

LOW IMPACT HYDROPOWER INSTITUTE APPLICATION

Taftsville Hydroelectric Project (FERC No. 2490)

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Revised September 2026

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1.0 FACILITY DESCRIPTION

1.1 Project Overview

The Taftsville Hydroelectric Project (FERC No. 2490) (Project or Taftsville Project) is an existing, licensed hydroelectric project operated by Green Mountain Power Corporation (GMP or Licensee). The 0.5-megawatt (MW) Taftsville Project is located on the Ottauquechee River in the Hamlet of Taftsville, town of Woodstock, in Windsor County, Vermont (Figure 1-1).

The Taftsville Project (Figure 1-2) consists of (1) a 220-foot-long, 16-foot-high concrete gravity dam with a 194-foot-long spillway section that has a crest elevation of 637.12 feet National Geodetic Vertical Datum of 1929 (NGVD 29);¹ the dam is topped with 18-inch-high wooden flashboards; (2) an impoundment with a surface area of approximately 20.5 acres at the normal water surface elevation of 638.6 feet NGVD 29; (3) an integral intake structure that contains a motorized headgate faced with a 15-foot-long by 13-foot-deep trashrack system with 3-inch clear bar spacing; (4) a concrete penstock, 11 feet high, 6 feet 8 inches wide, and 36 feet long; (5) an L-shaped concrete and brick powerhouse, with two sections; the main section is 25 feet long, 44 feet 6 inches wide, and 21 feet 6 inches high, and the section that houses a single 0.5 MW generator measuring 20 feet long and 24 feet wide; (6) two substations within the Project boundary; (7) three approximately 75-foot-long, 46-kilovolt (kV) transmission lines within the Project boundary; and (8) appurtenant equipment and facilities. Detailed facility information can be found in Table 1-1.

The Project was issued a license on September 20, 1994, for a 30-year term beginning September 1, 1994. GMP filed their Final License Application² with the Federal Energy Regulatory Commission (FERC) on August 30, 2022, and received Notice of Authorization for Continued Project Operation on September 13, 2024.³ The Water Quality Certification (WQC) was filed with FERC on July 28, 2025 (FERC 2025b). On August 20, 2025,⁴ an Environmental Assessment was issued (FERC 2025a), and the subsequent FERC license is expected in late 2026.

¹ All elevations are based in the National Geodetic Vertical Datum of 1929 (NGVD 29).

² Accession No. 20220830-5144

³ Accession No. 20240913-3068

⁴ Accession No. 20250820-3005

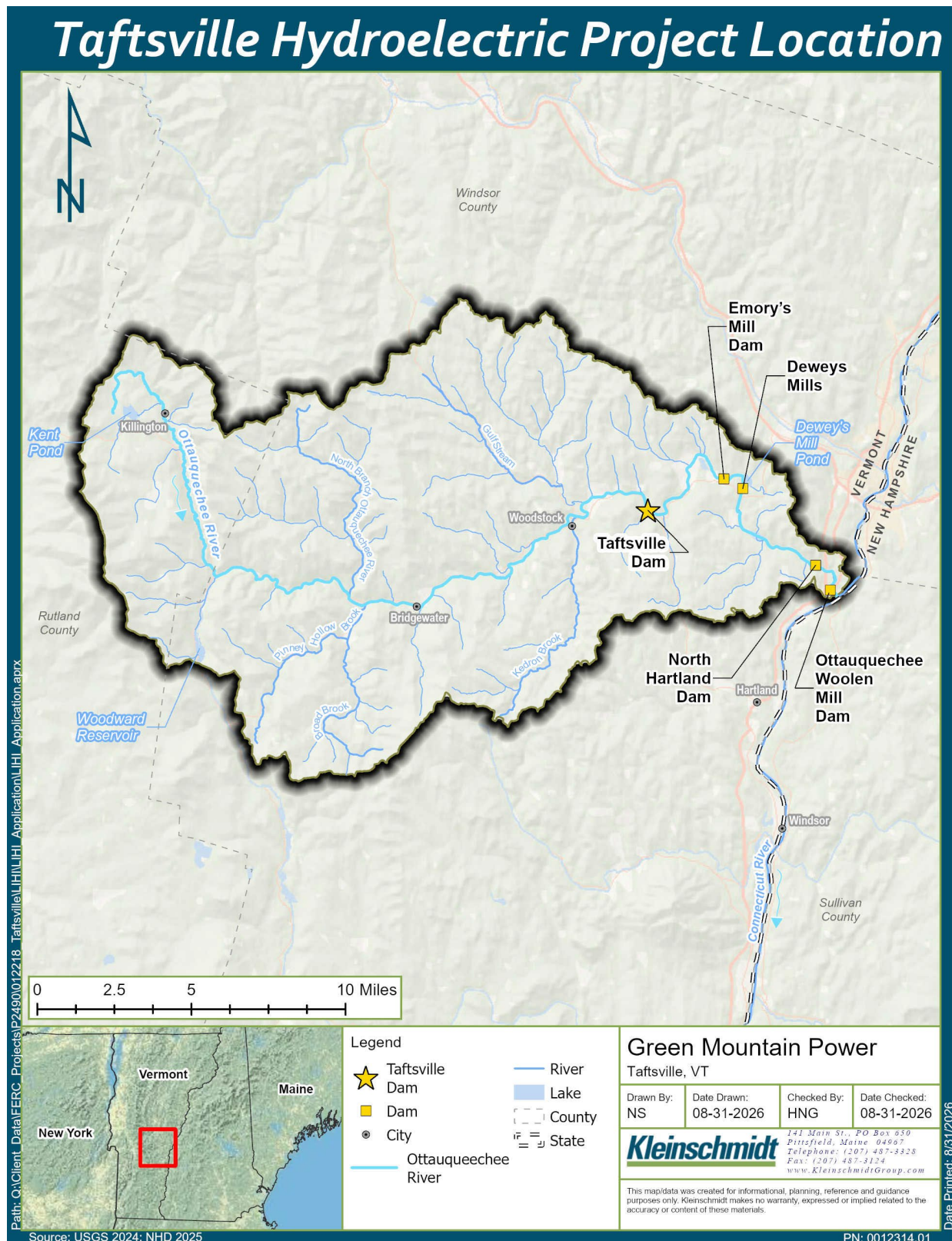


Figure 1-1 Taftsville Project Location Map

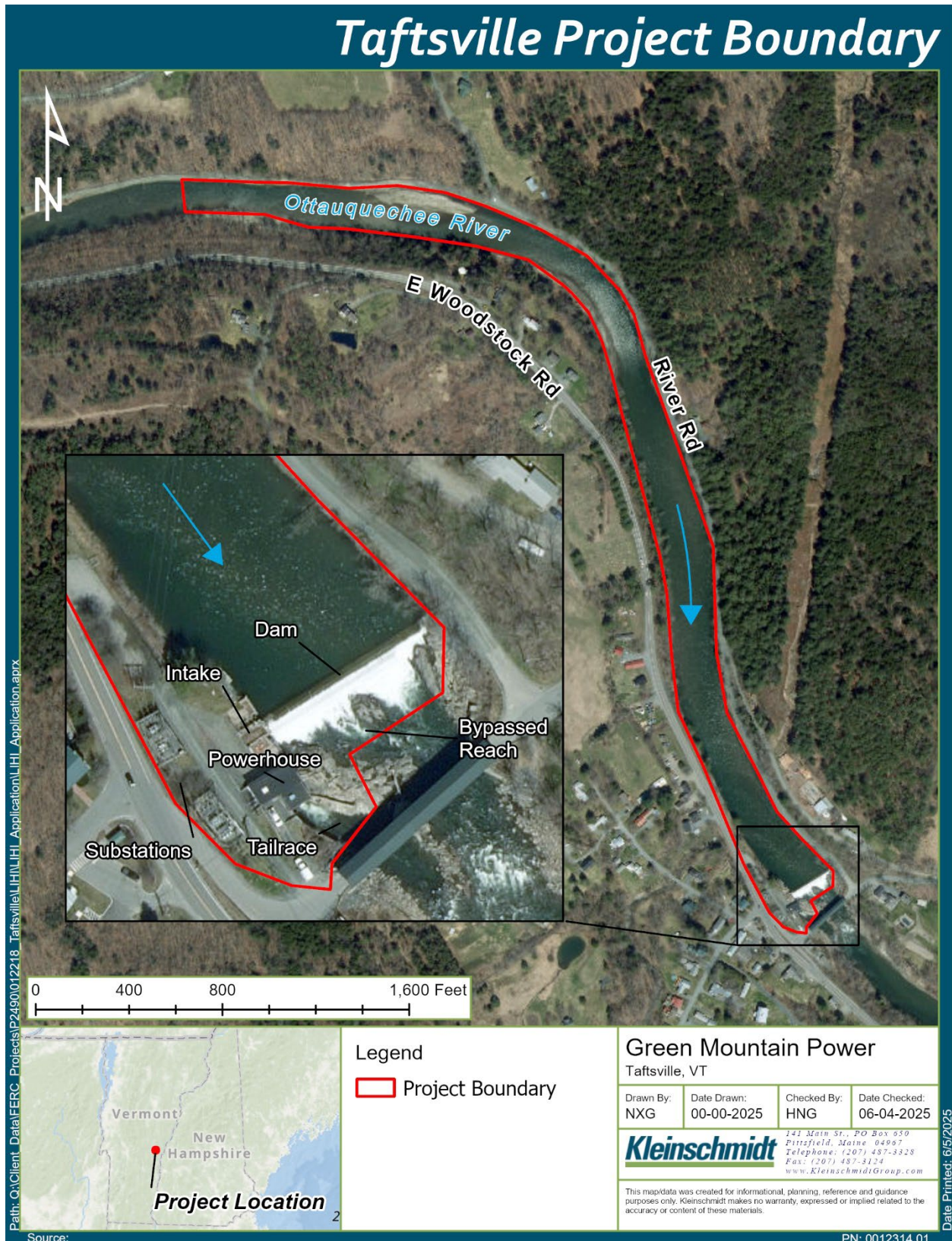


Figure 1-2 Taftsville Project Facilities

1.2 Facility Information – Taftsville Project

Table 1-1 Facility Information

Item	Information Requested	Response (include references to further details)
Name of the Facility	Facility name (use FERC project name or other legal name)	Taftsville Hydroelectric Project (FERC No. 2490)
Reason for applying for LIHI Certification	1. To participate in state Renewable Portfolio Standard (RPS) program 2. To participate in voluntary Renewable Energy Credit (REC) market (e.g., Green-e) 3. To satisfy a direct energy buyer's purchasing requirement 4. To satisfy the facility's own corporate sustainability goals 5. For the facility's corporate marketing purposes 6. Other (describe)	To participate in the voluntary REC market.
	If applicable, amount of annual generation (MWh and % of total generation) for which RECs are currently received or are expected to be received upon LIHI Certification	The Project would expect to receive RECs for 100% of generation.
Location	River name (USGS proper name)	Ottawaquechee River
	Watershed name - Select region, click on the area of interest until the 8-digit HUC number appears. Then identify watershed name and HUC-8 number from the map at: https://water.usgs.gov/wsc/map_index.html	HUC-8 01080106
	Nearest town(s), <u>county(ies)</u> , and state(s) to dam	Village of Taftsville, Town of Woodstock, Windsor County, Vermont
	River mile of dam above mouth	RM 11.3 above the Connecticut River
	Geographic latitude and longitude of dam	43.631251, -72.468222
	Application contact names	John Tedesco

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Item	Information Requested	Response (include references to further details)
Facility Owner	Facility owner company and authorized owner representative name.	Green Mountain Power Corporation
	For recertifications: If ownership has changed since last certification, provide the effective date of the change.	N/A
	FERC licensee company name (if different from owner)	Same as owner
Regulatory Status	FERC Project Number (e.g., P-xxxxx), issuance and expiration dates, or date of exemption	P-2490, Original License September 1, 1994; New FERC License expected in late 2026
	FERC license type (major, minor, exemption) or special classification (e.g., "qualified conduit", "non-jurisdictional")	Major
	Water Quality Certificate identifier, issuance date, and issuing agency name. Include information on amendments.	Water Quality Certification: July 28, 2025; Issued by Vermont Agency of Natural Resources
	Hyperlinks to key electronic records on FERC e-Library website or other publicly accessible data repositories ⁵	Water Quality Certificate - 0250728-5077 FERC Environmental Assessment - 20250820-3005 Final License Application - 20220830-5144 AIR Response - 20230316-5102 2024 CRMP Report - 20240919-5154
Powerhouse	Date of initial operation (past or future for pre-operational applications)	Concrete and brick powerhouse was originally constructed in 1902. The Woodstock Electric Company developed the site for hydroelectric generation in 1909.

⁵ For example, the FERC license or exemption, recent FERC Orders, Water Quality Certificates, Endangered Species Act documents, Special Use Permits from the U.S. Forest Service or other agency, U.S. Army Corps of Engineers permits, and other regulatory documents, or permits or authorizations issued by a Tribal Nation, other third-party agreements including Memorandums of Agreement or Understanding about water or land management, grants of right-of-way, water rights, and the like. If extensive, the list of hyperlinks can be provided separately in the application.

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Item	Information Requested	Response (include references to further details)
	Total installed capacity (MW)	0.5 MW
	For recertifications: Indicate if installed capacity has changed since last certification	N/A
	Average annual generation (MWh) and period of record used	1,038 MWh (Average from 2017-2021)
	For recertifications: Indicate if average annual generation has changed since last certification	N/A
	<u>Mode of operation</u> (run-of-river, peaking, pulsing, seasonal storage, diversion, etc.)	Run-of-river
	For recertifications: Indicate if mode of operation has changed since last certification	N/A
	Number, type, and size of turbine/generators, including maximum and minimum hydraulic capacity and maximum and minimum output of each turbine and generator unit	One 500-kW General Electric vertical Kaplan turbine Hydraulic Capacity: • Minimum 95 cfs. • Maximum 370 cfs. Output Capacity: • Minimum 0.119 MW Summer Claimed Capacity through ISO NE • Maximum 0.5 MW nameplate ◦ 0.015 MW (Winter Claimed Capacity through ISO NE (August 2022 CELT Report))
	Trashrack clear spacing (inches) for each trashrack	3-inch clear bar spacing
	Approach water velocity (feet/second) at each intake if known	Maximum estimate of 2.6 fps at 370 cfs calculated using EPRI 2000 methods.

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Item	Information Requested	Response (include references to further details)
	Dates and types of major equipment upgrades	In 2011, the Taftsville dam suffered serious damage due to flooding caused by tropical storm Irene. The river overflowed the west bank upstream from the dam and descended past the landward side of the headworks and connecting floodwall to enter the powerhouse. This led to the removal of the disused damaged half of the powerhouse building and rehabilitation of the other half for new switchgear equipment (CVPS 2012).
	For recertifications: Indicate only those since last certification	N/A
	Dates, purpose, and type of any recent operational changes	Change of minimum flow in the bypassed reach from 15 cfs to 45 cfs due to the 2025 WQC. ⁶
	For recertifications: Indicate only those since last certification	N/A
	Plans, authorization, and regulatory activities for any facility upgrades or license or exemption amendments	The Taftsville Project is expected to receive a new FERC Project license in late 2026. As part of the new license and 401 WQC, Taftsville will develop a Flow Management and Monitoring Plan. Additionally, a Water Quality Study will be conducted to confirm that the Project is in compliance with Vermont water quality standards, if not, a plan will be developed to address any issues.

⁶ Currently, GMP is releasing the prescribed minimum flow of 15 cfs from the existing FERC license but will adopt the 45 cfs flow required by the Vermont Water Quality Certification once the new FERC license is received in late 2026. Based on the LIHI review schedule, the Project would be releasing 45 cfs by the time LIHI certification would be received, if the application were to be approved. As such, the report is written with the assumption that GMP is releasing 45 cfs.

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Item	Information Requested	Response (include references to further details)
Dam or Diversion	Date of original dam or diversion construction and description and dates of subsequent dam or diversion structure modifications	The original dam was built in 1794 and then rebuilt for hydropower in 1909.
	Dam or diversion structure length, height including separately the height of any flashboards, inflatable dams, etc. and describe seasonal operation of flashboards	The concrete dam is 220 feet long and 16 feet high. The spillway is 194 feet long, topped with 18-inch-high wooden flashboards. Crest elevation is 637.12 feet, with flashboards elevation 638.6 feet. GMP removes the 18-inch flashboards prior to winter and reinstalls them in late spring. Per License Article 401, during the repair or replacement of flashboards, the impoundment is drawn down to the dam crest (637.12 feet NGVD 29), and the Taftsville Project is operated continuously in a run-of-river mode. After the installation is complete, GMP refills the impoundment by reducing downstream flows to no less than 100 cfs or inflow. The abutment is an L-shaped concrete structure with a 41-foot (long) leg running parallel from the end of the spillway to River Rd. and a 17-foot (short) leg running downstream. The base "L" structure is battered on the non-river sides with the (long) leg 3 feet 3 inches wide at the top and the short leg 2 feet 2 inches wide at the top. The upper "L" structure is a 4-foot-high, 1-foot-thick vertical wall atop both the short and long legs.

