feet and a tailwater elevation between 114 and 116 feet.

2) Studies

The Applicant conducted a continuous DO and Temperature Study downstream of the Project in accordance with the Department's Sampling Protocol for Hydropower Studies between July and September of 2022. DO concentrations

recorded during the study ranged from 4.82 mg/L to 8.57 mg/L and between 57.9 percent and 103.2 percent saturation.

3) Applicant's Proposals

The Applicant proposes to continue to operate the Project as run-of-river with impoundment fluctuations of one foot or less, on a daily basis, but with the ability to operate with fluctuations of up to four feet (between 168.17 and 164.17), except during the bass spawning season (May 15 through June 30) when BWPH will target a fluctuation limit of one foot or less to protect bass spawning. The Applicant also proposes to continue to provide the existing minimum flow requirement of 1,430 cfs or inflow, whichever is less, of which 50 cfs comes through the Canal System.

4) Discussion and Findings

As discussed in Section IV(A)(1), dissolved oxygen monitoring in the Project impoundment demonstrated that the impoundment also meets applicable Class C dissolved oxygen standards. In the Department's review of the continuous DO and Temperature Study downstream of the Project, DO was found to be above the Class C standards for the entire study period, except for one hour that occurred on August 21. The Department determined that this lower DO event would not have been caused by operations at the Lewiston Falls Project. Based on the impoundment monitoring results discussed in Section IV(A)(1) and the downstream sampling results discussed above, the Department finds that the Project meets applicable Class C DO standards, and the water in the Androscoggin River downstream of the Project is sufficiently oxygenated.

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 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 a 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 (TSI) or other appropriate indices, or (2) the onset of algal blooms.¹⁸ The trophic state is the ability of the 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 TSI, which includes measurements of chlorophyll, phosphorous, or SDT.¹⁹ An algal bloom is defined as a planktonic growth of algae that causes SDT to be less than 2 meters.²⁰

1) Existing Facilities and Use

The recreational trout fishery is currently dependent upon annual stocking of hatchery brook trout, rainbow trout, and brown trout. DIFW performs annual fish stocking of brook, brown, and rainbow trout in the mainstem of the upper Androscoggin River at four locations upstream of the Project (Gilead, Bethel, Mexico, and Hanover).

The Project includes three FERC-approved recreation sites: The Lewiston Falls Impoundment Boat Launch, West Pitch Park Overlook, and the Durham Boat Launch.

a concrete boat launch, a courtesy dock, and a parking lot at the Lewiston Falls Impoundment Boat Launch; a scenic overlook and viewing platform at the West Pitch Park Overlook; and a concrete boat launch and parking lot at the Durham Boat Launch.

2) Water Quality Data

As discussed above in Section IV(A), sample results for chlorophyll-*a*, total phosphorous, and SDT indicate that the waters of the Lewiston Falls impoundment are mesotrophic.

3) Fishing and Recreation Studies

The Applicant conducted a fish assemblage study to assess relative changes to the resident fish community within the Project impoundment that have occurred since the previous comprehensive study in 2003. The impoundment fish community was sampled using boat electrofishing, beach seine, and gill nets in August 2022. A total of 16 fish species were collected from the Lewiston Falls

¹⁸ 06-096 C.M.R. ch. 581 § 6(C).

¹⁹ 06-096 C.M.R. ch. 581 § 6(A).

²⁰ 06-096 C.M.R. ch. 581 § 6(B).

impoundment across all sampling gear types. 858 fish were collected and identified, with the five most abundant species being spottail shiner, yellow perch, golden shiner, smallmouth bass, and redbreast sunfish.

The Applicant conducted a bass spawning study to evaluate whether the Project operations are influencing the reproductive success of black bass species (i.e., largemouth and smallmouth bass). Shoreline nest surveys of the Lewiston Falls impoundment were conducted once a week over a six-week period between May 15 and June 30. Over the course of the survey, 113 fish nests were identified along the margins of the impoundment. Of those nests, 47 were identified as belonging to black bass. Records from the May 15 to June 30 survey period show that the impoundment was maintained within one foot of normal full pond for 96.1 percent of the black bass spawning season. The abundance of largemouth bass was low compared to that of smallmouth bass. The study indicates that black bass are spawning in areas of appropriate habitat²¹ within the Lewiston Falls impoundment under the current operating regime.