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Item	Information Requested	Response (include references to further details)
	Spillway maximum hydraulic capacity	20,000 cfs
	Length and type of each penstock and water conveyance structure between the impoundment and powerhouse	Concrete intake with trashracks. The intake structure is approximately 21 feet wide. Trashrack system is 15 feet long by 13 feet deep with 3-inch clear bar spacing. There is one concrete penstock 11-foot high, 36 feet long, 6 feet 8 inches wide.
	Designated facility purposes (e.g., power, navigation, flood control, water supply, etc.)	Hydroelectric power generation
Conduit Facilities Only	Date of conduit construction and primary purpose of conduit	N/A
	Source water	N/A
	Receiving water and location of discharge	N/A
Impoundment and Watershed	Authorized maximum and minimum impoundment water surface elevations	Run-of-river project, target of El. 638.6 feet (i.e., 18 inches above the dam spillway crest El. 637.12 feet)
	For recertifications: Indicate if these values have changed since last certification	N/A
	Normal operating elevations and normal fluctuation range	The Taftsville Project is operated continuously in a run-of-river mode. The normal high-water mark of the impoundment is maintained at El. 638.6 feet with the flashboards installed from about May 15 to November 15. Storm events can trigger flashboard loss, which may result in lower elevations during summer months During the winter months the flashboards are removed, and the

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Item	Information Requested	Response (include references to further details)
		water surface elevation is at El. 637.12 feet. After the re-installation of flashboards is complete, GMP refills the impoundment by reducing downstream flows to no less than 100 cfs or inflow.
	For recertifications: Indicate if these values have changed since last certification	N/A
	Gross storage volume and surface area at full pool	Surface area of 20.5 acres at El. 638.6 feet. Gross storage 30 acre-feet at El. 638.6 feet.
	For recertifications: Indicate if these values have changed since last certification	N/A
	Usable storage volume and surface area	No useable storage, project is operated as run-of-river.
	For recertifications: Indicate if these values have changed since last certification	N/A
	Describe requirements related to impoundment inflow and outflow, elevation restrictions (e.g., fluctuation limits, seasonality) up/down ramping and refill rate restrictions.	Operated in run-of-river mode. Provides a minimum flow of 45 cfs, or inflow, whichever is less, in the bypassed reach. Provides a 100 cfs minimum flow (or inflow) when refilling the impoundment after maintenance activities to provide adequate flow to downstream fish and aquatic communities that may be temporarily affected by changes in operations for maintenance.

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Item	Information Requested	Response (include references to further details)
	Upstream dams by name, ownership (including if owned by an affiliate of the applicant's company) and river mile. If FERC licensed or exempt, please provide FERC Project number of these dams. Indicate which upstream dams have downstream fish passage.	No dams upstream of the Taftsville Dam on the Ottauquechee River.
	Downstream dams by name, ownership (including if owned by an affiliate of the applicant's company), river mile and FERC number if FERC licensed or exempt. Indicate which downstream dams have upstream fish passage.	Emory's Mill or Quechee Mills (Downer's Mills), P-5195, Simon Pearce (U.S.), Inc, RM 6.8 Dewey's Mill, P-5313, GMP, RM 5.7 North Hartland, P-2816, North Hartland, LLC (Essex Hydro Associates, LLC) and USACE, RM 1.5 Ottawuechee Woolen Mill (White Current Dam), P-2787, GMP, RM 0.25 No known upstream passage at any of the downstream dams on the Ottauquechee River.
	Operating agreements with upstream or downstream facilities that affect water availability and facility operation	N/A
	Area of land (acres) and area of water (acres) inside FERC project boundary or under facility control. Indicate locations and acres of flowage rights versus fee-owned property.	The Project Boundary has approximately 20.76 acres, 19.21 of those acres are the impoundment. GMP is the owner and operator of the Taftsville Project. GMP has all flowage rights to operate the Project.

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Item	Information Requested	Response (include references to further details)																										
Hydrologic Setting	Average annual flow at the dam, and period of record used	502 cfs for the period of January 1992 to December 2021 based on the USGS Gage No. 01150900, which is located on the Ottauquechee River near West Bridgewater, Vermont. Data from the USGS were prorated to the Taftsville dam to account for the difference in drainage area between the two sites.																										
	Average monthly flows and period of record used	<table><tr><th>Month</th><th>Mean (cfs)</th></tr><tr><td>January</td><td>488</td></tr><tr><td>February</td><td>322</td></tr><tr><td>March</td><td>669</td></tr><tr><td>April</td><td>1,350</td></tr><tr><td>May</td><td>687</td></tr><tr><td>June</td><td>412</td></tr><tr><td>July</td><td>295</td></tr><tr><td>August</td><td>187</td></tr><tr><td>September</td><td>140</td></tr><tr><td>October</td><td>407</td></tr><tr><td>November</td><td>494</td></tr><tr><td>December</td><td>545</td></tr></table> Data from USGS Gage No. 01150900 from January 1, 1992, to December 31, 2021	Month	Mean (cfs)	January	488	February	322	March	669	April	1,350	May	687	June	412	July	295	August	187	September	140	October	407	November	494	December	545
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July	295																											
August	187																											
September	140																											
October	407																											
November	494																											
December	545																											
Location and name of closest stream gaging stations above and below the facility	USGS Gage No. 01150900 – approximately 20 miles upstream of the Project. USGS Gage No. 01151500 – Approximately 10 miles downstream of the Project.																											
Watershed area at the dam (in square miles). Identify if this value is prorated from gage locations and provide the basis for proration calculation.	Drainage area of approximately 192 square miles.																											
Other facility specific hydrologic information (e.g., average hydrograph)	N/A																											

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Item	Information Requested	Response (include references to further details)	
Designated Zones of Effect	Numbers and names of each zone of effect (e.g., "Zone 1: Impoundment")	ZOE 1: Impoundment ZOE 2: Bypassed Reach ZOE 3: Tailrace	
	River mile of upstream and downstream limits of each zone of effect (e.g., "Zone 1 Impoundment: RM 6.3 - 5.1")	Segment	River Mile
		ZOE 3	11.33 to 11.38
		ZOE 2	11.33 to 11.39
		ZOE 1	11.39 to 12.26

2.0 STANDARDS MATRICES

2.1 Zones of Effect

There are three zones of effect (ZOE) at the Taftsville Hydroelectric Project. ZOE 1 is the impoundment, extending from the dam upstream 0.9 mile and encompasses the upstream portion of the Project Boundary, which follows the normal operating El. 638.6 feet. ZOE 2 is the bypassed reach, which includes the spillway, rocky bedrock area, and western channel extending down approximately 290 feet to where the bypassed reach flow meets the tailrace. ZOE 3 is the tailrace, extending approximately 200 feet downstream from the powerhouse to where flow meets the bypass flow. Figure 2-1 provides a map of the Taftsville Hydroelectric Project's ZOEs, and Table 2-1 provides the Project's standards matrix.

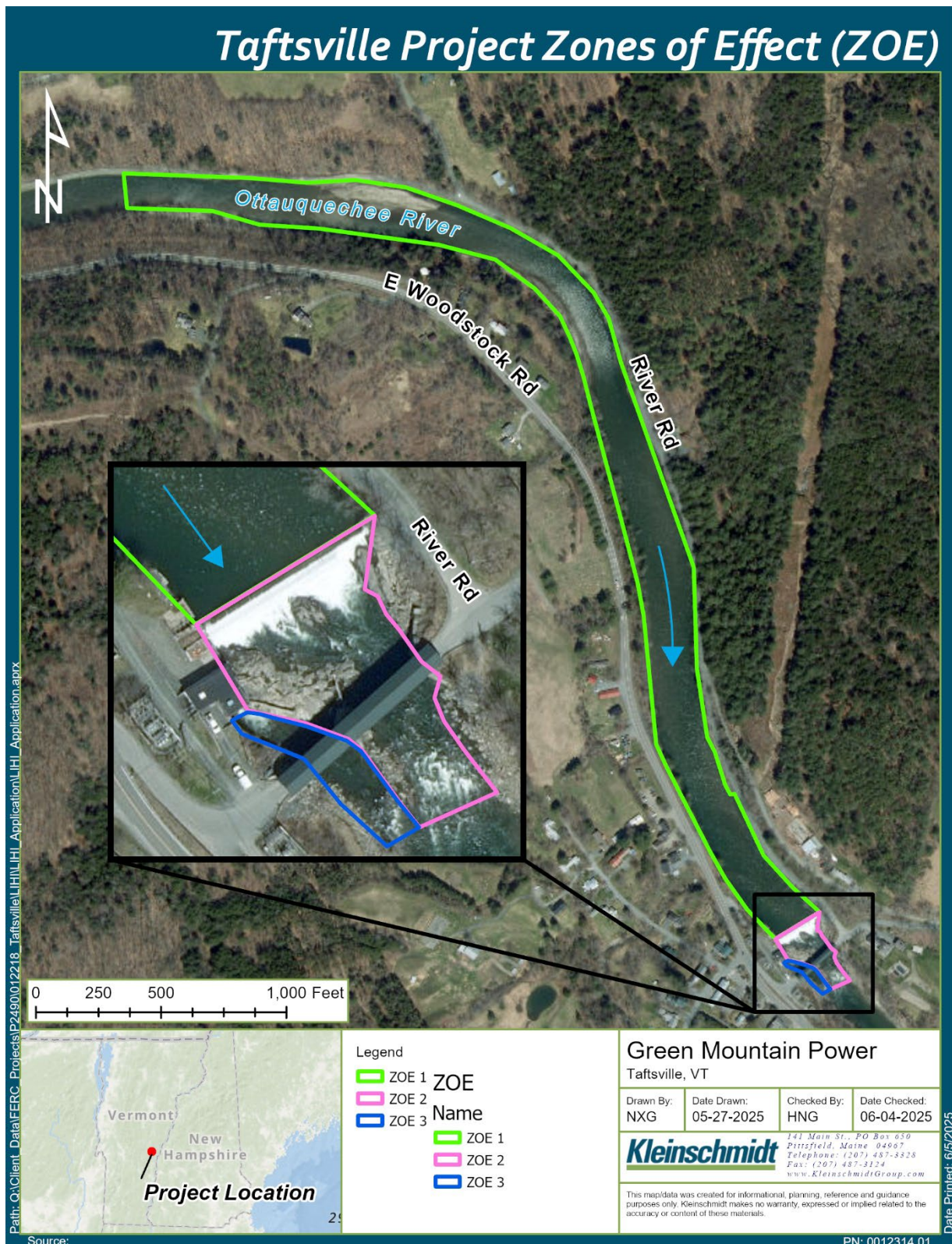


Figure 2-1 Taftsville Hydroelectric Project's ZOE Map. Green = ZOE 1 Impoundment, Pink = ZOE 2 Bypass, Blue = ZOE 3 Tailrace

Table 2-1 Taftsville Project Standards Matrix

Zone		ZOE 1: Impoundment	ZOE 2: Bypassed Reach	ZOE 3: Tailrace
Approximate River Mile (RM) at upper and lower extent of Zone		11.39 to 12.26	11.33 to 11.39	11.33 to 11.38
Criterion		Standard Selected		
A	Flow Regimes	2	2	1
B	Water Quality	2	2	2
C	Upstream Fish Passage	1	2	2
D	Downstream Fish Passage	2	2	1
E	Shorelines and Watershed	2	1	1
F	Threatened and Endangered Species	2	2	2
G	Cultural and Historic Resources	2	2	2
H	Recreation, Public, and Traditional Cultural Access	2	2	1

3.0 SUPPORTING INFORMATION

3.1 Flow Regimes

GMP operates the Taftsville Project as a run-of-river facility, which maintains a stable impoundment water surface elevation and returns river flow at the powerhouse that matches inflow. Run-of-river operations are protective of aquatic resources in the Ottauquechee River. Approximately 290 feet of the Ottauquechee River between the dam and powerhouse tailrace is bypassed during normal operations.

GMP releases a continuous year-round minimum veiling flow of 45⁷ cubic feet per second (cfs), or inflow, whichever is less, over the Taftsville dam into the bypassed reach to enhance aesthetics and aquatic habitats. GMP removes the 18-inch flashboards prior to winter and reinstalls them in late spring. During the repair or replacement of flashboards, the impoundment is drawn down to the dam crest (637.12 feet), and the Taftsville Project is operated continuously in a run-of-river mode. After the installation is complete, GMP refills the impoundment by reducing downstream flows to no less than 100 cfs or inflow. Within the past 10 years, there have been no flow violations or deviations that have occurred.

The following conditions are included in the 2025 WQC to protect water resources (FERC 2025b):

Condition B - Flow Management:

- The Project will be operated in instantaneous run-of-river mode. Instantaneous run-of-river means no utilization of impoundment storage and that outflow from the facility is equal to inflow to the impoundment on a near instantaneous basis except for short-term, unavoidable deviations.
- The Licensee will provide a conservation flow of 45 cfs, or inflow if less, to the bypassed reach year-round. The conservation flow will be provided via spillage over the dam, unless otherwise described in the flow management and monitoring

⁷ Currently, GMP is releasing the prescribed minimum flow of 15 cfs from the existing FERC license but will adopt the 45 cfs flow required by the Vermont Water Quality Certification once the new FERC license is received in late 2026. Based on the LIHI review schedule, the Project would be releasing 45 cfs by the time LIHI certification would be received, if the application were to be approved. As such, the report is written with the assumption that GMP is releasing 45 cfs.

plan or approved by the Vermont Agency of Natural Resources (VANR). When the Project is not operating, all flow will be spilled at the dam.

Condition C - Flow Management and Monitoring Plan:

- The Licensee will develop, within 180 days of the effective date of the FERC license, a flow management and monitoring plan detailing how the Project will operate in instantaneous run-of-river mode and comply with the conservation flow requirements. The plan will also include a method for continuous monitoring and reporting of flow releases (e.g., conservation flow, spillage, and turbine discharge) at the Project, impoundment levels, and inflow. The plan will include provisions for the flow data to be available on a near real-time basis to allow for records to be furnished upon request.
- The plan will include procedures for reporting deviations from prescribed operating conditions to the VANR. Reports will be made within 15 days after a deviation and will include, if possible, the cause, severity, and duration of the deviation, observed or reported adverse environmental impacts from the incident, pertinent data, and measures to be taken to avoid recurrences.
- The plan will be subject to VANR approval. The VANR reserves the right to review and approve any material changes made to the plan.

Condition D - Water Quality Study:

- During the first full study season after license issuance, the Licensee will collect additional water quality data in limited areas in the Project vicinity, within the impoundment and downstream and the tailrace, similar to the study plan implemented in 2022. This study will be developed in consultation with and be approved by the VANR prior to implementation.
- If it is found that the Project is not in compliance with the Standards, the Licensee would develop, with approval from VANR, a plan to come into compliance. The plan may include, but is not limited to, changes in project operations, direct oxygen pumped into the draft tube, adding aeration to the outflow, or a combination of these. The Licensee would continue to monitor and submit reports yearly until compliance is achieved.

Condition J - Maintenance and Repair Work:

- The Licensee will consult with the Department prior to conducting Project maintenance or repair work that necessitates a deviation from the conditions that assure compliance with water quality requirements (e.g., water level or flow management). Such maintenance and repair work will be subject to review and

approval by the Department, unless already approved in the flow management and monitoring plan required by Condition C.

3.1.1 ZOE 1 – Impoundment

Criterion	Standard	Instructions
A	2	<u>Resource Agency and Tribal Government Recommendations:</u> - Identify the proceeding and source, date, and specifics of the agency and any tribal government recommendations applied in the designated ZoE (NOTE: there may be more than one; identify and explain which is most environmentally protective). - Explain the scientific, technical, or indigenous knowledge basis for the recommendation, including the methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement. - Explain how the recommendation relates to formal agency and tribal management goals and objectives for fish and wildlife and provides fish and wildlife protection, mitigation, and enhancement (including instream flows, ramping, and peaking)

The 20.5-acre reservoir extends approximately 0.9 mile upstream from the dam and is maintained at El. 638.6 feet with the flashboards installed. The Project operates as a run of river project with no peaking or store-and-release operations, in accordance with Condition B of the WQC. The impoundment experiences little fluctuations during normal operations. If a drawdown is required for project maintenance or repair, GMP consults with the relevant resource agencies regarding the timing and duration to avoid adverse effects to aquatic resources, in accordance with Condition J of the WQC. When refilling the impoundment, GMP passes 90 percent of inflow while using the remaining 10 percent to refill the impoundment. As part of Condition C of the WQC Certificate, GMP is developing a Flow Management and Monitoring Plan. This plan will contain provisions for flow data to be available on a near real-time basis upon request. The Flow Management

and Monitoring Plan will include how GMP will operate the Project in instantaneous run-of-river mode and provide the conservation flow of 45 cfs in the bypassed reach.

Condition D of the WQC relates to water quality but could impact river flows in the future depending on results. Condition D requires a Water Quality Study during the first full study season post the FERC license issuance. During the Water Quality Study data will be collected in the impoundment to confirm that Vermont Water Quality Standards are being met under the operations of the Project. If the Project is not in compliance with the Standards, GMP would develop a plan with VANR consultation to achieve compliance. The plan may include changes in project operation, direct oxygen pumped into the draft tube, adding aeration to the outflow, or a combination of these, if necessary. If modifications to the Project are required, further monitoring until compliance is achieved would occur.

Species likely to reside within the impoundment include brown trout (*Salmo trutta*), rainbow trout (*Oncorhynchus mykiss*), smallmouth bass (*Micropterus dolomieu*), fallfish (*Semotilus corporalis*), white sucker (*Catostomus commersonii*), longnose dace (*Rhinichthys cataractae*), and blacknose dace (*Rhinichthys atratulus*) which were considered in the development of WQC conditions. Since the Project is run of river and does not result in frequent impoundment fluctuations, operational impacts on these species are expected to be limited.

3.1.2 ZOE 2 – Bypassed Reach

Criterion	Standard	Instructions
A	2	<u>Resource Agency and Tribal Government Recommendations:</u> - Identify the proceeding and source, date, and specifics of the agency and any Tribal government recommendations applied in the designated ZOE (Note: there may be more than one; identify and explain which is most environmentally protective). - Explain the scientific, technical, or Indigenous knowledge basis for the recommendation, including the methods and data used. This is required regardless of whether the

Criterion	Standard	Instructions
		recommendation is or is not part of a Settlement Agreement. • Explain how the recommendation relates to formal agency and Tribal management goals and objectives for fish and wildlife and provides fish and wildlife protection, mitigation, and enhancement (including instream flows, ramping, and peaking rate conditions, and seasonal and episodic instream flow variations).

The bypassed reach ZOE is approximately 290 feet long before joining with the tailrace ZOE. The bypassed reach is characterized by large bedrock outcrops and a rocky shoreline. Aquatic habitat within the bypassed reach includes deep pools and riffle habitat. During July, August, and September, river flow is usually less than the minimum capacity of the turbine unit (95 cfs); consequently, during these months, the Licensee does not usually operate the Taftsville Project. When the Taftsville Project is shut down, all river flow is passed over the spillway (FERC 1994b). The turbine has an operating range of 95 to 370 cfs. Under the existing 45-cfs bypass-flow requirement, sufficient inflow for generation begins at approximately 140 cfs, with spill occurring when inflow exceeds approximately 385 cfs. The Licensee spills the minimum flow of 45 cfs uniformly over the dam crest to enhance aesthetics and support aquatic habitat year-round, in accordance with Condition B in the 2025 WQC. When river flow exceeds 385 cfs, water not used for generation is spilled into the reach downstream of the dam; this occurs on average approximately 37 percent of the year.

In 2020, GMP completed a baseline study of existing aquatic habitat in the 290-foot-long bypass between the dam and tailrace (Kleinschmidt 2021). The objective of the study was to determine whether 15 cfs, the minimum flow at the time of the study, in the bypassed reach met Vermont's surface water quality standards and criteria for coldwater habitat. The 15 cfs minimum flow maintained a deep, wetted channel from bank to bank in the pool surveyed beneath the dam. The pool was up to 3.0 feet deep and water velocities ranged from -0.13 to 0.73 feet per second (fps). There are several deeper areas in the pool closer to the dam (e.g., ~ 8 to 10 feet deep), which provide cover for aquatic organisms. Substrate in the pool is almost entirely composed of bedrock (Photo 3-1). Further down

in the bypassed reach there is a shift to riffle habitat. The 15 cfs minimum flow maintained a wetted channel from bank to bank and has areas up to 1.5 feet deep. Velocities ranged from -0.02 (in velocity refuge areas) to 4.99 fps in fast chutes. Substrate in the riffle is almost entirely composed of large boulders. Some large boulders along the river left shoreline and in the middle of the channel are exposed (Photo 3-2).



Photo 3-1 Pool Habitat within the Bypassed Reach Directly below the Dam

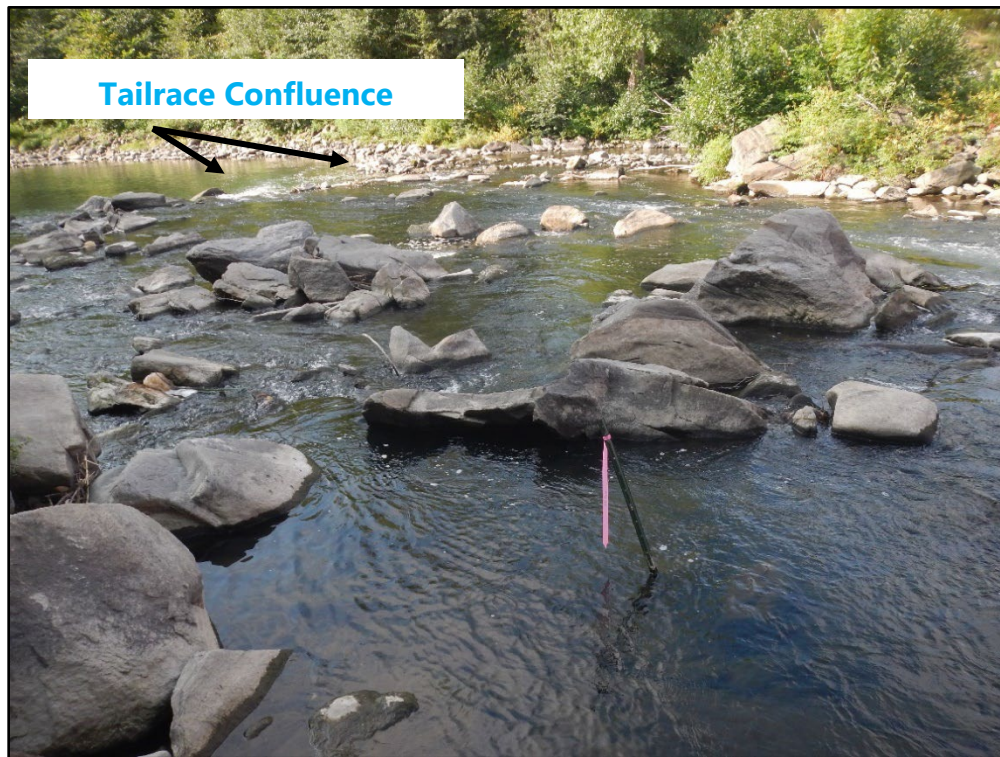


Photo 3-2 View of Low Gradient Riffle Habitat and Tailwater Confluence (Looking Downstream)

In 2022, GMP conducted an additional Instream Flow Aquatic Habitat Study to evaluate alternative flows on habitat suitability for fish and macroinvertebrates (Kleinschmidt 2023). Data on depth, velocity, and water surface elevation were collected at four flows within the riffle transect (32, 49, 75, and 85 cfs), and three flows were simulated⁸ using the Physical Habitat Simulation (PHABSIM) model (15 cfs, 60 cfs or 96 cfs). Habitat suitability curves were developed for the following species and life stages at all seven flows:

- Brown trout (*Salmo trutta*) (juvenile, adult),
- White sucker (*Catostomus commersonii*) (juvenile, adult),
- Fallfish (*Semotilus corporalis*) (juvenile, adult),
- Longnose dace (*Rhinichthys cataractae*) (juvenile, adult),
- Blacknose dace (*Rhinichthys atratulus*) (adult), and
- Benthic macroinvertebrates.

⁸ Due to low flow conditions in 2022, data at 15 cfs, 60 cfs, or 96 cfs could not be collected.

This study demonstrated that river flows between 32 and 49 cfs provided the largest increases in habitat suitability for brown trout, adult longnose dace, and macroinvertebrates (Figure 3-1). Suitability increases slightly over this range for white sucker and fallfish and decreases slightly for adult blacknose dace and juvenile longnose dace. At river flows higher than 32 and 49 cfs, habitat suitability leveled off, increased at a decreasing rate, or decreased for all species and life stages evaluated.

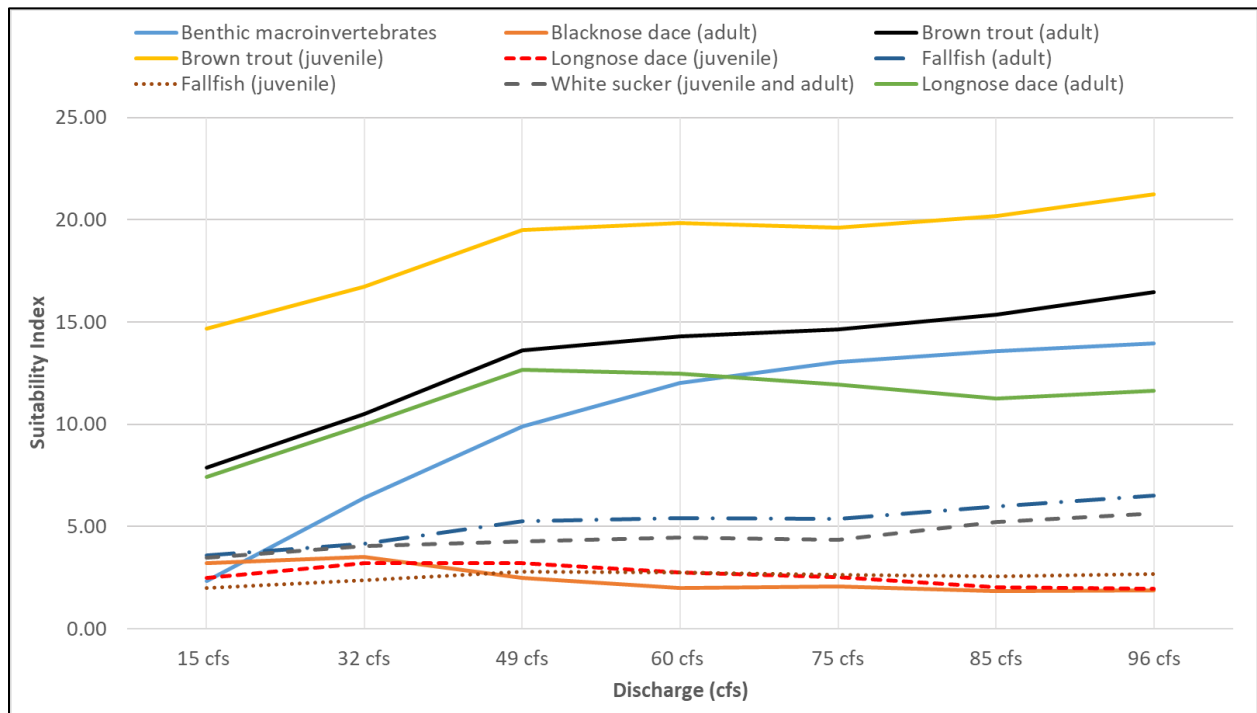


Figure 3-1 Change in Habitat Suitability for Target Freshwater Fish Species and Benthic Macroinvertebrates for Flows Evaluated at the Taftsville Project in 2022 (Kleinschmidt 2022)

Both 2020 and 2022 studies demonstrated that all evaluated flows between the Taftsville dam and powerhouse provide quality, interconnected aquatic habitat, instream cover for fish and other aquatic organisms, zone of passage conditions, and well-oxygenated water (e.g., > 7.0 mg/L) that meets Class B(2) surface water quality standards (Kleinschmidt 2022).

Based on these studies, the VANR determined that 45 cfs would be more suitable compared to the previous 15 cfs minimum flow. As such, Condition B was put into the 2025 WQC requiring a minimum flow of 45 cfs year-round. As part of Condition C, a Flow

Management and Monitoring Plan detailing how the Project will be operated to comply with the 45 cfs conservation flow is under development by GMP. The Flow Management and Monitoring Plan will be available 180 days after the effective date of the new FERC license. No Tribal Nations provided recommendations relative to minimum flows within the bypassed reach as part of the relicensing process.

3.1.3 ZOE 3 - Tailrace

Criterion	Standard	Instructions
A	1	<u>Not Applicable / De Minimis Effect:</u> - Confirm the location of the powerhouse relative to any dam/diversion structures and demonstrate that there are no bypassed reaches in the designated ZOE. - For run-of-river facilities, provide details on operations and describe how flows, water levels, and operations are monitored to ensure such an operational mode is maintained. In a conduit facility, identify the source waters, location of discharge points, and receiving waters for the conduit system within which the hydropower facility is located. This standard cannot be used for conduits which discharge to a natural waterbody. - Describe the target fish and wildlife resources that were considered and how the resultant flow regime supports their habitats over their life cycles. - For impoundment zones, explain water management (e.g., fluctuations, ramping, refill rates, restrictions) and how those requirements support fish and wildlife habitat within the ZOE.

Due to the run-of-river mode of operation, the tailrace is completely dependent upon inflow to the Project and does not have flow requirements in place outside of the Project operating requirements. While in operation, the tailrace can receive 95 cfs to 370 cfs from turbine discharge, due to the operating limitations of the single turbine-generator unit within the powerhouse. All inflow from the impoundment is ultimately routed to either

the powerhouse or the bypassed reach. When flows are lower than the minimum hydraulic capacity, flow is diverted over the spillway, as required in Condition B of the WQC.

The same species found within the bypassed reach and impoundment could potentially occur in the tailrace. Since the tailrace is very short and dependent on the station operating for flow, no flow specific studies were conducted. Condition D does include provisions for a supplemental water quality study to ensure water quality standards are being met within the tailrace. If water quality is not meeting VANR's Water Quality Standards, changes may be made to project operations, or other improvement methods including direct oxygen pumped into the draft tube, adding aeration to the outflow, or a combination of these, if necessary. This is further discussed under Section 3.2.3 – ZOE 3 Water Quality.

3.2 Water Quality Standard

Ottawaquechee River in the Taftsville Project area is classified as Class B(2) cold water fish habitat (VANR 2017). Class B waters are managed to support the designated uses of aquatic biota, wildlife, and aquatic habitat; aesthetics; public water supply; irrigation of crops and other agricultural uses; swimming and other primary contact recreation; and boating, fishing, and other recreational uses (VANR 2017).

The water quality criteria for Class B(2) cold water fish habitat are listed below:

- Temperature:
 - Total increase in water temperature due to all discharges and activities shall not exceed 1°F.
- Biological:
 - Change from natural condition for aquatic macroinvertebrate and fish assemblages not exceeding moderate changes in the relative proportions of taxonomic, functional, tolerant, and intolerant organisms.
- Turbidity:
 - ≤ 10 NTU as an annual average under dry weather baseflow conditions.
- Dissolved Oxygen:
 - ≥ 6 mg/L or 70 percent saturation; ≥ 7 mg/L and 75 percent saturation at all times (instantaneous minimum) in designated salmonid spawning or nursery areas.

- pH:
 - 6.5 to 8.5 standard units.
- Nitrate nitrogen:
 - ≤ 5.0 mg/L at flows exceeding low median monthly flows.
- Phosphorus:
 - $<12\text{--}27$ microgram per liter ($\mu\text{g/L}$) at low median monthly flow during June to October.
- *Escherichia coli*:
 - Not to exceed a geometric mean of 126 organisms/100 ml obtained over a representative period of 60 days, and no more than 10 percent of samples above 235 organisms/100 ml. In waters receiving combined sewer overflows, the representative period shall be 30 days.

Data on water quality has been collected by the Ottauquechee River Group (ORG) and the Vermont Department of Environmental Conservation (VDEC) over the years upstream and downstream of the Project (Figure 3-2) (ORG 2017; VANR 2025). As part of the relicensing, GMP also conducted a water quality study in 2020 and a supplemental water quality study in 2022 (GMP 2022, 2023). In 2020, GMP installed five DO and water temperature data loggers that recorded data at 15-minute intervals throughout the Taftsville Project area (Figure 3-3). Monitoring occurred from July 23 through August 26, except in the tailrace, where the monitoring period was shortened due to dewatering from low flows.

The five monitoring sites were:

- Site 1 - the riverine reach just upstream of the impoundment that is not influenced by the Taftsville Project;
- Site 2 - within the deepest area of the impoundment in approximately 9 feet of water approximately 1,000 feet upstream of the dam;
- Site 3 - at the intake at a depth representative of water being pulled into the penstock (mid-water column);
- Site 4 - in the bypassed reach upstream of the tailrace; and
- Site 5 - in the tailrace pool.

No Tribal Nations provided recommendations relative to water quality as part of the relicensing process.

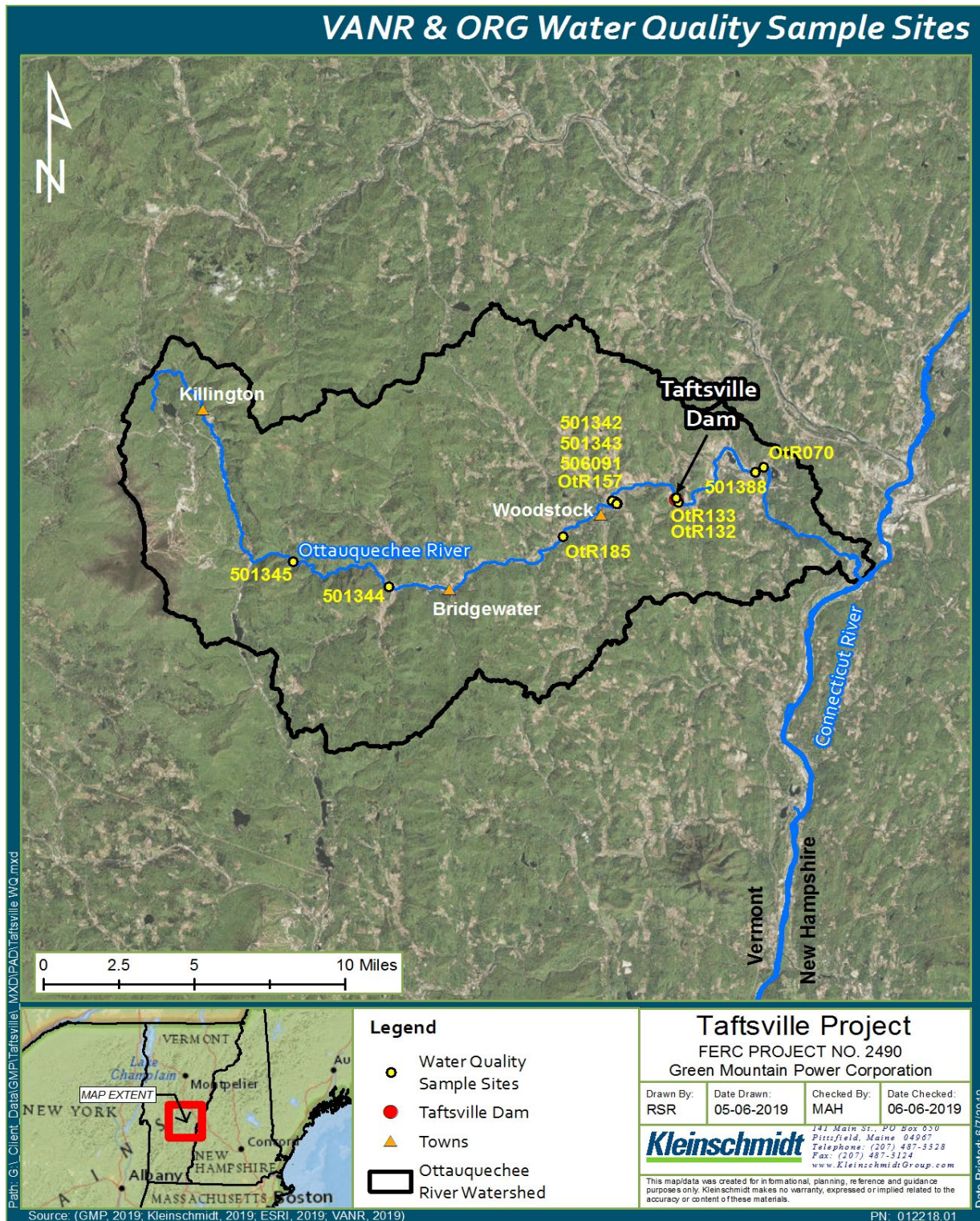


Figure 3-2 Ottauquechee River Group and VANR Water Quality Monitoring Station Locations