In 2022 and 2023, the Applicant conducted a recreation study to assess recreational access, opportunities, use, and needs at public recreation sites within the Project boundary, or that provide direct visual or physical access to Project lands and waters. This study also evaluated the potential effects of Project operations on recreation sites, facilities, and use. The following sites are municipal facilities that provide physical or visual access to the site:

- Veterans Memorial Park
- Riverwalk Trail
- West Pitch Park
- Festival Plaza
- Bonney Park
- Simard-Payne Park
- David Rancourt River Preserve
- Androscoggin Riverside Trail
- Sunnyside Park

Data collection methods for the study included a field inventory and condition assessment, recreational-use observations, user surveys, a literature review, and consultations with representatives of local municipalities and organizations. The field inventory, user surveys, literature review, and consultation conducted in 2022

²¹ Suitable spawning habitat refers to the preferred range of water depth for smallmouth bass (typically 3-15 feet) and largemouth bass.

as part of the first-year study provided updated information on recreation sites and amenities in the study area, including the sites' operation, current condition, parking capacity, activities supported, and general use patterns, as well as user perceptions of various site attributes. User surveys and use observations were used to estimate the number of recreationists using public recreation sites in the study area, the activities they were participating in, and whether the sites have capacity for existing and future recreational demand.

The 2023 study effort included a meeting and site visit with a focus group comprised of agencies, municipalities, NGOs, and other interested stakeholders; provided further information on local municipal plans for the Project area recreation sites; and explored opportunities to enhance recreational access at the existing Project area recreation sites.

Total use of the Lewiston Falls Project area recreation sites during the 2022 peak recreation season was estimated at 210,814 recreation days. More than half of the estimated use occurred at Simard-Payne Park during special events. Overall, the results of the recreation study and focus group discussions confirm that there are ample recreational opportunities and access sites in the Project area, the sites are suitable for the pattern of seasonal use and activities supported, and the sites have adequate capacity to meet existing demand. Various needs and opportunities were identified at each of the recreation sites; however, the studies and focus group activities identified some potential enhancements but no significant needs at the FERC-approved Project recreation sites.

The Applicant conducted an aesthetic flow study at the Project site in 2022 and 2023 to obtain information on the aesthetic character of water flowing over the falls and aesthetic viewing opportunities of the falls. The Applicant conducted the study in phases throughout 2022 and 2023. Phase 1 was completed in 2022 and used hourly operating data for the Project to assess the frequency of spill events that result in flows over the falls, based on the Project's hydraulic generation capacity, existing FERC license, dam configuration, spillway operations, and river hydrology. Phase 2 took place in 2023, during which BWPH convened a focus group of interested parties to discuss the results of the Phase 1 assessment, the opportunities and constraints presented by the unique configuration of the Project, and the methodology for the next phase of the study. Phase 3 consisted of additional focus group meetings and collecting data.

The study found that the aesthetic quality of flow over the falls varies considerably by vantage point, flow volume, and release point. Overall, the study results

suggest that a flow of 1,600 to 3,000 cfs released from dam 1 or dam 3 would provide a pleasing aesthetic appearance.

4) Applicant's Proposals

The Applicant proposes to continue operating and maintaining the existing FERC-approved Project recreation sites. In addition, BWPH is proposing the following enhancements to recreation sites:

- Lewiston Falls Project Impoundment Boat Launch: extend the concrete boat ramp approximately 8 feet farther into the impoundment by adding additional concrete planks; extend the asphalt apron at the site entrance to the parking lot by approximately 10-15 feet; re-grade the driveway and parking area, add signage, and add two dedicated ADA spaces located close to the picnic area; install two anti-theft picnic tables, one to be ADA compliant; provide an ADA-compliant access path to the ADA-compliant picnic table; install two benches; replace the FERC Part 8 sign; and replace the site identification sign. For the portage at this site, install signage at the depicting available downstream boat launches and delineating the portage route; and install directional and wayfinding signage in consultation with the City of Auburn along the portage route, utilizing existing infrastructure and leading to the Festival Plaza boat launch.
- West Pitch Park Overlook: replace and relocate the FERC Part 8 sign; replace the existing overlook platform planks; replace the chain link fence; reposition the warning sign and replace the safety fencing below the overlook.
- Durham Boat Launch: replace the FERC Part 8 sign; dedicate two parking spaces as ADA spaces; install two anti-theft picnic tables, one of which is to be ADA compliant, provide an ADA-compliant access path to the ADA-compliant picnic table, and install benches.

The Applicant proposes to provide aesthetic flows of approximately 2,000 to 2,500 cfs over the falls, from either dam 1 or dam 3, six times each year, after bass spawning season, during the months of July through September, between the hours of 10 AM and 4 PM. Further, the Applicant proposes implementing a Recreation Management Plan for the Project through the term of the new license.

5) Discussion and Findings

DIFW commented on the Applicant's proposal to target limits to impoundment fluctuations of one foot or less, daily, during the May 15 to June 30 bass spawning season, recommending that unambiguous language limiting fluctuations be included in the conditions of the WQC. Further, DIFW recommended that fluctuations in the Project impoundment without prior notification to the Department should be limited to one foot or less, year-round, for spawning season and recreational access. The Department has incorporated DIFW's comments into the conditions below.

The Department finds that the Lewiston Falls impoundment has a stable or decreasing trophic state and is free of culturally induced algal blooms that impair its use and enjoyment. Provided the Applicant complies with the conditions below, the Department finds that the Project meets the 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 use of hydroelectric power generation.

1) Existing Generation

The Lewiston Falls Project has a total authorized generating capacity of 28.44 MW and can produce a gross average energy output of 157,614 megawatt-hours (MWh) of electricity annually.

2) Energy Utilization

The Project generates power for Maine and the regional power pool administered by ISO New England.²² Currently, output is sold on the open market through bidding into the New England Pool (NEPOOL) market administered by ISO New England, the non-profit independent system operator for New England.

²² 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 the current mode of operations at the Project during the term of a new license, providing a dependable source of energy to the public power grid. The Applicant's protection, mitigation, and enhancement (PME) measure proposals are estimated to annually decrease generation by 6,360 MWh. These measures include the six aesthetic flow releases and downstream passage measures for American eel. Based on evidence in the record, the Department finds that the Project meets 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 treatment. The Lewiston Falls Project impoundment and the Androscoggin River are not used as a drinking water supply. However, water quality data collected for the Trophic State Study in the Project riverine impoundments and DO data collected downstream of the Project indicate that water quality meets state standards, and there are no culturally induced algal blooms. Based on the evidence in the record, the Department finds that the Project meets the designated use of drinking water after treatment.

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

Class C standards require that water be of sufficient quality for use as an industrial process or cooling water supply. The Applicant reports, and the Department finds, that the Androscoggin River in the Project area is used by BWPH for hydroelectric power generation. BWPH holds Maine Pollutant Discharge Elimination System (MEPDES) permit number ME0023621 for discharge of up to 700,000 gallons of non-contact cooling water at the Lewiston Falls Project.

Water quality data indicate that the water is suitable for industrial process or cooling water supply. Based on evidence in the record, the Department finds that the Project meets the 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.

The Department finds that the present Lewiston Falls Hydroelectric Project dams were originally developed for hydroelectric power generation in 1862. The Project has made several small changes over time, including the installation of dam 5, the Island Cap, Monty Station, and rubber dams. While structures and operations have been modified over time, in-stream uses have generally remained the same since November 1975 and include hydropower generation, recreation in and on the water, including fishing and navigation, and the provision of process and cooling water.

With respect to the designated use of the Androscoggin River as habitat for fish and other aquatic life and the narrative standard as it pertains to fish passage, as explained in Section IV(A)(3) above, provided the Applicant complies with the requirements and conditions of this WQC, the Department finds that the Project operations will meet the requirement of the antidegradation policy.