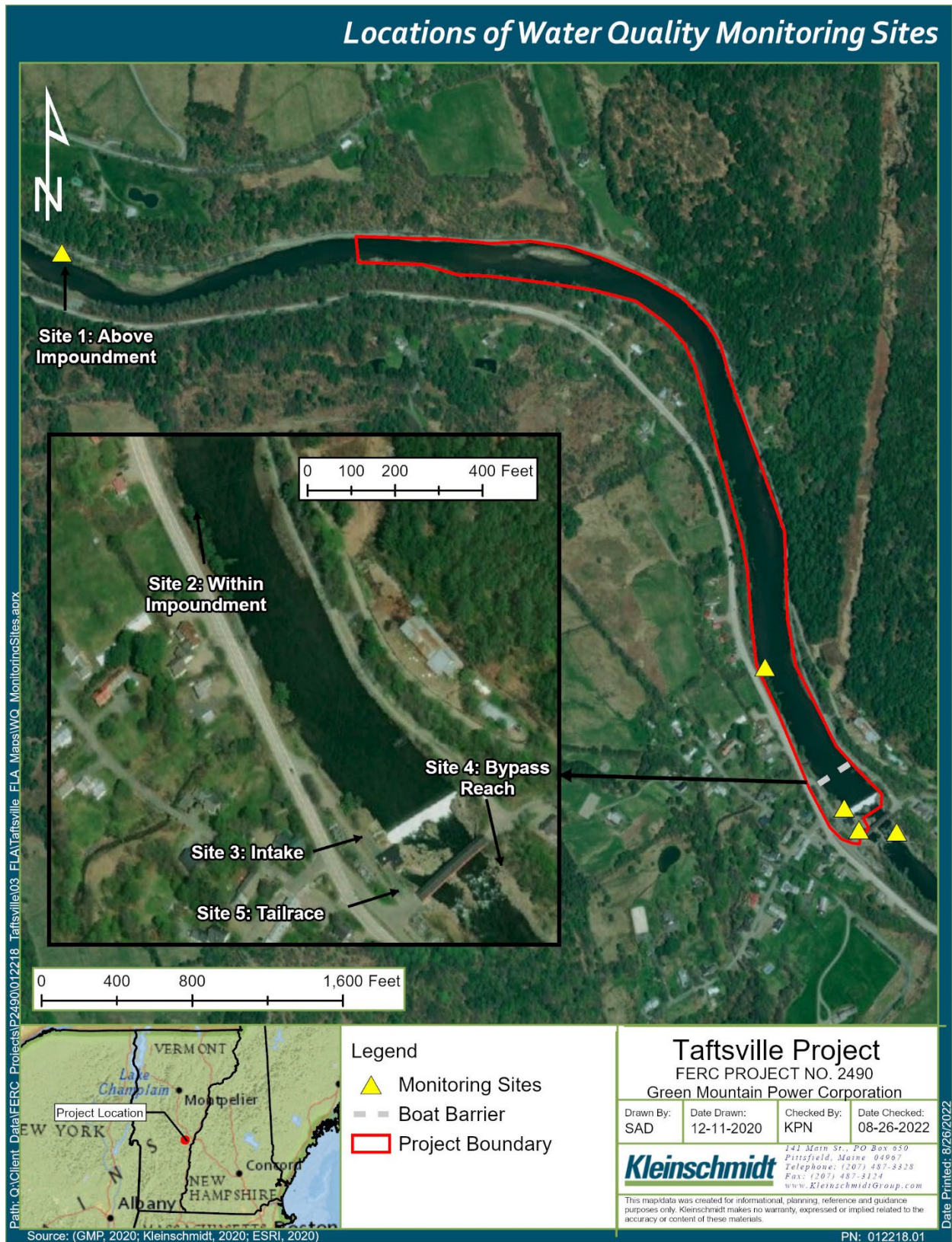


Figure 3-3 Locations of Water Quality Monitoring Sites at the Taftsville Project

3.2.1 ZOE 1 - Impoundment

Criterion	Standard	Instructions
B	2	<u>Resource Agency and Tribal Government Recommendations:</u> • Provide a copy of the most recent state and, if applicable, Tribal Water Quality Certificate and any subsequent amendments, including the date(s) of issuance. If more than 10 years old, provide documentation that the certification terms and conditions remain valid and in effect for the facility (e.g., a confirmation letter or email from the resource agency or Tribal Nation). • Identify any other agency recommendations related to water quality and explain their scientific or technical basis. • Identify any Tribal government recommendations and explain their scientific or Indigenous knowledge basis. • Describe all compliance requirements and activities related to water quality including on-going monitoring, and how those are integrated into facility operations and reported to resource agencies, Tribal governments, and FERC, as applicable.

The Ottauquechee River Group monitored water quality in 2010, 2011, 2013-2019, 2022, and 2023 at several sites throughout the Ottauquechee River and its tributaries (ORG 2017; VANR 2025). Five parameters were monitored: total phosphorus, total nitrogen, total chloride, turbidity, and *E. coli* bacteria. One site is located within the Taftsville Impoundment (OtR133). Water quality upstream of the Project and within the impoundment has seen impairments due to phosphorus and *E. coli*. There were some total phosphorus measurements above the state standard (ranges from 12-27 µg/L), particularly in 2013, 2019 and 2022, and several individual *E. coli* measurements exceeded the standard (235 organisms/100 ml) (ORG 2017; VANR 2025) (Table 3-1). Total nitrogen

was below the state standard, and the majority of turbidity measurements were also below the state standard.

VDEC periodically conducts water quality sampling at several sites within the Ottauquechee River (Table 3-1). Measurements of pH, DO, water temperature, total chloride, total nitrogen (NO₃-N), total phosphorus, turbidity, and conductivity at five stations upstream of the Taftsville Project collected between 2002 and 2024 are shown in Table 3-2. The results demonstrate that the Ottauquechee River attained Class B(2) standards for pH, DO, turbidity, and total nitrogen, with the exception of two DO percent saturation values that were below 70 percent at sites 501342 and 501388 in 2010.

VDEC also evaluates the biological integrity of a macroinvertebrate community by comparing specific metrics to the values expected for a naturally occurring macroinvertebrate population. Several assessments were completed upstream of the Taftsville Project between 2002 and 2024 (Table 3-1, Table 3-3). These assessments found the macroinvertebrate community to be “Fair” to “Very Good” upstream of the impoundment ZOE. All sampling events resulted in meeting Class B(2) water quality standards by fully support aquatic life standards, with the exception of Site 501342 in 2002, where the Hilsenhoff Biotic Index (HBI) indicated intermediate support of aquatic life standards (Table 3-3) (VANR 2025).

As part of the relicensing, GMP also performed a water quality study in 2020 and supplemental water quality study in 2022. Temperature, DO (mg/L), and DO saturation were measured from July 13 to August 26, 2020 in the impoundment. Results indicated the average dissolved oxygen (DO) levels were within Class(B) standards (Table 3-4). As part of the 2022 Instream Flow Aquatic Habitat Study, discussed above, GMP collected DO, temperature, and project generation data from July 7 through September 19, 2022. Continuous DO loggers were installed in the impoundment, about 1.2 miles upstream of Taftsville Dam. The Taftsville Project operated for 8 hours during this 10.5-week study. Inflow during the study ranged from 18 cfs to 2,002 cfs, with a median inflow of 55 cfs (Kleinschmidt 2023).

In the impoundment, DO concentrations ranged from 0 to 15.2 mg/L, averaging 8.3 mg/L, and saturation levels ranged from 0 to 170.9%, with an average of 96.9%. The recorded drops to 0 mg/L or 0 percent saturation were attributed to meter biofouling. This was documented in the Study with handheld measurements taken at the same time showing

9.47 mg/l at the time of data retrieval and recalibration (Kleinschmidt 2023). During the same period, water temperature in the impoundment ranged from 57°F to 87°F, averaging 73°F. In the tailrace, DO concentrations ranged from 6.2 to 12.2 mg/L, averaging 6.8 mg/L, and saturation levels ranged from 74.9 to 134.4 percent, with an average of 102%. During the same period, water temperature in the tailrace ranged from 60°F to 85°F, averaging 72°F.

Within the 2025 WQC, Condition D requires a Water Quality Study during the first full study season post the FERC license issuance. During the Water Quality Study data will be collected in the impoundment to confirm that Vermont Water Quality Standards are being met under the operations of the Project. If the Project is not in compliance with the Standards, GMP will develop a plan with VANR consultation to achieve compliance. The plan may include changes in project operation, direct oxygen pumped into the draft tube, adding aeration to the outflow, or a combination of these, if necessary. If modifications to the Project are required, further monitoring until compliance is achieved would occur.

Based on the available information, and the fact that the state of Vermont issued a new WQC for the Taftsville Project in 2025 with few distinct conditions, Project operations are not expected to adversely impact water quality in the ZOE impoundment.

Table 3-1 Ottauquechee River Group Water Quality Monitoring Results, 2010-2023

Date	Total Phosphorus (µg/L)	Total Nitrogen (mg/L)	Total Chloride (mg/L)	Turbidity (NTU)	<i>E. coli</i> bacteria (per 100 mL sample)
<i>502707/OtR185 (approximately 5.8 RM upstream of Taftsville dam)</i>					
July 1-Sept. 23 2010	6.2-19	-	10.9-17.8	0.33-3.5	26-326
July 7-Aug. 18, 2011	-	0.18-0.32	-	0.59-4.0	37-488
June 20-Aug 29, 2013	5.3-54.4	0.22-0.47	7.2-18.6	0.35-20.2	15-687
June 19-Sept. 11, 2014	6.2-27.3	0.21-0.34	11.4-18.1	0.59-17.2	11-201
June 18-Sept 10, 2015	6.4-13	0.18-0.42	10-26	0.41-2.5	40-120
June 23-Aug. 18, 2016	5.7-9.9	0.20-0.28	17.4-24	0.52-1.1	50-66
June 22-Aug. 31, 2017	6-7.5	0.12-0.32	12.5-23	0.40-1	20-75
July 5-Sept. 13, 2018	<5-7.9	0.20-0.60	-	0.7-4.3	24-291
June 20-Aug. 29, 2019	<5-8	0.20-0.31	-	-	-
<i>505500/OtR157 (approximately 3 RM upstream of Taftsville dam)</i>					
July 7-Aug. 18, 2011	-	0.38-0.65	-	0.9-4.9	66-328

Low Impact Hydropower Institute Application
Taftsville Hydroelectric Project (FERC No. 2490)

Date	Total Phosphorus (µg/L)	Total Nitrogen (mg/L)	Total Chloride (mg/L)	Turbidity (NTU)	<i>E. coli</i> bacteria (per 100 mL sample)
June 20-Sept. 12, 2013	6-71	0.26-0.45	8-22	0.3-28	44-2,420
June 19-Sept. 11, 2014	9-28	0.27-0.36	13-21	0.8-12.5	68-328
June 18-Sept. 10, 2015	6.7-37.5	0.18-0.37	11-34	0.4-3.1	44-125
June 23-Sept. 1, 2016	10-29	0.25-0.34	20-34	0.5-1.1	69-225
June 22-Aug. 31, 2017	6.2-13.9	0.15-0.34	17-30	0.6-1.2	41-83
July 5-Sept. 13, 2018	10.9-159	0.30-1.3	-	1.0-2.1	88-411
June 20-Aug. 29, 2019	8-1060	0.3-1.5	-	-	-
<i>502710/OtR133 (approximately 325 feet upstream of Taftsville dam)</i>					
July 1-Sept. 23 2010	19.8-27.7	-	11.8-22.3	0.91-4.8	18-365
July 7-Aug. 18, 2011	-	0.14-0.36	-	1.4-4.7	65-1,203
June 20-Sept. 12, 2013	8.5-62.7	0.24-0.41	7.3-19.8	0.35-30	55-2,420
June 19-Sept. 11, 2014	9.3-18.6	0.26-0.38	12.5-20	0.7-8.3	23-411
June 18-Sept. 10, 2015	7.4-26.1	0.18-0.40	9.9-21.5	0.86-2.6	47-219
June 23-Aug. 18, 2016	12.1-19.4	0.24-0.35	19.7-25.8	0.9-2.6	27-142
June 22-Aug. 31, 2017	8.1-15.3	0.16-0.34	14-27	0.7-3.1	6-210
July 5-Sept. 13, 2018	10.6-25.1	0.23-0.65	-	0.9-2.3	19-488
June 20-Aug. 29, 2019	7-348	0.23-0.67	-	-	-
June 29, 2022	105	0.82	26.6	0.4	-
May 24, 2023	5.8	0.17	15.4	-	-

Source: ORG 2017; VANR 2025

Table 3-2 Vermont Agency of Natural Resources Water Quality Monitoring Results from the Ottauquechee River

Date	pH	DO (mg/L)	DO (Percent Saturation)	Water Temperature (°C)	Total Chloride (mg/L)	Total Nitrogen (mg/L)	Total Phosphorus (mg/L)	Turbidity (NTU)	Conductivity (µS/cm)
<i>501345 (approximately 17.5 RM upstream of Taftsville dam)</i>									
Sept. 24, 2007	8	-	-	13	-	0.25	9.3	0.7	213
<i>501344 (approximately 12.8 RM upstream of Taftsville dam)</i>									
July 22, 2004	8.1	8.8	103	21.2	24.3	0.22	8	0.52	165
<i>501342 (approximately 3 RM upstream of Taftsville dam)</i>									
Sept. 2, 2002	8.63	-	-	21	-	-	-		265
July 21 & Oct 2, 2004	7.8- 8.1	9.0-9.9	93.7-102	10.3-20.5	15.8-19.7	0.3-0.41	27-57	0.59-1.6	143-174
Sept. 24, 2007	8.4	-	-	16.9	--	0.19	15.8	0.57	226
Aug 20-Nov 16, 2010	7.6- 8.2	7.4- 10.8	61.4-110.7	7.1-21.3	20.1	0.22-0.67	8.9-108	0.93-1.2	121-202
July 12-Sept 20, 2012	7.8- 8.2	9.9	98.4	12.4-21.2	19.8-26	0.39-0.57	30.6-46.9	0.52-1.9	197-259
Sept. 10, 2014	7.95	10.2	101.2	14.6	21.1	0.35	23.2	0.42	211
July 30-Sept 28, 2015	8.1- 8.2	8.2- 10.4	99.4	12.9-23.3	33.5	0.37-0.53	21.6-162	0.33-1.2	190-249
Sept 17, 2019	8.1	10.3	107.9	15.4	40.6	0.38	23	0.45	280
Sept 19, 2024	8.17	10.68	115.1	18.93	24.7	0.31	84	0.3	332.8
<i>501343 (approximately 3 RM upstream of Taftsville dam)</i>									
Aug 20-Nov 16, 2010	7.6- 8.0	8.2- 10.2	71.1-103.8	7.1-21.3	-	<0.1-0.17	7.6	0.88-0.95	123-196

Low Impact Hydropower Institute Application
Taftsville Hydroelectric Project (FERC No. 2490)

Date	pH	DO (mg/L)	DO (Percent Saturation)	Water Temperature (°C)	Total Chloride (mg/L)	Total Nitrogen (mg/L)	Total Phosphorus (mg/L)	Turbidity (NTU)	Conductivity (µS/cm)
July 12-Sept 20, 2012	7.9- 8.2	-	-	20.2-21.5	19.1	0.27-0.67	13.8-54.3	1.7	231-258
<i>506091 (approximately 3 RM upstream of Taftsville dam)</i>									
Aug 20-Nov 16, 2010	7.6- 8.0	8.2- 10.2	71.1-103.8	7.1-21.3	20.7	0.21	8.1	0.45	121-196
July 12-Sept 20, 2012	7.9- 8.1	9.7	97	12.4-21.7	20.2-24.7	0.18-0.34	6.1	0.60-0.65	194-247
Sept. 10, 2014	8.1	8.5	87.1	16.7	20.9	0.28	8.2	0.44	202-210
July 30-Sept 28, 2015	7.8- 8.0	7.3-9.6	87.8	13.5-22.9	31	0.19-0.33	6.1-7.6	0.26-0.70	188-234
Sept. 17, 2019	7.9	11.6	122	15.8	38.3	0.24	9	0.45	272
May 24, 2023	7.98	10.03	98.4	13.25	17.7	0.22	<5	0.4	170.6
Oct 3, 2023	7.82	9.32	91	13.62	20	0.17	5.9	2.1	234
Sept 19, 2024	7.96	9.7	104.7	19.23	23.4-23.8	0.12-0.13	<5	0.2-0.3	318

Source: VANR 2025

Table 3-3 Macroinvertebrate Community Assessments Conducted by Vermont Department of Environmental Conservation in the Ottauquechee River