H. Historic and Cultural Resources

Assessment of historic and cultural resources is not a statutory requirement for WQCs. However, Section 106 of the National Historic Preservation Act requires FERC to account for the impact of hydropower facilities on historic properties. FERC requires the Applicant to prepare a Historic Properties Management Plan as a license condition, and the Maine Historic Preservation Commission (MHPC) reviews the impact of hydropower projects on cultural resources under agreement with the federal Advisory Council on Historic Preservation. Therefore, inclusion of the MHPC review in the WQC is appropriate.

1) Discussion

a. Historic and Architectural Resources

The Applicant filed a Historic Architectural Survey Report with FERC, which MHPC reviewed. MHPC and National Register of Historic Places (NRHP) mapping show that the Lewiston Falls Project boundary partially overlaps the northern end of the Lewiston Textile Mills and Waterpower System Historic District (Historic District). The Historic District is an intact collection of buildings and structures associated

with the history of the textile industry in Lewiston. The Lewiston Falls Project boundary contains eight historic resources that contribute to the Historic District's significance. These include dam 1, dam 2, dam 3, dam 4, dam 5, Island Cap, Canal Gatehouse, and Maine Central North Railroad Bridge. All but one of these resources are part of the FERC-licensed Project.

MHPC recommended an architectural and Phase I archaeological survey. The Applicant conducted Phase I archaeological surveys in 2022 and 2023. Based on the results of the investigations, no Phase II archaeological studies were recommended. A draft Historic Properties Management Plan (HPMP) has been submitted. MHPC concluded that the proposed measures for the Project will have no adverse effect upon historic properties.

b. Archaeological Resources

Phase I and Phase II archaeological surveys identified 29 Precontact period sites along the Androscoggin River, immediately north of the Lewiston Falls Project, dating from the Early Archaic to the Contact Period. Six archaeological sites were discovered and/or investigated on the western side of the Androscoggin River, immediately north of the Deer Rips dam and the northern extent of the Lewiston Falls Project. The majority of these sites contain a low density of artifacts that were not temporally diagnostic; however, one site dated to both the Late Archaic and Ceramic Period and another site is a stratified Ceramic Period site that dates from early Middle to Late Ceramic or Contact period.

Two previously completed archaeological surveys overlap portions of the Project or lie adjacent to it. In 2011, TRC completed a Phase I Precontact period archaeological survey of CMP's Lewiston Loop Project. The Lewiston Loop Project included a new 115/34/12 kV substation on Middle Street in Lewiston and approximately 5.5 miles of transmission line corridor, ranging in width from 50 to 750 feet. Portions of this transmission line corridor run parallel to and overlap the Lewiston Falls Project. Phase I Precontact archaeological fieldwork on the Lewiston Loop Project was completed between August 24 and September 10, 2010. Precontact cultural materials were recovered in four locations, resulting in the identification of two archaeological spot finds and two previously unrecorded archaeological sites. Both archaeological sites and both find spots are located adjacent to or within the Lewiston Falls Project. Only one of those is potentially eligible for listing on the NRHP. The MHPC site files list a third site that may fall within the Project Area of Potential Effect (APE). Very little is known about the site; it can only be associated with the general Precontact period.

In 1995, the Maine State Museum conducted a Phase I archaeological study. The survey area extended along the east bank of the Androscoggin River from the Longley Bridge in the north to Gully Brook on the south, approximately 5,250 feet along the river and within the Lewiston Falls Project. Much of this area has been heavily impacted by Euroamerican settlement and industrial and residential development, including buildings, roads, railroad embankments, parking lots, and canal construction. An initial walkover survey of the area determined that a field extending from the railroad trestle opposite Beech Street north to the Cross Street canal was the only section of open and undeveloped ground. However, this open area previously contained railroad warehouses, bunkers, a turntable, and a meat packing plant. Preliminary excavations in this area revealed more than 6 feet of fill and late historic alluvium, and therefore any landform that was occupied during the Precontact period would certainly also be beneath the current water table. The same is probably also true for any Contact period and Early Euroamerican remains.

c. Tribal Resources

There are no known Tribal lands within the Project boundary. There are no federal reservations within the Project boundary or in its vicinity.