Site (Town)	Date	Macroinvertebrate Assessment	Density	Richness	EPT ^a Richness	HBI ^b
501342 (Woodstock) (approximately 3 RM upstream of Taftsville dam)	9/9/2002	Good-Fair	2,520	42	20	5.10
	10/2/2003	Very Good-Good	3,588	52	23	4.26
	9/24/2007	Very Good-Good	2,856	49	26	4.50
	9/15/2010	Good	5,080	62	37	4.58
	9/20/2012	Good-Fair	2,752	49	26	4.97
	9/10/2014	Good-Fair	2,820	48	29	4.36
	9/28/2015	Good	3,864	60	33	3.69
	9/17/2019	Good-Fair	4,676	62	32	4.12
	9/19/2024	Good	3,098	46	26.0	4.92
506091 (Woodstock) (approximately 3 RM upstream of Taftsville dam)	9/15/2010	Very Good	3,576	58	35	4.04
	9/28/2015	Good - Fair	3,160	48	31	4.12
	9/17/2019	Good	3,968	42	24	4.32
	9/19/2024	Good	1,880	39	24	4.31
Guidelines for Class B(2) Water		Full Support	≥300	≥30	≥18	≤5.0
		Intermediate	≥250	≥28	≥16	≤5.15
		Non-Support	<250	<28	<16	≤5.15

Source: VANR 2022

^aEphemeroptera, Plecoptera, and Trichoptera

^bHilsenhoff Biotic Index

Table 3-4 Water Quality Statistics within the Impoundment from July 13 to August 26, 2020

Site		Above Impoundment	Impoundment Deep Spot	Intake
Temp	Mean	22.9	22.6	23
	Median	22.7	22.8	23.5
	Min	17.5	18.5	17.9
	Max	29.6	26.3	26
DO mg/L	Mean	9.1	7	7.9
	Median	8.6	7.1	7.8
	Min	5.5	2.6	3.4
	Max	14.3	11.1	12.6

Site		Above Impoundment	Impoundment Deep Spot	Intake
DO % Saturation	Mean	109	82.3	93.7
	Median	98.9	83.2	93
	Min	69.3	31.2	41.4
	Max	190.9	139.3	159.3

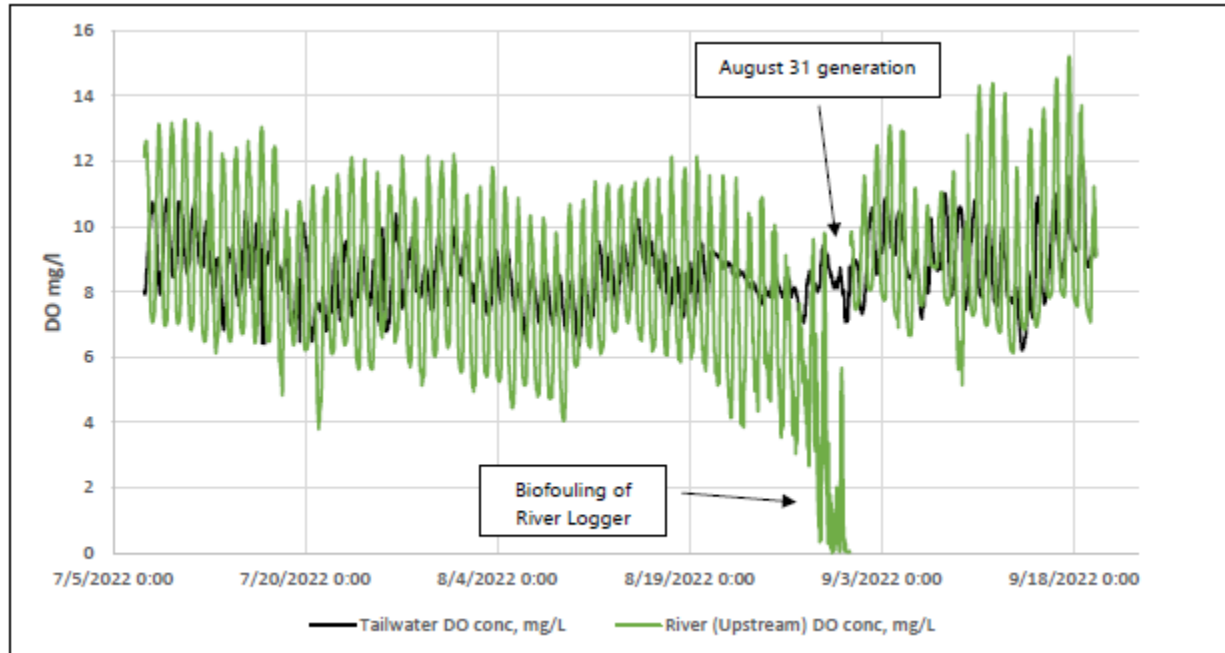


Figure 3-4 Dissolved Oxygen Content (mg/L) in the Ottauquechee River Upstream of the Taftsville Project and in the Tailwater, July 7 – September 19, 2022

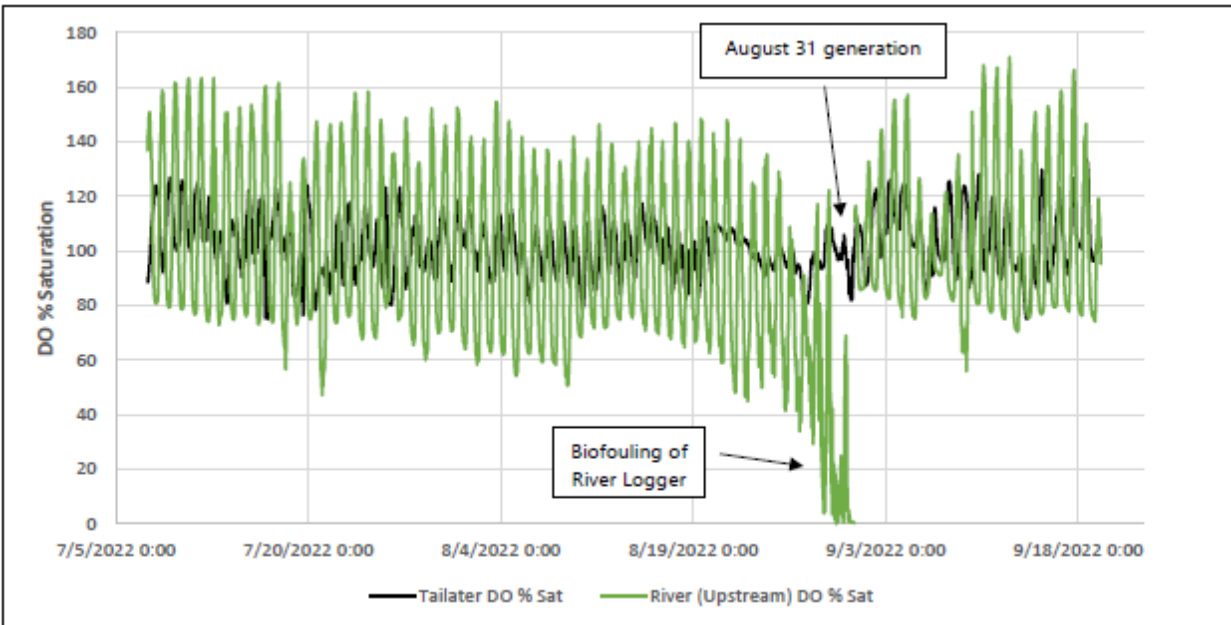


Figure 3-5 Dissolved Oxygen Percent Saturation in the Ottawaquechee River Upstream of the Taftsville Project and in the Tailwater, July 7 – September 19, 2022

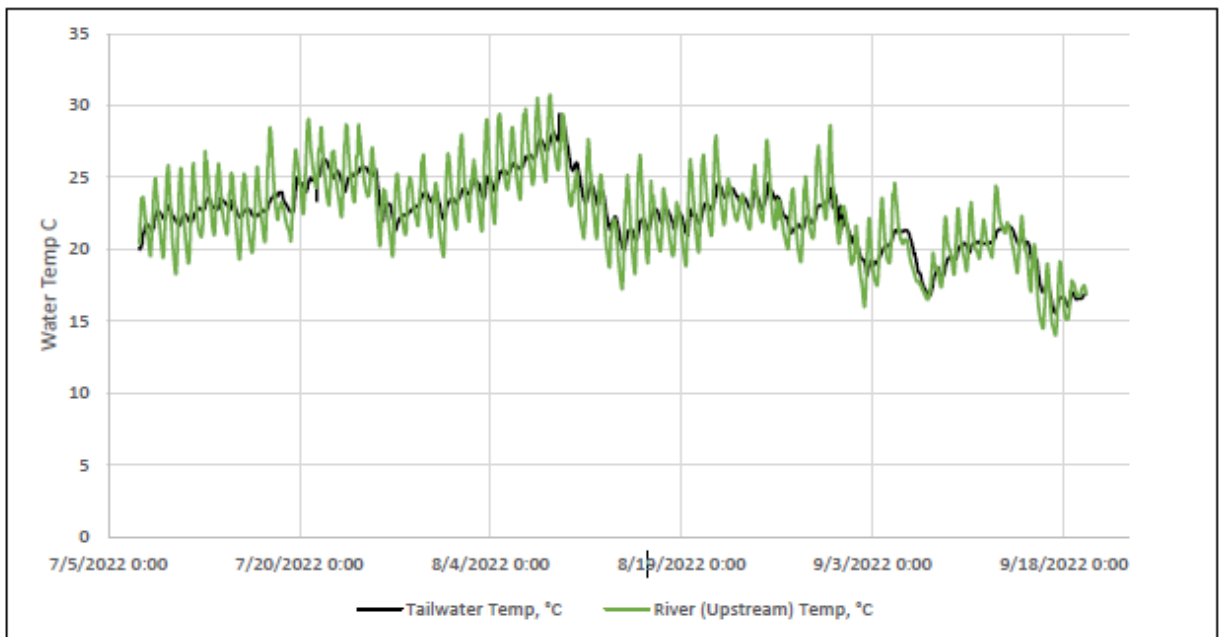


Figure 3-6 Water Temperature in the Ottawaquechee River Upstream of the Taftsville Project and in the Tailwater, July 7 – September 19, 2022

3.2.2 ZOE 2 – Bypassed Reach

Criterion	Standard	Instructions
B	2	<u>Resource Agency and Tribal Government Recommendations:</u> • Provide a copy of the most recent state and, if applicable, Tribal Water Quality Certificate and any subsequent amendments, including the date(s) of issuance. If more than 10 years old, provide documentation that the certification terms and conditions remain valid and in effect for the facility (e.g., a confirmation letter or email from the resource agency or Tribal Nation). • Identify any other agency recommendations related to water quality and explain their scientific or technical basis. • Identify any Tribal government recommendations and explain their scientific or Indigenous knowledge basis. • Describe all compliance requirements and activities related to water quality including on-going monitoring, and how those are integrated into facility operations and reported to resource agencies, Tribal governments, and FERC, as applicable.

The bypassed reach has historically received 15 cfs of flow over the spillway year-round providing constant water in flow and maintains good water quality within the bypassed reach. This was documented during the water quality study conducted for the relicensing, as shown in Table 3-5. All DO measurements were above the Class(B) standards with a mean DO of 8.2 mg/L and 99.3 percent saturation (Kleinschmidt 2020). Even minimum measurements during the sampling were above the Class(B) standard with a DO of 7 mg/L and 85.8 percent saturation (Kleinschmidt 2020). This study documented that even during low flow, high temperature periods the bypassed reach is within water quality standards.

Water quality in the bypassed reach is not expected to diminish with the additional flow from the new minimum flow of 45 cfs required by the WQC.

3.2.3 ZOE 3 – Tailrace

Criterion	Standard	Instructions
B	2	<u>Resource Agency and Tribal Government Recommendations:</u> • Provide a copy of the most recent state and, if applicable, Tribal Water Quality Certificate and any subsequent amendments, including the date(s) of issuance. If more than 10 years old, provide documentation that the certification terms and conditions remain valid and in effect for the facility (e.g., a confirmation letter or email from the resource agency or Tribal Nation). • Identify any other agency recommendations related to water quality and explain their scientific or technical basis. • Identify any Tribal government recommendations and explain their scientific or Indigenous knowledge basis. • Describe all compliance requirements and activities related to water quality including on-going monitoring, and how those are integrated into facility operations and reported to resource agencies, Tribal governments, and FERC, as applicable.

During the 2020 water quality study, sampling within the tailrace was limited due to dewatering from low flows and the lack of operation of the Project. The tailrace data logger was installed on August 6, 2020, once it was determined that monitoring could be completed in a small pool immediately downstream of the powerhouse. It should be noted this was an isolated pool without notable flow. The logger was removed on August 26, 2020, along with the other sites. During this time, the mean DO measurements were 8.1 mg/L and 94.1 percent saturation, which exceeds Class(B) standards. However, minimum measurements of 4 mg/L and 43.7 percent saturation did not meet the standards.

Based upon VANR comments on the 2020 study results, GMP proposed to conduct limited supplemental DO monitoring studies during the 2022 field season to gather additional data specific to DO at the Taftsville Project, above the impoundment and within the tailrace under 3 times 7Q10 conditions, if such conditions were to conditions occur. Both data sondes were installed on July 7, 2022, to target the low flow and high temperature period of the summer to monitor the effects of operations on DO. The loggers were programmed to measure DO and water temperature at 15-minute intervals. However, due to low flows again in 2022, GMP could not operate the Taftsville Project for any sustained period of time during the summer of 2022. The Taftsville Project was offline as a result of low flows from June 6 through September 20, 2022, except for a few hours on August 31. During the monitoring period, 5 hours of data were collected with the Taftsville Project operating during low flow, high temperature conditions on August 31, 2022. Applicable data from this period can be found in Table 3-5. Based on the limited data available, operations did not drop DO within the tailrace. A slight increase in DO mg/L and percent saturation can be seen as operation within the tailrace progresses. This could be a result of aeration from Project operations.

The required Water Quality Study included as Condition D in the WQC would confirm water quality standards are being met within the tailrace. This study will be conducted within the first full study season post FERC license issuance and would follow a the similar study plan conducted in 2022. If the Project is not in compliance with the standards, GMP will develop a plan with VANR consultation to achieve compliance. The plan may include changes in project operation, direct oxygen pumped into the draft tube, adding aeration to the outflow, or a combination of these, if necessary. If modifications to the Project are required, further monitoring until compliance is achieved would occur.

Table 3-5 Water Quality Statistics from August 31, 2022, Sampling During Project Generation

Date	Time	River (Upstream) DO conc, mg/L	River (Upstream) Temp, °C	River (Upstream) DO % Sat	Tailwater DO conc, mg/L	Tailwater Temp, °C	Tailwater DO % Sat
8/31/2022	1:45:00 PM	9.44	22.56	110.7	8.37	21.9	102.2
8/31/2022	2:00:00 PM	9.66	22.58	113.4	8.5	21.96	103.9
8/31/2022	2:15:00 PM	9.73	22.6	114.2	8.44	22.08	103.4
8/31/2022	2:30:00 PM	9.75	22.68	114.6	8.48	22.18	104.1

Low Impact Hydropower Institute Application
Taftsville Hydroelectric Project (FERC No. 2490)

Date	Time	River (Upstream) DO conc, mg/L	River (Upstream) Temp, °C	River (Upstream) DO % Sat	Tailwater DO conc, mg/L	Tailwater Temp, °C	Tailwater DO % Sat
8/31/2022	2:45:00 PM	9.82	22.76	115.6	8.59	22.32	105.8
8/31/2022	3:00:00 PM	9.84	22.86	116.1	8.63	22.42	106.4
8/31/2022	3:15:00 PM	9.83	22.9	116.1	8.66	22.5	107
8/31/2022	3:30:00 PM	9.84	22.98	116.4	8.73	22.54	107.9
8/31/2022	3:45:00 PM	9.8	23	115.9	8.79	22.64	108.9
8/31/2022	4:00:00 PM	9.62	22.92	113.6	8.79	22.66	108.9
8/31/2022	4:15:00 PM	9.41	22.8	110.9	8.82	22.64	109.3
8/31/2022	4:30:00 PM	9.42	22.76	110.9	8.86	22.64	109.7
8/31/2022	4:45:00 PM	9.54	22.86	112.6	8.87	22.64	109.9
8/31/2022	5:00:00 PM	9.58	22.96	113.2	8.87	22.68	110
8/31/2022	5:15:00 PM	9.54	22.98	112.8	8.9	22.7	110.4
8/31/2022	5:30:00 PM	9.45	22.98	111.7	8.9	22.68	110.3
8/31/2022	5:45:00 PM	9.38	22.98	110.9	9.01	22.66	111.6

3.3 Upstream Fish Passage

3.3.1 ZOE 1 - Impoundment

Criterion	Standard	Instructions
C	1	<u>Not Applicable / De Minimis Effect:</u> - Explain why the facility does not impose a barrier to upstream fish passage in the designated ZoE. Typically, impoundment zones will qualify for this standard since once above a dam and in an impoundment, there is no additional facility barrier to further upstream movement. - Provide available fish distribution data showing the absence of migratory fish species in each ZoE. - If migratory fish species have been extirpated from the facility area, explain why the facility is not or was not the cause of the extirpation.

The Ottawaquechee River provides a variety of aquatic habitats that support cold and warm water fish species including common shiner (*Luxilus cornutus*), golden shiner (*Notemigonus crysoleucas*), white sucker, black bullhead (*Ameiurus melas*), rock bass (*Ambloplites rupestris*), longnose dace, blacknose dace, bluntnose minnow (*Pimephales notatus*), creek chub (*Semotilus atromaculatus*), fallfish, smallmouth bass, slimy sculpin (*Cottus cognatus*), brown trout, and rainbow trout (North Hartland LLC 2016; FERC 1994a; VDEC 2024). Wild brook trout are also present within the upper mainstem of the Ottawaquechee River (VDEC 2024) The VANR stocks approximately 1,600 to 2,500, 10- to 11-inch-long yearling rainbow trout annually at the Route 100A bridge crossing in Bridgewater, approximately 10 river miles upstream from the Taftsville dam (VDFW 2021).

There are no fish passage barriers within the impoundment or upstream of the Taftsville Dam. Migratory species and fish passage is discussed under ZOE 2 and ZOE 3 Below..

3.3.2 ZOE 2 and ZOE 3

Criterion	Standard	Instructions
C	2	<u>Resource Agency and Tribal Government Recommendations:</u> - Identify the proceeding and source, date, and specifics of the agency and Tribal government recommendations applied in the designated ZOE (NOTE: there may be more than one; identify all and explain which one is most environmentally stringent). - Explain the scientific, technical, or Indigenous knowledge basis for the recommendation, including the methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement. - Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the recommendation, and how these are being implemented. Provide evidence that required passage facilities are being operated and maintained as mandated (e.g., meets seasonal operational requirements, coordination with agencies and Tribal authorities, meets effectiveness relative to performance targets).

There are currently no migratory fish species at the Taftsville Project. There are eight dams between the Taftsville Project and Long Island Sound, and several of the dams downstream of Taftsville do not have fish passage facilities (Ottauquechee Woolen Mill Project, North Hartland, Dewey's Mills, Emory's Mill) (FERC 1994a, FERC 2026a). The Taftsville Project is the furthest dam upstream on the Ottauquechee River and did not result in the extirpation of diadromous fish in the Ottauquechee River. While the Taftsville Dam was built in 1794, so was the Turners Falls Project dam (FERC 2025a; American Rivers 2025). However, the Turners Falls Project is located on the Connecticut River downstream of the Project and would have prevented any fishes moving upstream to the Ottauquechee River. This was cited as the first obstruction to fish passage within the FERC EA, followed by the construction of the Holyoke Dam in 1849 which essentially eliminated all anadromous runs. Fish passage was built at the Holyoke Dam in 1893, but was deemed ineffective. Improved fish passage at the Holyoke Dam was built in 1955 (FERC 2025a).

Atlantic salmon (*Salmo salar*) occurred in the Ottauquechee River historically, however there are no salmon runs in the Ottauquechee River today. It is anticipated that USFWS will reserve authority for future potential Atlantic salmon passage facilities. The Project is also within the native range of the catadromous species, American Eel (*Anguilla rostrata*), but has not been recently documented downstream of the Project. At this time, no passage is provided at the first dam on the Ottauquechee River at the Ottauquechee Woolen Mill Project (P-2787). This dam is relatively low in height (7 feet), and American Eels have been documented climbing over 20-foot dams. However, no American Eels were documented within the North Hartland Lake or in the Ottauquechee River downstream of the North Hartland Project (P-2816) during surveys conducted in 2016 to 2017 (FERC 2022). North Hartland did receive a new license in 2023, which has orders to develop an Upstream Eel Trapping Program Plan (FERC 2023). There is no upstream passage at the Dewey Mills Project (P-5313) or Emory's Mill Project (P-5195). Under Condition E of the WQC, within 1 year of upstream passage of American Eel at the next downstream Project (Emory's Mill Project), GMP will initiate a plan for American Eel passage upstream. This plan must be developed with VANR and USFWS consultation and must include an implementation schedule. The plan can include a trap and truck program, eel ramp installation, or other appropriate methods. The FERC Environmental Assessment also concluded that it is premature to install upstream eel passage at the Project at this time, and is more appropriate for future consideration.

No Tribal Nations provided recommendations relative to upstream fish passage as part of the relicensing process.

3.4 Downstream Fish Passage

3.4.1 ZOE 1 – Impoundment

Criterion	Standard	Instructions
D	<u>2</u>	<u>Resource Agency and Tribal Government Recommendations:</u> - Identify the proceeding and source, date, and specifics of the agency and tribal government recommendation applied in the designated ZoE (NOTE: there may be more than one; identify and explain which is most environmentally stringent). - Explain the scientific, technical, or indigenous knowledge basis for the recommendation, including the methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement. - Describe any provisions for fish passage and/or fish protection monitoring or effectiveness determinations that are part of the recommendation, and how these are being implemented. - Provide evidence that required passage facilities are being operated and maintained as mandated (e.g., meets seasonal operational requirements, coordination with agencies and tribal authorities, meets effectiveness relative to performance targets).

Due to the lack of diadromous fish species present near the Project (see Section 3.3.1 for list of fish species present), no downstream passage facilities or requirements have been prescribed at this time. The Project is within the historic range of American Eels; however American Eels are not present at the Project due to passage barriers downstream.

Since no upstream passage has occurred at any of the downstream projects to date, and no upstream passage is currently occurring at the Project, downstream passage is not prescribed at the Project. Given the long lifespan of American Eels, downstream passage at the Project is unlikely to be necessary for numerous years following upstream passage. GMP will work with state and federal agencies to allow for downstream passage when timing is appropriate. In the absence of migratory fish in the Ottauquechee River at present, the Project has no adverse effect on migratory fish passage.

Resident species that are found within the impoundment include brown trout, rainbow trout, smallmouth bass, longnose dace, and white sucker (FERC 2025a). The FERC EA analyzes the impact the Project would have on these species, including the potential for entrainment and impingement. The EA compared the burst swim speeds for these species to the maximum 2.6 fps approach velocity⁹ in front of the trash rack at the maximum hydraulic capacity of 370 cfs (FERC 2025a). It was concluded that the adult life stages of all five representative species and the juvenile life stages of three representative species have burst swim speeds that exceed the approach velocity at the intake and are capable of swimming to avoid impingement and entrainment. Some entrainment could occur as some fish are likely to volitionally swim downstream through the Project's trash racks. However, entrainment studies have shown that the majority of fish entrained would be small, and many are young-of-the-year (EPRI, 1997). Entrainment and turbine mortality of smaller and younger individuals could occur but would likely have minimal consequences to the fish communities in the Project impoundment and Ottauquechee River (FERC 2025a).

Per Condition F of the WQC, prior to the next trash rack replacement, GMP will consult with the Vermont Fish and Wildlife and other applicable stakeholders with respect to the trash rack design to determine appropriate clear spacing.

⁹ Maximum estimated approach velocity was calculated using the formula: approach velocity = (intake flow)/(intake cross section area) (EPRI, 2000).

3.4.2 ZOE 2 – Bypassed Reach

Criterion	Standard	Instructions
D	<u>2</u>	<u>Resource Agency and Tribal Government Recommendations:</u> - Identify the proceeding and source, date, and specifics of the agency and tribal government recommendation applied in the designated ZoE (NOTE: there may be more than one; identify and explain which is most environmentally stringent). - Explain the scientific, technical, or indigenous knowledge basis for the recommendation, including the methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement. - Describe any provisions for fish passage and/or fish protection monitoring or effectiveness determinations that are part of the recommendation, and how these are being implemented. - Provide evidence that required passage facilities are being operated and maintained as mandated (e.g., meets seasonal operational requirements, coordination with agencies and tribal authorities, meets effectiveness relative to performance targets).

Species composition and extirpation are discussed in Section 3.3 above. There are no additional fish passage barriers with the Project waters. The next fish passage barrier is the Emory's Mill or Quechee Mills (Downer's Mills) located 4.5 RM downstream of Taftsville.

Any fishes that pass over the dam's spillway would enter a large pool at the base of the dam which extends approximately 190 feet downstream. Since the dam is only 16-feet-high and has a large deep pool at the base, it's not expected fishes would experience mortality or significant injury passing over the spillway. Additionally, there have been no

documented fish kills at the Project. Habitat suitability based on flows is discussed under Section 3.1.2, which was based on site specific data collected during the 2020 and 2022 Instream Flow Aquatic Habitat Study (Kleinschmidt 2021; Kleinschmidt 2023). Habitat suitability was calculated using depth, velocity, and substrate. Habitat suitability curves for each species can be found in Appendix B of the 2022 Instream Flow Aquatic Habitat Study. Both 2020 and 2022 studies demonstrated that all evaluated flows (15 cfs to 96 cfs) between the Taftsville dam and powerhouse provides quality, interconnected aquatic habitat, instream cover for fish and other aquatic organisms, zone of passage conditions, and well-oxygenated water (e.g., > 7.0 mg/L) that meets Class B(2) surface water quality standards (Kleinschmidt 2022). Based on these studies, the VANR determined that 45 cfs would be more suitable compared to the previous 15 cfs minimum flow. As such, Condition B was put into the 2025 WQC requiring a minimum flow of 45 cfs year-round. This flow was documented to provide suitable depth for interconnected aquatic habitat and a zone of passage. As such, it is expected that any fishes that pass downstream would be able to navigate outside of project waters into the mainstem on the Ottauquechee River.

3.4.3 ZOE 3 - Tailrace

Criterion	Standard	Instructions
D	<u>1</u>	<u>Not Applicable/De Minimis Effect:</u> - Explain why the facility does not impose a barrier to downstream fish passage in the designated ZOE, considering both physical obstruction and increased mortality relative to natural downstream movement (e.g., entrainment into hydropower turbines). Typically, tailwater/downstream zones will qualify for this standard since below a dam and powerhouse there is no additional facility barrier to further downstream movement. Bypassed reach zones must demonstrate that flows in the reach are adequate to support safe, effective, and timely downstream migration. - For riverine fish populations that are known to move downstream, explain why the facility in the designated ZOE does not contribute adversely to the species populations or to their access to

Criterion	Standard	Instructions
		habitat necessary for successful completion of their life cycles; or • Document available fish distribution data and the lack of fish species requiring passage in the ZOE; or • If migratory fish species have been extirpated from the area, explain why the facility is not or was not the cause of the extirpation.

Species composition and extirpation are discussed in Section 3.3 above. There are no additional fish passage barriers with the Project waters. The next fish passage barrier is the Emory's Mill or Quechee Mills (Downer's Mills) located 4.5 RM downstream of Taftsville.

The majority of fish that pass through the powerhouse are expected to be juvenile based on intake rack size. There have been no documented fish kills at the Project, however, is it possible that fish could be injured or killed when passing through the Project's powerhouse. There has been no evidence that fish entrainment and mortality is having a significant effect on the river's resident fish populations (FERC 2025a). The FERC EA determined that there are no expected long-term effects on the aquatic community from the operation of the Project (FERC 2025a). Any fishes that pass through the powerhouse would only need to travel approximately 200 feet until entering the confluence with the bypassed reach and downstream portions of the river. Since the Project operates as run of river, once the tailrace and bypass meet, river flows should be similar to those upstream.

3.5 Shorelines and Watershed

The Project boundary generally extends along the shoreline of the Ottauquechee River. Riparian areas within this corridor include a combination of upland and terrestrial wetland habitats. Within the Project area, upland and riparian communities are primarily composed of mixed forest, with vegetation typical of the region, including red maple (*Acer rubrum*), American beech (*Fagus grandifolia*), balsam fir (*Abies balsamea*), quaking aspen (*Populus tremuloides*), white birch (*Betula papyrifera*), and red spruce (*Picea rubens*). The relative abundance of hardwood and softwood species varies throughout these areas. Much of the riparian corridor within the Project boundary remains relatively undisturbed. Developed residential areas are generally characterized by maintained lawns,

while occasional transmission rights-of-way typically support weedy herbaceous vegetation with limited shrub and tree canopy development (FERC 2025a).

Land cover within the Ottauquechee River watershed is dominated by forest (deciduous, evergreen, and mixed; 82 percent) followed by agriculture (7 percent), open space (4 percent), developed (2 percent), and shrub/scrub (2 percent); open water, barren land, grassland, and wetlands (woody and herbaceous) each constitute 1 percent or less of the land cover (Figure 3-4; Table 3-6). Within a 1-mile buffer around the Taftsville Project boundary, land cover is predominantly forest (64 percent), followed by agriculture (21 percent), open space (5 percent), developed (4 percent), and shrub/scrub (3 percent) (Figure 3-4; RVLW 3-6). Developed areas within the Ottauquechee River watershed are located downstream of the Taftsville Project in Hartford, near the confluence with the Connecticut River in North Hartland, and upstream in Woodstock and near Killington (Figure 3-4; Table 3-6).

Table 3-6 National Land Cover Database Classifications Within the Ottauquechee River Watershed

Land Cover Type	Ottauquechee River Watershed		1-mile Buffer around Project Boundary	
	Area (square miles)	Percent	Area (square miles)	Percent
Open Water	1.3	1%	0.06	1%
Open Space	9.3	4%	0.25	5%
Developed	4.3	2%	0.18	4%
Barren Land	0.5	0.2%	0.004	0.1%
Forest	183.7	82%	3.2	64%
Shrub/Scrub	4.1	2%	0.17	3%
Grassland	1.7	1%	0.03	1%
Agriculture	15.5	7%	1.0	21%
Woody Wetlands	2.5	1%	0.07	1%
Herbaceous Wetlands	0.3	0.1%	0.009	0.2%
Total	223		5.0	

Source: MRLC 2019

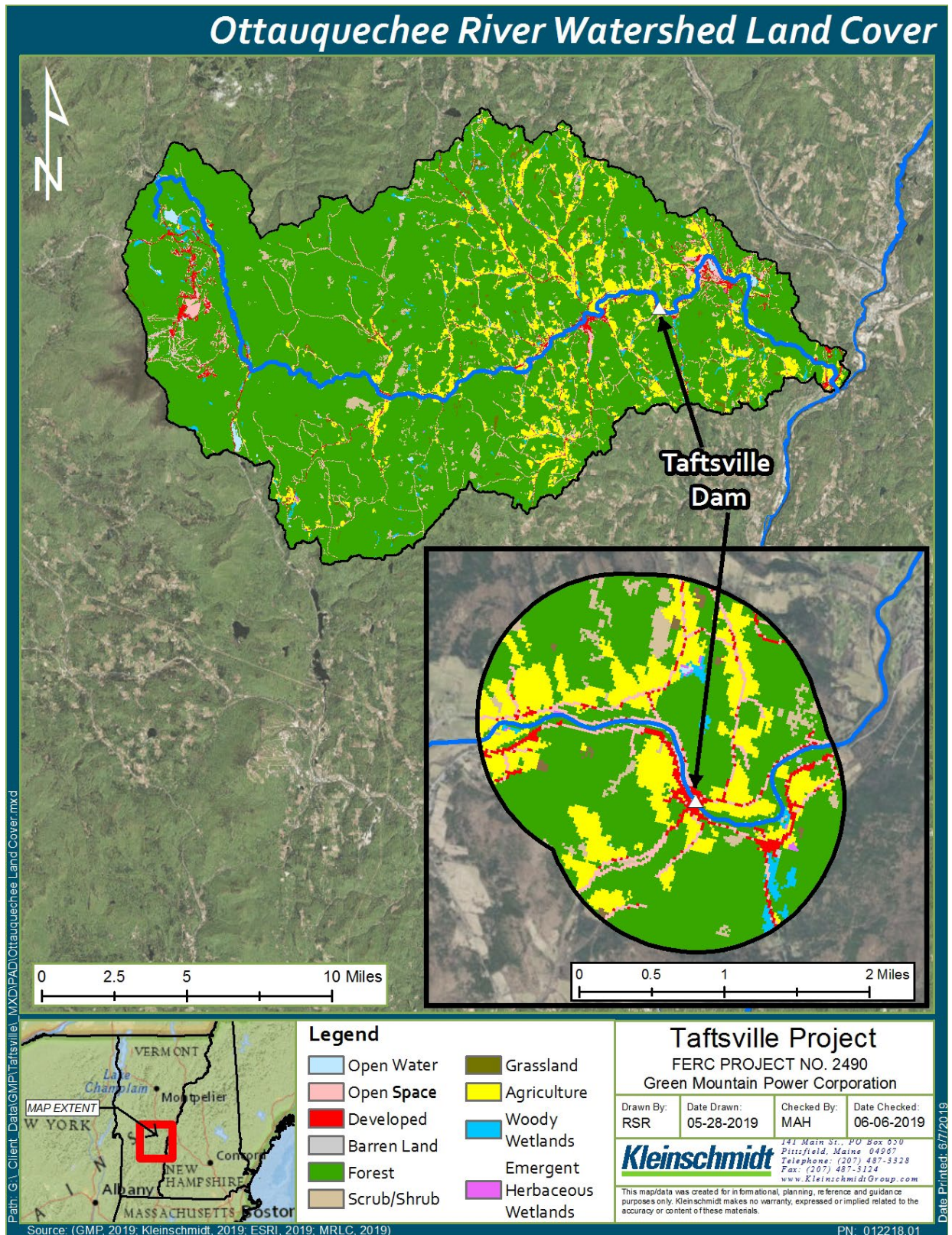


Figure 3-7 Ottawaquechee River Watershed and Project Area Land Cover

Current uses of the Ottauquechee River include hydroelectric generation, flood control, recreation, aquatic habitat, and wastewater assimilation. There are four hydroelectric projects downstream of the Taftsville Project: Emory's Mill or Quechee Mill, Dewey's Mill, North Hartland, and Ottauquechee Woolen Mill (Table 3-7). The North Hartland Project is located at the U.S. Army Corps of Engineers (USACE) flood control dam; the reservoir is also used for recreation purposes. There are five wastewater treatment facilities that discharge to the Ottauquechee River in Sherburne, Bridgewater, Woodstock, Taftsville, and Quechee (VANR 2000). The Woodstock wastewater treatment facility discharges approximately 3 RM upstream of the Taftsville dam; the Taftsville wastewater treatment facility discharges approximately 250 feet downstream of the dam. GMP provides access to the Ottauquechee River from a car-top boat launch, canoe portage, and bank fishing platform (CVPS 1996).