2. Proposals

BWPH is proposing only one minor change to the Project boundary to exclude a non-Project building. The building proposed for removal is not historically significant and is not one of the eight historic resources that contribute to the Historic District. Current management practices on the minimal lands contained in the Project boundary would be perpetuated, including the Applicant's general forest management practices and facility maintenance plans. The Applicant proposes to continue operating and maintaining the existing Project recreation sites. None of the proposed recreation site enhancements or routine maintenance involve ground-disturbance, tree clearing, or other activities that would affect cultural resources. The Applicant is proposing to make periodic aesthetic flow releases at the falls, but such releases would be made by spilling water via the rubber dams, in a manner similar to routine spill events, and would have no effects on cultural resources.

To protect any cultural resources at the Project during the term of the license, the Applicant is proposing to implement an HPMP, which will provide background

information on cultural resources at the Project, including maps of the APE and archaeological and historic sites, preservation goals and priorities, project effects, and consultation requirements.

2) Findings

The Department finds that the proposed enhancement, mitigation, and protection measures will have no adverse effect upon historic properties. The Department finds that with the implementation of the approved HPMP, the continued operation of the Project as proposed by the Applicant will have no adverse impacts on cultural resources at the Project.

V. PUBLIC COMMENTS

The Department initiated a public comment period on the application materials on July 14, 2025.

The Department received agency comments on the application materials from DMR and DIFW. The Department received five public comments on the application, from Grow L+A River Working Group, the City of Lewiston, Friends of Merrymeeting Bay, and two members of the public.

On June 8, 2026, the Department issued a draft Order approving water quality certification for the continued operation of the existing Lewiston Falls Hydroelectric Project. Comments on the draft order were invited from the Applicant, the state resource agencies, and the public. The deadline for public comments is 5:00 P.M. on June 22, 2026.

VI. 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 Lewiston Falls 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, provided the Applicant complies with the conditions outlined in Section VII below:

A. The Applicant provided sufficient evidence, and the Department finds and determines, that, as discussed in Section IV(A)(1), (2), and (3), the Lewiston Falls Project meets the classification standard for aquatic habitat in the Project

impoundment and in the outlet waters below the Project dam. The Department concludes that the water discharged from the Lewiston Falls Project impoundment meets the classification standards for Class C waters. 38 M.R.S. § 465(4)(A).

B. The Applicant provided sufficient evidence, and the Department finds and determines, that, as discussed in Section IV(A)(3) above and provided the Applicant complies with Conditions 3(A)-(C) in Section VII 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 at the Lewiston Falls Project. 38 M.R.S. §§ 465(4)(A), (C).

C. The Applicant provided sufficient evidence, and the Department finds and determines, that the Lewiston Falls Project impoundment and waters downstream of the Project meet the remaining narrative classification standards for Class C waters and are determined to be of such quality that these waters are suitable for the designated uses of drinking water after treatment; recreation in and on the water; fishing; agriculture; industrial process and cooling water supply; hydroelectric power generation; and navigation. 38 M.R.S. § 465(4)(A).

D. The Applicant provided sufficient evidence, and the Department finds and determines, that DO concentrations in the impoundment and in the Androscoggin River below the Lewiston Falls Project meet applicable numeric Class C DO standards. 38 M.R.S. § 465(4)(B).

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 Lewiston Falls Project complies with the State's antidegradation policy. 38 M.R.S. § 464(4)(F)(3).

VII. DECISION AND ORDER

THEREFORE, the Department APPROVES the water quality certification of BROOKFIELD WHITE PINE HYDRO LLC and GRANTS certification pursuant to Section 401(a) of the Clean Water Act, concluding that there is a reasonable assurance that the continued operation of the LEWISTON FALLS HYDROELECTRIC PROJECT, as described above, will not violate applicable water quality standards, SUBJECT TO THE FOLLOWING CONDITIONS:

1) WATER LEVELS

- A. Except as temporarily modified by 1) approved maintenance activities²³, 2) extreme hydrologic conditions,²⁴ or 3) emergency electrical system conditions,²⁵ impoundment water levels must be maintained within one foot of normal full pond elevation during normal Project operations (168.17 feet mean sea level).
- B. Except during the May 15 through June 30 bass spawning season, the Applicant may operate within four feet of full pond level to allow for adjustments between inflow and minimum flow requirements with notification to the Department and appropriate State and/or Federal agencies.
- C. 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 in Section IV(A). 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.

2) MINIMUM FLOWS

- A. The Applicant must provide flow releases from the Lewiston Falls Project in accordance with the Applicant's proposal. Except as temporarily modified by 1) approved maintenance activities, 2) extreme hydrological conditions, 3) emergency electrical system conditions, or 4) agreement between the Applicant, the Department, and appropriate State and/or Federal agencies, the Applicant must provide a minimum flow of 1,430 cfs, or inflow, whichever is less. As part of the required minimum flow, 50 cfs will be provided through the Lewiston Canal System.
- B. In addition to spill events that may occur at the Project due to high river flows, planned or unplanned station outages, or other unusual hydrologic or spill conditions, and subject to water availability, the Applicant will provide

²³ Approved maintenance activities are listed by the Department.

²⁴ For the purpose of the certification and Order, extreme hydrologic conditions mean the occurrence of events beyond the Applicant'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.

²⁵ For the purpose of this certification and Order, emergency electrical system conditions mean operating emergencies beyond the Applicant's control that 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.

six aesthetic flow releases from either dam 3 or dam 1, with a target flow ranging from 2,000 to 2,500 cfs, during the period of July through September, between the hours of 10 AM and 4 PM, on a schedule to be determined in consultation annually with the Cities of Lewiston and Auburn.

- C. The Applicant will post via SafeWaters (or comparable website) the proposed scheduled aesthetic flow events and any cancellations, in the event circumstances arise in which these flow releases cannot be provided.
- D. 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 IV(A). 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. ATLANTIC SALMON AND SEA LAMPREY PASSAGE

- i. If fish passage is established at downstream dams and Atlantic salmon and/or sea lamprey reach the Lewiston Falls Project in significant numbers, as determined by the Department in consultation with DMR, the Department will prescribe Atlantic salmon and/or sea lamprey passage measures, as applicable, for the Project in consultation with DMR and the Applicant, and the Applicant must implement the prescribed measures within two years.²⁶

B. AMERICAN EEL PASSAGE

i. UPSTREAM AMERICAN EEL PASSAGE

- 1. The Applicant shall provide temporary upstream eel passage for the first two passage seasons after license issuance.
- 2. During the first two full passage seasons after license issuance, the Applicant shall conduct appropriate surveys and monitoring efforts to determine the proper siting of permanent upstream eel passage in accordance with a USGS standard for upstream eel siting studies, consisting of multiple repeated nighttime surveys

²⁶ This determination is to be made based on other relicensing timelines and fish counts in the watershed and upstream projects.

on foot immediately downstream of the dam.²⁷ In order to ensure safe, timely, and effective passage is achieved for American eel, monitoring and siting plans and their corresponding results must be approved by the Department after a 30-day review period and in consultation with DMR. If, following receipt of monitoring and siting results from the first two passage seasons, the Department determines in consultation with DMR that additional eelways are necessary, the Applicant must implement those in its permanent upstream passage.

3. The Applicant shall install permanent upstream eel passage in the third year following license issuance. Permanent passage plans must be approved by the Department after a 30-day review period and in consultation with DMR.
4. The Applicant shall keep the fishways in proper order and shall keep fishway areas clear of trash, logs, and other materials that would hinder passage. Anticipated maintenance shall be performed in sufficient time before the migratory period such that fishways can be tested and inspected and will properly operate prior to the migratory periods.

ii. DOWNSTREAM AMERICAN EEL PASSAGE

1. In the first year after license issuance, the Applicant shall implement interim, targeted, nighttime shutdowns. Nighttime shutdowns shall occur from dusk (1/2 hour after sunset) to dawn (1/2 hour before sunrise) during the duration of the downstream eel passage season, August 15- through November 15.
2. The Applicant shall keep the fishways in proper order and shall keep fishway areas clear of trash, logs, and other materials that would hinder passage. Anticipated maintenance shall be performed in sufficient time before the migratory period such that fishways can be tested and inspected and will properly operate prior to the migratory periods.

iii. AMERICAN EEL PASSAGE TESTING AND PERFORMANCE STANDARDS

²⁷ Haro, A., Gephard, S., *Protocol for Observational Surveys for Upstream Migrant Eels*, USGS Memorandum (March 2023).