Table 3-7 Dams Located on Ottauquechee River in Vermont

Name	FERC No.	River Mile	Owner	Purpose
Taftsville	2490	11.3	Green Mountain Power Corp.	Hydroelectric
Emory's Mill or Quechee Mills (Downer's Mills)	5195	6.8	Simon Pearce (U.S.), Inc	Hydroelectric
Dewey's Mill	5313	5.7	Green Mountain Power Corp.	Hydroelectric
North Hartland	2816	1.5	North Hartland, LLC (Essex Hydro Associates, LLC) and USACE	Flood control, hydroelectric, recreation
Ottawuechee Woolen Mill (White Current Dam)	2787	0.25	Green Mountain Power Corp.	Hydroelectric

Source: USACE 2019, VANR 2026b

3.5.1 ZOE 1 - Impoundment

Criterion	Standard	Instructions
E	2	<u>Resource Agency and Tribal Government Recommendations:</u> • Provide copies or links to all agency and tribal government recommendations and management plans that related to protection, mitigation, or enhancement of shorelines surrounding the facility in the designated ZoE (e.g., Shoreline Management Plans). • Provide documentation that the facility is in full compliance with applicable agency and tribal government recommendations and management plans.

The Taftsville impoundment is approximately 0.9 mile long and 20.5 acres at full pool. The western shoreline adjoining the impoundment has a narrow, forested buffer in sections between U.S. Route 4. The western shoreline has a steep embankment up to U.S. Route 4 that is rocky by the river and forested with small brush on the slope (Photo 3-3). The east side of the impoundment is bordered by Old River Road with a very narrow embankment between the road and the impoundment (Photo 3-4). The eastern embankment is very shallow between the road and the impoundment and consists almost entirely of gravel and rock with very little vegetation in areas but becomes forested to the northwest away from the dam. Substrate in the impoundment is dominated by a mix of silt, gravel, and boulders. Scrub-shrub habitat is common along the impoundment shoreline and generally occurs in narrow bands along the fringe of emergent wetland areas. Early successional areas generally include upland areas that are in transition from cleared areas back to forest.



Photo 3-3 West Side Impoundment Shoreline Bordered by U.S. Route 4



Photo 3-4 East Side Impoundment Shoreline Bordered by Old River Road

During surveys conducted in 1994, the impoundment shoreline was evaluated for signs of erosion or bank slumping upstream of the Taftsville Project (FERC 1994a). It was concluded that the operation of the Taftsville Project was not affecting the shoreline and existing erosion (GMP 2022). Erosion is limited because the shoreline is largely undeveloped and forested, with large portions of the shoreline categorized as rocky and soils within the Project boundary have a moderate to low susceptibility to sheet and till erosion (NRCS 2019). Additionally, the Licensee is required to minimize the fluctuation in the surface elevation of the Taftsville reservoir by maintaining a discharge such that, at any point in time, flows, immediately downstream from the tailrace and bypassed reach, approximate inflow to the reservoir.

While erosion and slumping is minimal, some areas have documented erosion and slumping in the 2024 Annual Cultural Resources Management Plan Report (CRMP) (GMP 2024). The revised 2000 CRMP is designed to manage the Taftsville Project as a unified

system by limiting or preventing bank erosion in the impoundment to protect historic properties in conjunction with other resources, which results in yearly surveys along the Project impoundment shoreline. The 2024 report notes areas of healthy riparian zone, especially along the right bank of the upper impoundment (Photo 3-5). There are a few areas of slumped soil on steep banks along the U.S. Route 4 (Photo 3-6; Photo 3-7). These soils remain exposed but unchanged since initially documented. One area along Route 4 was initially damaged during the 2013 Super Storm Irene and areas above the reinstalled rip-rap have continued to slump since 2021 (Photo 3-8).

Required, infrequent maintenance activities (e.g., dam or intake repairs) have the potential to affect shoreline stability and erosion within the Project area; however, these will be minimized by obtaining proper permits and following resource agency recommended drawdown timing and rate protocols and erosion control protocols when necessary. GMP owns sufficient property rights along the shoreline for safe operation of the Taftsville Project. There is no existing shoreline management plan requirement for the Taftsville Project.

There are no current or proposed water withdrawals in the vicinity of the Project. GMP holds all the flowage easements required for the operation of the Taftsville Project. Further, there is no formally required shoreline management program at the Project. The Taftsville Project operates as a run-of-river facility and therefore has minimal effects on the surrounding lands.

BioFinder and the Vermont Natural Resources Atlas (VANR Atlas) were reviewed to evaluate the presence of sensitive shoreline habitats within the Project area (VANR 2026a; VANR 2026b). No mapped significant natural communities, priority habitat blocks, or outstanding resource waters were identified within any of the ZOEs. Shorelines are predominantly developed or agricultural lands. There is one small “Class II Wetland” located within the impoundment as identified by the Vermont Significant Wetland Inventory (VSWI) on the VANR atlas. All wetlands are presumed to be Class II Wetlands under the Vermont Significant Wetland Inventory (VSWI) unless identified as Class I (exceptional or irreplaceable wetlands) or Class III (Unprotected Wetlands) (VDEC 2026). As such, the Project shoreline is not located within a mapped landscape-scale sensitive shoreline habitat area.



Photo 3-5 Healthy Riparian Zone looking Downstream August 2024 (GMP 2024)



Photo 3-6 Steep Right Bank Below Residence, Looking South in August 2024 (GMP 2024)



Photo 3-7 Slumped Soils on Right Bank below U.S. Route 4 in August 2024, first observed in 2023 (GMP 2024)



Photo 3-8 Slumping Soils Immediately Upstream of Stone Rip-rap Installations on U.S. Route 4 in August 2024 (GMP 2024)

3.5.2 ZOE 2 and ZOE 3

Criterion	Standard	Instructions
E	1	<u>Not Applicable / De Minimis Effect:</u> • If there are no lands with significant ecological value associated with the designated ZOE, document and justify this (e.g., describe the land use and land cover within the FERC project or facility boundary, and absence of critical habitat for listed and Tribal trust species). • Document that there have been no Shoreline Management Plans or similar protection requirements for the facility.

The bypassed reach and tailrace contain large bedrock outcrops and have a rocky shoreline, with the left side of the shoreline at a slightly higher elevation. The riparian zone includes upland and terrestrial wetland habitat, and is the same habitat as described in Section 3.5.1. BioFinder and the VANR Atlas were reviewed to evaluate the presence of sensitive shoreline habitats within the Project area (VANR 2026a; VANR 2026b). No mapped significant natural communities, priority habitat blocks, or outstanding resource waters were identified within ZOE 2 or ZOE 3. Shorelines are predominantly developed or agricultural lands. As such, the Project shoreline is not located within a mapped landscape-scale sensitive shoreline habitat area.

3.6 Threatened and Endangered Species

3.6.1 All ZOEs

Criterion	Standard	Instructions
F	2	<u>Finding of No Negative Effects:</u> • Identify all federal and state listed species and any Tribal trust species that are or may be in the immediate area of the designated ZOE based on current data from the appropriate natural resource management agencies and Tribal Nations. • Provide documentation that there is no demonstrable negative effect of the facility on any

Criterion	Standard	Instructions
		listed or trust species in the area from appropriate federal, state, and Tribal natural resource management authorities; or • Provide documentation that habitat for the species does not exist within the designated ZOE or is not impacted by facility operations.

3.6.1.1 Federal Species

Federally listed endangered and threatened species that could potentially occur within the Project's ZOEs were identified using the USFWS Information for Planning and Consultation (IPaC) website on September 13, 2026 (Attachment A; USFWS 2026).

3.6.1.1.1 Mammals

One mammal species on USFWS list could be in the ZOEs, the northern long-eared bat (*Myotis septentrionalis*), which is federally endangered (USFWS 2026). Northern long-eared bats in the Taftsville Project area could be utilizing the riparian and impoundment areas for feeding purposes or as a travel pathway. Although not identified in the IPaC, FERC's Environmental Assessment confirmed that the Project is within the tricolored bat's (*Perimyotis subflavus*) species range and therefore could be within the Project Vicinity (FERC 2025a). It is possible these bats feed near the Project, though no critical habitat is located in the Project vicinity. The run-of-river operation of the Project is not anticipated to negatively impact bats that may transiently utilize the area.

Condition G of the WQC requires that GMP refrain from tree trimming and removal of trees of 3-inch diameter breast height or greater in the project boundary between April 1 and October 31 to avoid any roost disruption of the northern long-eared bat, except when necessary to protect public safety or respond to emergency conditions. The Environmental Assessment also recommends the condition outlined in the WQC and states that this would also be protective of the northern long-eared bat, as well as the tricolored bat. The Biological Assessment within the Environmental Assessment concludes with the Condition G discussed above, the Project may affect, but is not likely to adversely affect the northern long-eared bat and would not jeopardize the tricolored bat (FERC 2025a).

3.6.1.1.2 Insects

The monarch butterfly (*Danaus plexippus*) was identified as a proposed threatened species within the Project ZOE's via USFWS IPaC (USFWS 2026). The Taftsville Project is located within the summer breeding range of the eastern North American migratory monarch butterfly population (Xerces Society 2022). No critical habitat has been designated for the monarch butterfly; however, this species relies on common milkweed (*Asclepias syriaca*) for survival and reproduction (USFWS 2026). In the Environmental Assessment, FERC concluded that any Project impacts on the monarch butterfly would be incidental and minor and not have any significant impacts on the butterfly or its habitat. With Condition G implemented, the Project would not jeopardize the survival of the monarch butterfly (FERC 2025b).

3.6.1.2 State Species

3.6.1.2.1 Aquatic Species

The eastern pearlshell mussel (*Margaritifera margaritifera*), as a state threatened species, has been documented downstream of the Project, but there has been no documentation of this species within the Project's vicinity. As part of the relicensing, GMP contracted with Ethan Nedeau, a professional malacologist from Biodrawiversity, LLC, to conduct a rare freshwater mussel survey during June 2020 at the Taftsville Project. The study area included the 0.9-mile-long impoundment, the bypassed reach, and the area directly downstream of the tailrace. No live mussels, shells, or other evidence of mussels were found during the mussel survey in 2020. It does not appear that freshwater mussels occupy the Ottauquechee River in areas directly above or below the Taftsville dam. These results are consistent with other surveys conducted in the upper Ottauquechee River as well as other high-gradient central Vermont rivers (Biodrawiversity 2020).

American Eel is a species of greatest conservation need in Vermont. While this species is not currently in Project waters (see Section 3.3), GMP will provide upstream passage following the implementation of upstream passage at the downstream projects.

3.6.1.2.2 Plant Species

Two rare and state-listed plant species have been identified downstream of the Taftsville Project: Great St. John's-wort (*Hypericum ascyron*) and Garber's sedge (*Carex garberi*).

Obedient plant (*Physostegia virginiana*), a state-listed threatened and rare species in the state (S2), has been documented in the Taftsville impoundment by VANR (Peter McHugh, Personal Communication, May 21, 2019); GMP confirmed the species occurs in the impoundment during the 2020 RTE plants survey (Personal communication, Kayla Easler, Kleinschmidt Associates, with Peter McHugh, Biologist, Vermont Fish and Wildlife Department, May 21, 2019). Details of rare and listed plant species occurrences are described in greater detail below.

2020 Rare Plant Survey

GMP completed rare plant surveys within the Project boundary on June 25 and September 17, 2020. The study area included the entire Taftsville dam facility, including the dam area, intake, bypassed reach, substations, powerhouse area, tailrace, and the area of the impoundment which extends from the dam to 0.2 mile upstream. The survey area also encompassed all associated recreational access points above and below the dam. The study design was intended to target Garber's sedge and Great St. John's-wort with divergent phenology; therefore, sampling was completed in June and September. The study area and design were approved by the VFWD prior to the start of surveys.

Neither of the targeted species were found during the surveys. At the Taftsville site, there are only small areas that appear to be even marginally suitable habitat for Garber's sedge (calcareous seepy banks and riverside outcrops with sparse/low vegetation). However, several other rare and uncommon species were discovered during surveys. These rare plants and their documented locations within the Project boundary are described in detail in Table 3-8 below.

Only one of these species, the obedient plant (*Physostegia virginiana* ssp. *virginiana*) is a state-listed threatened species. Obedient plant, also known as false dragon-head, is a rare species in Vermont, and state-listed as threatened and globally ranked (NatureServe 2019). The species is found in most soils and tolerates lower pH (UVM 2000). Five small clumps of obedient plant were documented above and below the Project dam, on both riverbanks, during 2020 surveys. It is the only state-listed threatened or endangered plant species confirmed to exist within the Project area (Peters 2020). It should be noted that only Lake Champlain basin populations of the obedient plant are currently believed to be native occurrences and, consequently, warrant protection. After the surveyor Matt Peters consulted with Bob Popp (Botanist, Vermont Fish and Wildlife Service), it was determined

that the species would not be considered protected at the Taftsville site (Peters 2020). Although the species is threatened in Vermont, this listing status only applies to populations found in the Lake Champlain basin.

A single small flowering stem of great blue lobelia (*Lobelia siphilitica*) occurs at the Project at the water line on river right of the impoundment and at public access points on river right. Great blue lobelia is a very rare state-ranked species. This species is showy and is used horticulturally, so the provenance of this plant is perhaps suspect. While river shores are a natural habitat for the species, it could also easily have escaped or seeded from gardens upstream near the river.

While there are a few rare species found within the Project Area, GMP operations are not expected to impact these plants. GMP limits vegetation management to areas surrounding the project facilities and project recreation facilities when necessary for public and operational safety. Additionally, the minimum flow of 45 cfs was determined to not likely adversely affect the habitat for the special status species, as described in the Environmental Assessment.

Table 3-8 Rare Plants Observed during 2020 Rare Plant Survey

Common Name	Scientific Name	State Rank	Description of Observation
Small dropseed	<i>Sporobolus neglectus</i>	S1	Two plants were documented on top of the block retaining wall near the plant building, behind the metal railing
Great blue lobelia	<i>Lobelia siphilitica</i>	S1	A single, small flowering stem was documented at the water line above the dam and public access points on river right
Shore sedge	<i>Carex lenticularis</i>	S2/S3	A single, small clump with a few culms ¹⁰ were documented in a crevice in the mid-channel outcrops immediately below the dam and above the covered bridge.
Awed flatsedge	<i>Cyperus squarrosus</i>	S3	Approximately 120 plants were documented scattered along river left below the dam and covered bridge in a 3-6 foot wide by 270 foot long strip along the seasonally exposed sandy shoreline.

¹⁰ A hollow stem.

Common Name	Scientific Name	State Rank	Description of Observation
Fescue sedge	<i>Carex brevior</i>	S3	A single, small clump with 2 fruiting culms was documented 1 foot above the waterline below an eroding fine sandy/silty bank at the base of one of the riprap patches on river right above the dam and public access points.
Obedient plant	<i>Physostegia virginiana</i> ssp. <i>virginiana</i>	S2*	Five small clumps were documented scattered about the site above and below the dam on both banks

Source: GMP 2022

S1 - Very rare (Critically imperiled): At very high risk of extinction or extirpation due to extreme rarity (often 5 or fewer populations or occurrences), very steep declines, or other factors

S2 - Rare (Imperiled): At high risk of extinction or extirpation due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors

S3 - Uncommon (Vulnerable): Moderate risk of extinction/extirpation due to restricted range, relatively few populations or occurrences (often 80 or fewer), recent and widespread declines, or other factors

*- state-listed Threatened; only Lake Champlain basin populations are currently believed to be native occurrences that warrant protection. Species not considered protected at the Taftsville Project (Bob Popp personal communication, 2019)

3.6.1.3 Tribal Trust Species

There are no federally recognized Tribes in Vermont. As a result, there has been no government-to-government consultation process through which federally protected tribal trust resources or tribal trust species have been identified for the Project area. No federal or state databases were identified that contain a list of tribal trust resources or tribal trust species applicable to the Project. Publicly available information indicates that several plant and wildlife species hold cultural significance to Abenaki communities; however, these species do not constitute an officially recognized list of tribal trust species. Based on the information available, no known tribal trust resources have been identified within the Project area.

3.6.1.4 All ZOE's

The Project has been operating in accordance with the prior and current FERC license and no incidental take of any state or federally threatened or endangered species has occurred. It is not anticipated that the operation of the Project would negatively impact federal, or state listed wildlife species. No Tribal Nations provided recommendations relative to threatened or endangered species, or Tribal trust species as part of the relicensing process.

3.7 Cultural and Historic Resources

3.7.1 All ZOES

Criterion	Standard	Instructions
G	2	<u>Approved Plan:</u> • Provide documentation of all approved local, state, federal, and recognized Tribal plans for the protection, enhancement, and mitigation of impacts to Tribal, cultural and historic resources affected by the facility. • Document that the facility is in compliance with all such plans.

3.7.1.1 Cultural Resources

Taftsville is named after its first settler Stephen Taft, who travelled from Massachusetts around 1793. Shortly after his arrival he built a power dam on the Ottauquechee River, and a factory on the south bank to produce agricultural tools. By 1796 Taft had also built a sawmill on the north bank of the river. As the settlement continued to expand there later came a plow and stove factory, gristmill, shingle mill, chair factory, brickyard, blacksmith shop, tannery, and a slaughterhouse. The settlement also developed a bridge across the river. The first bridge was lost in 1807, and floods in 1811, and 1828 washed out successors. In 1836 the present covered bridge was built. The Taftsville Covered Bridge is the oldest covered bridge in Windsor County and the third oldest in the state. The Taftsville Covered Bridge is identified as a contributing structure within the Taftsville Historic District (Reference Number 01000824) (NRHP 2001).