1. The Applicant must achieve an upstream passage performance standard of 90 percent, and a downstream passage performance standard of 95 percent malady-free²⁸ within 24 hours for American eel.
2. Beginning in the first migratory season after the new permanent upstream American eel passage measures are operational, the Applicant shall conduct a minimum of two years of quantitative effectiveness testing. Testing shall include the standard methods required by DMR for eelways at Maine hydroelectric projects.²⁹
3. Beginning in the first migratory season after nighttime shutdowns are initiated, the Applicant shall conduct a minimum of two years of effectiveness testing. The facility will be considered to provide safe, timely, and effective passage if 95 percent of eels pass downstream malady-free within 24 hours.
4. No later than eight months after the initiation of an effectiveness study, the Applicant shall distribute a draft study report to the Department and DMR. If performance standards have not been achieved, the Applicant will consult with the Department and DMR within 30 days of distribution of the effectiveness testing report.
5. The Applicant shall implement an adaptive management plan that outlines clear steps and timelines for the implementation and testing of American eel passage measures at the Lewiston Falls Project. Should the Project fail to meet either of the passage effectiveness standards, the plan will include a timeline for implementing additional measures. This is to include the following measures and milestones:
 - i. If upstream and/or downstream performance standards have not been achieved but the results are close (within 10 percent of performance standard criteria for passage efficiency and timing), the Applicant can implement minor operational or structural modifications no later than one year after the distribution of the testing report, with approval by the Department and in consultation with DMR.

²⁸ Malady-free is defined here as passage without mortality or injury to ensure eels can successfully migrate downstream and complete their lifecycle.

²⁹ These standard study methods consist of two components: (1) evaluating attraction efficiency to the new facility, and (2) evaluating passage effectiveness. Attraction efficiency shall be assessed with nighttime observations of migrating eels at the Project in comparison to the number of eels passed. Passage effectiveness shall be assessed on a minimum of three nights during the first year of operation. Passage effectiveness shall be assessed with captive eels placed at the fishway entrance. A minimum of 100 eels shall be used in the study, and 90 percent must pass the eelway within 24 hours.

- ii. If determined necessary by the Department in consultation with DMR, following the Applicant's testing of shutdown efficiency, the Applicant shall develop and submit a plan for permanent downstream passage and protection measures to be approved by the Department in consultation with DMR.
- iii. If upstream and/or downstream performance standards have not been achieved and the results are not close (within 10 percent of performance standard criteria for passage efficiency or timing), the Applicant shall construct additional measures no later than two years after the distribution of the effectiveness testing report. The specific measures must be approved by the Department in consultation with DMR.
- iv. Once the Applicant has implemented adaptive measures, the Applicant will repeat the relevant testing procedures and continue adaptive management until deficiencies have been addressed.

C. FISHWAY OPERATIONS AND MAINTENANCE PLAN

- i. Within 12 months of license issuance, the Applicant will prepare in consultation with the Department and DMR a Fishway Operation and Maintenance Plan (FOMP) covering all operations and maintenance of upstream and downstream fish passage facilities in operation at the time. The FOMP shall include: 1) a schedule for routine fishway maintenance to ensure the fishways are ready for operation at the start of the migration season; 2) procedures for routine upstream and downstream fishway operations; and 3) procedures for monitoring and reporting on the operation and maintenance of the facilities as they affect American eel passage.
- ii. The Applicant shall submit the FOMP to the Department for approval in consultation with DMR prior to submitting the FOMP to FERC. The Applicant shall update the FOMP annually to reflect any changes in fishway operation and maintenance planned for the year.

4) RECREATIONAL ACCESS AND USE

- A. The Applicant must continue to operate and maintain existing Project recreation sites for the term of a New License.

- 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 Sections IV(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 Lewiston Falls 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.

DONE AND DATED AT AUGUSTA, MAINE, THIS ____ DAY OF _____,
2026.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
For: Melanie Loyzim, Commissioner

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL
PROCEDURES.

CB/L#2980833DN/ATS92584

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.