The Taftsville Project has been an integral part of the town since it was developed. The initial dam was built to support Stephen Taft's factory and sawmill (NRHP 2001). In May 1893 a group of local investors organized the Woodstock Electric Company and acquired the water rights and Taft scythe works where they then erected a small hydroelectric station. In 1902, the hydroelectric station was replaced by a powerhouse. The station was managed by Woodstock Electric Company until its merger with Central Vermont Public Service (CVPS) in 1956 (NRHP 2001). In 2000, Deborah Doyle-Schechtman prepared a National Register nomination for the Taftsville Historic District that includes the "Woodstock Electric Company Powerhouse, 1902, 1942," "Taftsville Dam and Intake, 1909," and "Electrical Substations, Taftsville Hydroelectric Station, 1924, 1930, 1937" as

structures that contribute to the historic character of the village district. This nomination resulted in the listing of the Taftsville Historic District on the National Register of Historic Places in 2001 (Reference Number 01000824) (NRHP 2001).

The Taftsville dam, powerhouse, and substations are documented in a National Register of Historic Places registration form as contributing structures to the Taftsville Historic District. These Taftsville Project components serve as the last example of water powered industry that sustained Taftsville since 1793 (NRHP 2001). In total there are 52 contributing buildings, 1 contributing site, and 4 contributing structures (NRHP 2001). It is also important to note that almost all the properties bordering the Taftsville impoundment on U.S. Route 4 are included in the Taftsville Historic District, as well as the covered bridge that is located directly below the powerhouse (NRHP 2001).

CVPS undertook a phased study approach to determine whether any archaeological sites would be affected by the continued operation of the hydroelectric facility. In 1990 there was an archaeological site sensitivity study that found no potential archaeological sites within the Project's impoundment (CVPS 2012).

The Taftsville Project developed the CRMP in April 2000. This management plan went beyond the limitations inherent in compliance regulations and considers the greater context of the historic properties and other public resources within the river system. This plan set out to monitor riverbank erosion; assume direct responsibility for managing those historic properties, including archaeological sites and historic resources, within its legal landholdings; and assume a leadership role in river stewardship by assisting property owners, the local community, including the town of Woodstock, and non-profit organizations to develop public outreach, educational, and riverbank stabilization programs to manage historic, archaeological, and natural resources. In accordance with the CRMP, GMP prepares annual reports that present the results of annual monitoring that documents existing conditions within the impoundment and monitors specific problems or areas of instability where management actions might be needed. On September 13, 2024, GMP filed its 2024 annual CRMP Report with FERC and noted that no potential archaeological historic properties have been affected in the past year.

GMP consulted on the development of a Historic Properties Management Plan (HPMP) for the new license term, which includes updated management information and consultation procedures that are implemented during the continued operation of the

Taftsville Project for the term of the new license. Under the past CRMP, Project monitoring has confirmed that that archaeological and historic properties continue to remain unaffected by Project operations. Under the new HPMP, GMP is required to assign an HPMP coordinator, provide training on the principles and procedures of the HPMP for personnel involved with groundbreaking work, and notify SHPO within 3 days of any inadvertent discoveries. If any inadvertent discoveries are found, GMP would work with SHPO to identify and confirm the potential significance of the historic property, plan for and perform any subsequent field investigation and analysis, prepare a report documenting investigations and analysis, and manage any artifacts that are collected in accordance with the standards established in Guidelines for Conducting Archaeology in Vermont. Should any human remains be found, GMP would halt work immediately and manage the remains consistent with the Native American Graves Protection and Repatriation Act and the Advisory Council on Historic Preservation's (Council) "Policy Statement Regarding Treatment of Burial Sites, Human Remains and Funerary Objects". GMP will also file an annual report with FERC and SHPO summarizing activities performed in accordance with the HPMP.

3.7.1.2 Tribal Resources

The Native Languages of the Americas website was consulted to determine the Tribes within Vermont, as well as past consultation documents from the recent relicensing (Native Languages of the Americas 2020; GMP 2021). There are no federally recognized Indian Tribes in Vermont, but the state of Vermont recognizes four Tribes all of Abenaki heritage: Elnu Tribe of Abenaki, Abenaki Nation of Missisquoi, Nulhegan Band of Coosuk Abenaki-Nation, and Koasek of the Koas of the Abenaki Nation (Native Languages of the Americas 2020; GMP 2022). The Project vicinity was historically inhabited by the Abenaki Tribe. However, there are no Native American lands or known traditional cultural or religious properties identified within the Project boundary (State of Vermont 2021).

During the recent relicensing, FERC invited the federally recognized Saint Regis Mohawk Tribe to participate in the relicensing process. This request was never responded to, and on September 9, 2018, the liaison for the Elnu Abenaki Tribe sent a letter stating that the Project area has never been Mohawk homelands. The Abenaki Tribe requested that Abenaki Tribal leadership be included in all correspondence from FERC and GMP and therefore GMP has included Abenaki Tribal leadership in the Project Distribution List. This included leadership from the Elnu Tribe of the Abenaki, Nulhegan Band of the Coosuk-

Abenaki Nation, Koasek Traditional Band of the Koas Abenaki, and St. Francis-Sokoki Band of the Abenaki Nation of Missisquoi Nation. On March 17, 2026¹¹, a final Programmatic Agreement was filed with FERC with the tribal nations listed above.

3.7.1.3 All ZOE's

The Taftsville Project operates in a run-of-river mode and has a limited effect on cultural and Tribal resources, as documented in the CRMP and HPMP. GMP continues to maintain the hydroelectric Project with historical relevance in mind. Infrequent maintenance activities (e.g., dam or intake repairs), inclusive of impoundment drawdowns beyond normal operating levels, may result in short-term modifications to impoundment levels or stream flows and have the potential to impact cultural or Tribal resources. However, these maintenance activities are limited in occurrence and scale and GMP will consult with Vermont SHPO and Tribes prior to the conduct of such activities to minimize potential effects on cultural and Tribal resources.

3.8 Recreation, Public, and Traditional Cultural Access

3.8.1 ZOE 1 and ZOE 2

Criterion	Standard	Instructions
H	2	<u>Resource Agency and Tribal Government Recommendations:</u> • Document all resource agency and tribal government recommendations and any enforceable plans or agreements in place for recreational, public, and traditional cultural access or accommodations. • Document that the facility in the designated ZoE is in compliance with all such recommendations, plans, and agreements..

GMP provides public and Tribal access to the west and east shores of the Taftsville Project via several recreation facilities (FERC 1994b; CVPS 1996; FERC 1997). There is a parking area near the powerhouse with room for eight vehicles including an Americans with Disabilities Act (ADA) parking spot (Figure 3-5). GMP provides a picnic area which includes

¹¹ [Accession No. 20260317-3069](#)

two picnic tables with one ADA-compliant picnic table, interpretive sign, viewing platform, and bank fishing area on the west shore of the impoundment (Photo 3-9). On the east shore, GMP provides an approximately 500-foot long canoe portage. The canoe portage take-out has a 4-foot-wide by 10-foot-long floating dock and also serves as a car-top boat launch with informal parking along the road (Figure 3-5). The canoe portage put-in is located just downstream of the Project dam in the bypassed reach (Figure 3-5). In addition, GMP provides directional signs, warning signs, and road signs, as well as public notices and other forms of advertising about the recreation facilities (FERC 1994b; CVPS 1996; FERC 1997). As required by the license, GMP provides 45 cfs uniformly over the dam crest to enhance aesthetics for recreationalists.

GMP reported estimated recreation use at the Taftsville Project in the 2003, 2009, and 2015 FERC Form 80 Licensed Hydropower Development Recreation Reports. The annual total recreation days were estimated to be 1,000; 366; and 366 in 2003, 2009, and 2015, respectively (CVPS 2004; 2009; GMP 2015). Facility use at the access areas, picnic area, and canoe portage were reported to be 25 percent or less (GMP 2022). No recreation studies were necessary during the relicensing given the ample recreation areas available at the Project site, historical underutilization of recreation facilities, and provided that the VDEC did not recommend a Recreation Survey.

The multiple recreation areas including a picnic area, fishing platform, parking and a portage paired with stable impoundment elevations and run-of-river operations will maintain consistent recreation opportunities within the Project area. Maintenance activities have the potential to affect recreation opportunities on a short-term basis through impoundment drawdowns or temporary restrictions to public access. GMP consults with pertinent resource agencies regarding the timing and duration of periodic, atypical maintenance drawdowns. Drawdowns and maintenance activities will have minimal effects on recreation opportunities in the Project area because they are typically infrequent and of a short duration; abnormal maintenance activities (e.g., extended drawdowns) will be coordinated through pertinent state and federal agency consultation. As part of Condition H of the WQC, GMP will continue to support existing recreational facilities.

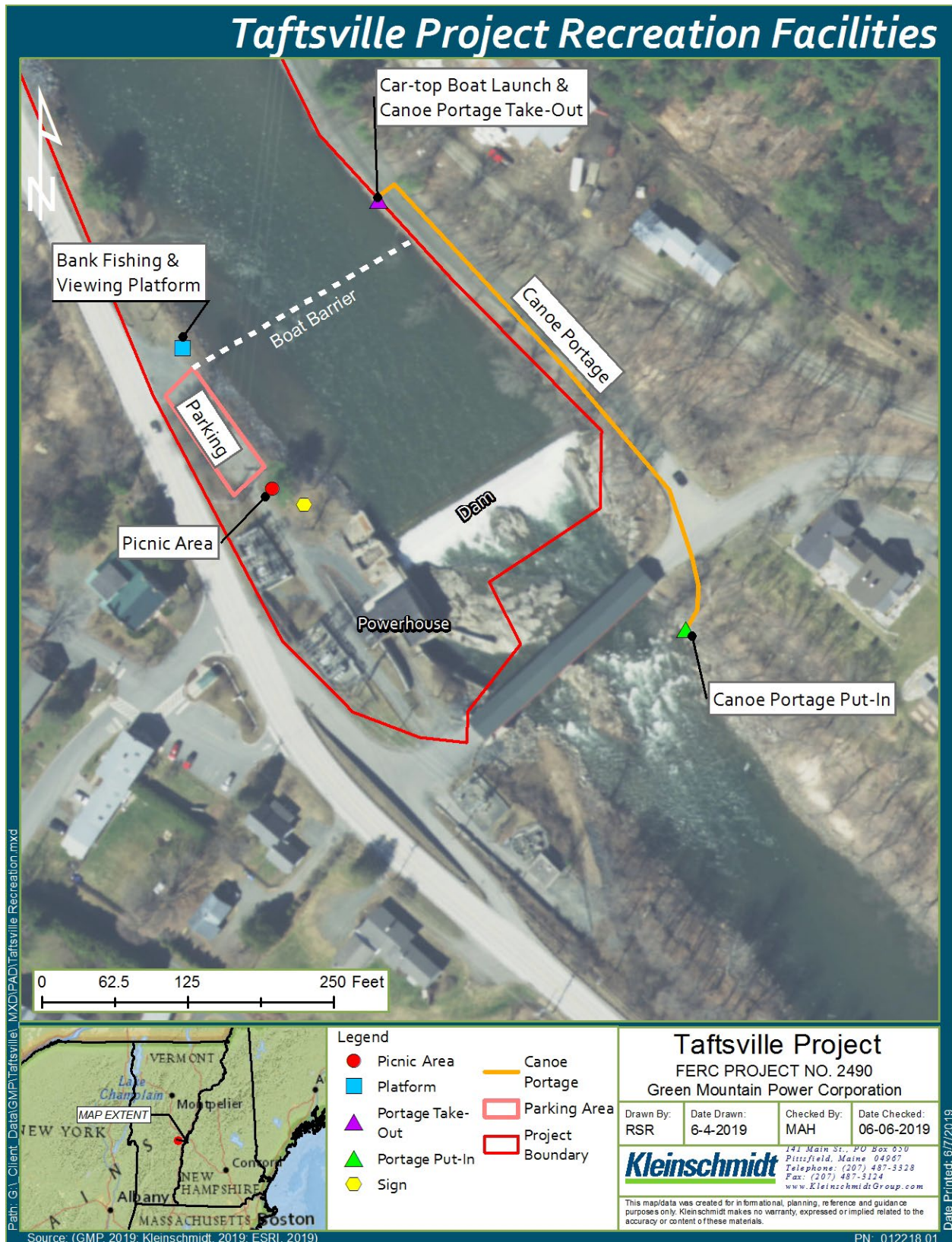


Figure 3-8 Project Recreational Facilities at the Taftsville Project



Photo 3-9 Picnic Area, Parking Area, Interpretative Sign

3.8.2 ZOE 3 – Tailrace

Criterion	Standard	Instructions
H	1	<u>Not Applicable / De Minimis Effect:</u> Document that the facility does not occupy lands or waters in the designated ZoE to which public or Tribal member access can be safely granted, and that the facility does not otherwise impact recreational or access opportunities in the facility area.

The tailrace ZOE is a short section of the river where high flows are discharged from the powerhouse and turbulent water occurs. This area should not be accessed by the public for safety reasons. Suitable river access is available in the impoundment and bypassed reach.

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5.0 CONTACTS FORMS

5.1 Applicant Contact Information

Project Owner:	
Name and Title	John Tedesco, Generation Project Coordinator
Company	Green Mountain Power Corporation
Phone	802-655-8753
Email Address	John.Tedesco@greenmountainpower.com
Mailing Address	163 Acorn Lane, Colchester, Vermont 05446
Consulting Firm / Agent for LIHI Program (if different from above):	
Name and Title	Karen Bishop, Licensing Coordinator
Company	Kleinschmidt Associates
Phone	860-581-5877
Email Address	Karen.Bishop@kleinschmidtgroup.com
Mailing Address	35 Pratt Street, Suite 201, Essex CT, 06426
Compliance Contact (responsible for LIHI Program requirements):	
Name and Title	John Tedesco, Generation Project Coordinator
Company	Green Mountain Power Corporation
Phone	802-655-8753
Email Address	John.Tedesco@greenmountainpower.com
Mailing Address	163 Acorn Lane, Colchester, Vermont 05446
Party responsible for accounts payable:	
Name and Title	John Tedesco, Generation Project Coordinator
Company	Green Mountain Power Corporation
Phone	802-655-8753
Email Address	John.Tedesco@greenmountainpower.com
Mailing Address	163 Acorn Lane, Colchester, Vermont 05446

5.2 State, Federal, Provincial, and Tribal Resource Agency Contacts

Table 5-1 Federal, State, and Local Resource Agency Contacts with Knowledge of the Facility.

Contact Name and Agency	Title	Email	Phone	Resource Area(s) of Interest, from the list below
Eric Davis, Vermont Agency of Natural Resources	River Ecologist	Eric.Davis@vermont.gov	802-490-6180	A, B, C, D, E, H
Jud Kratzer, Vermont Department of Fish and Wildlife	Fisheries Biologist	jud.kratzer@vermont.gov	802-751-0486	C, D
Jeff Crocker, Vermont Agency of Natural Resources	Environmental Analyst	jeff.crocker@vermont.gov	802-490-6151	A, B, C, D, E, F, H
David Simmons, United States Fish and Wildlife Service	Supervisory Biologist - Endangered Species Program/Hydropower Program	david_simmons@fws.gov	603-333-5440	A, C, D, E, F, G
R. Scott Dillon, Vermont Division for Historic Preservation	Senior Historic Preservation Review Coordinator	scott.dillon@vermont.gov	802-272-7358	G

Resource Areas (LIHI Criteria):

- A.** Flow regimes
- B.** Water quality
- C.** Upstream fish passage

- D.** Downstream fish passage and protection
- E.** Shorelines and watershed

- F.** Threatened and endangered species
- G.** Cultural and historic resources

Table 5-2 Tribal Government and Tribal Agency Contacts

Contact Name and Agency	Title	Email	Phone	Resource Area(s) of Interest, from the list below
Don Stevens, Nulhegan Band of the Coosuk - Abenaki Nation	Chief	chiefdonstevens@comcast.net	N/A	G
Roger Longtoe Sheeha, Elnu Tribe of the Abenaki	Chief	gitceedadann@yahoo.com	N/A	G
Brenda Gagne, Abenaki Nation at Missisquoi	Chief	info@abenakination.com	802-868-2559	G
Shirly Hook, Koasek of the Koas of the Abenaki Nation	Chief	chiefshirly@koasek.org	N/A	G
Colin Wood, Koasek of the Koas of the Abenaki Nation	Chief	chiefcolin@koasek.org	N/A	G
Beverly Kiohawiton Cook, Saint Regis Mohawk Tribe	Chief	communications@srmt-nsn.gov	(518) 358-2272	G
Bonney Hartley, Stockbridge-Munsee Mohican Tribal Historic Preservation	Tribal Historic Preservation Officer	Bonney.Hartley@mohican- nsn.gov www.mohican-nsn.gov	(518) 244-3164	G

Resource Areas (LIHI Criteria):

- A.** Flow regimes
- B.** Water quality
- C.** Upstream fish passage

- D.** Downstream fish passage and protection
- E.** Shorelines and watershed

- F.** Threatened and endangered species
- G.** Cultural and historic resources

6.0 ATTESTATION

All applications for LIHI Certification must include the following statement before they can be reviewed by LIHI:

ATTESTATION

As an Authorized Representative of Green Mountain Power Corporation

the Undersigned attests that the material presented in the application is true and complete.

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

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

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

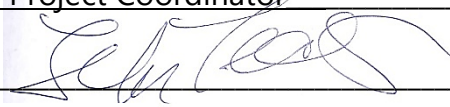
FOR PRE-OPERATIONAL CERTIFICATIONS:

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

Authorized Representative:

Name: John Tedesco

Title: Generation Project Coordinator

Authorized Signature: _____

Date: September 11, 2026

ATTACHMENT A

USFWS INFORMATION FOR PLANNING AND CONSULTATIONS (IPAC)

ATTACHMENT B

REFERENCE DOCUMENTS