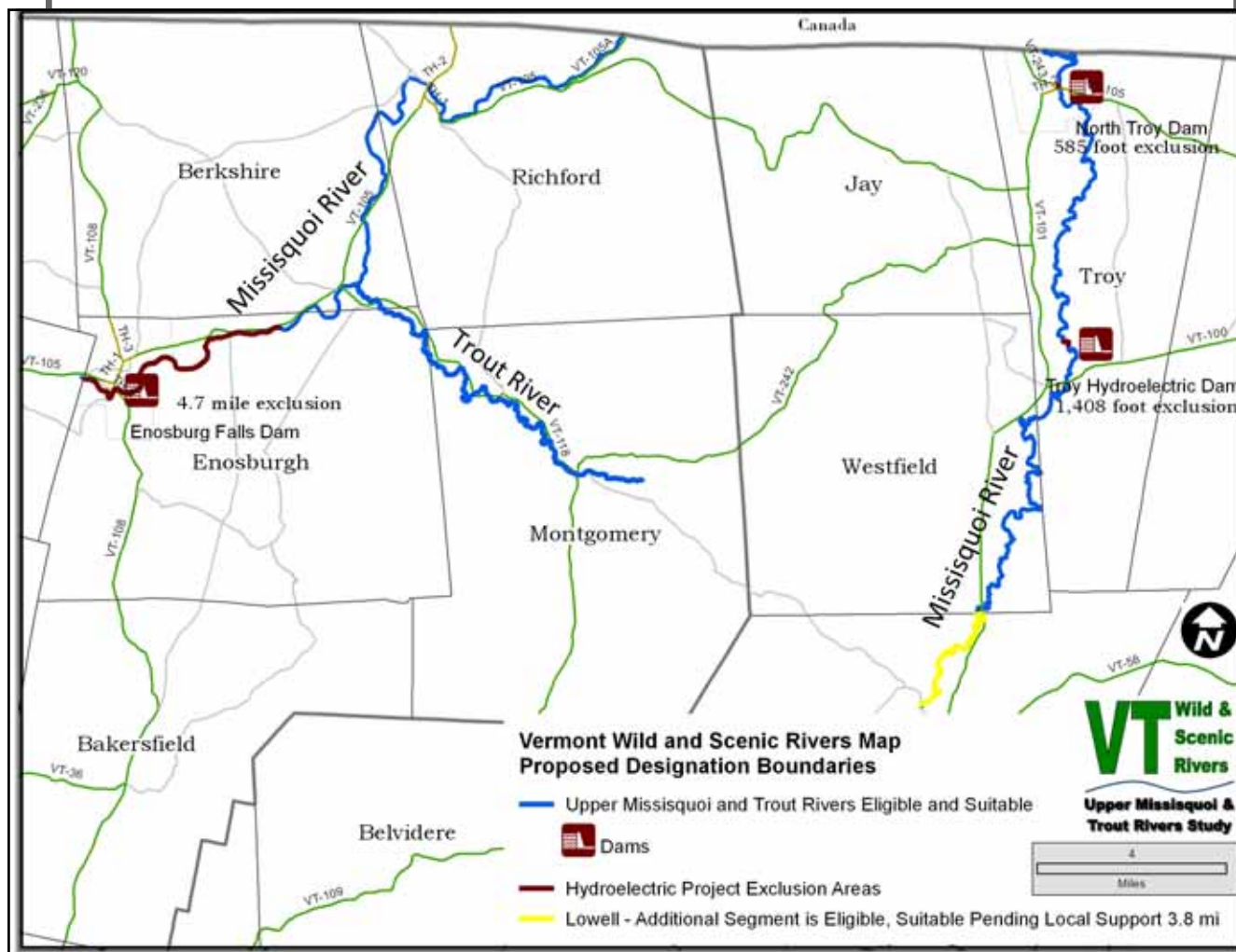


Appendix 5. Hydroelectric Projects

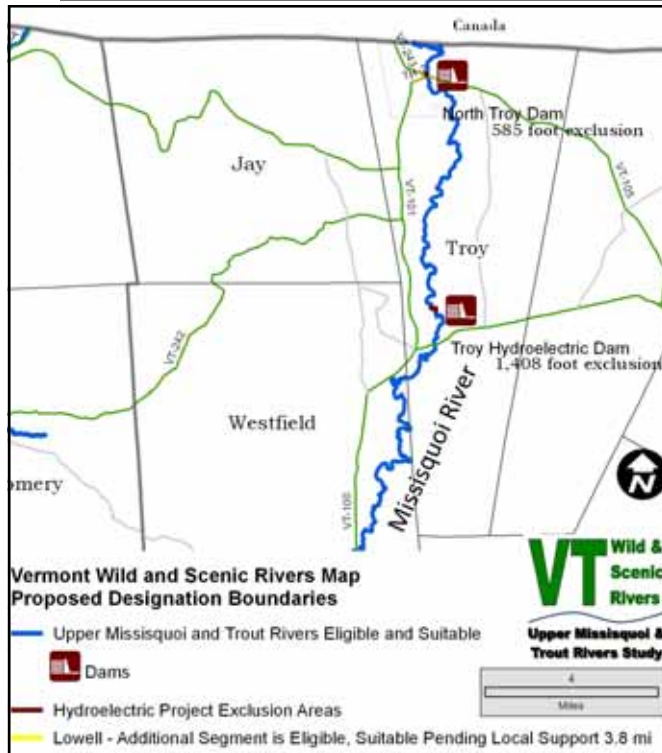
Dams and Hydroelectric Power Facilities, Missisquoi River, Vermont



Appendix 5. Hydroelectric Projects

Troy Hydroelectric, Troy, VT - Missisquoi River

Proposed legislation proposes designation of the: 20.5-mile segment of the Missisquoi River from the Lowell/Westfield town line to the Canadian border in North Troy, excluding the property and project boundary of the Troy and North Troy hydroelectric facilities.



The Troy Hydroelectric project in Troy on the Missisquoi River makes 0.27 miles (1408 feet) of the Missisquoi River ineligible due to lack of free-flowing character. This facility has not operated since 1998. The project received from the Federal Energy Regulatory Commission (FERC) an exemption (FERC Project Number P-13381). As of October 2012, work is underway on the civil works to restart the project. The NPS and Study Committee have already indicated to FERC in writing that this project (including the project lands owned by the Chase family) would be excluded from the designated area, and that its proposed operation as a run-of-river facility will not have an adverse impact to potential Wild and Scenic River areas upstream or down.

The upstream influence of this dam, according to the State of Vermont Section 401s Water Quality Certificate, is 2,100 feet. It was determined that this entire upstream influence need not be excluded from proposed designation because it does not impact the free-flowing character of this section of the river, nor does it inundate the land or create a reservoir. The riverine appearance and only slight rising of the stage of the river are acceptable under the Recreational classification. Note: As of October 14, 2013 the exemption on this project was transferred from Johnathan and Jayne Chase (Exemptees) of Troy Hydroelectric Project to Johathan Chase (President) of Troy Mills Hydroelectric Inc.



Figure 1. The numbers in the figure above indicate parcel numbers from the digital landowner parcel data from Troy, Vermont. The green line indicates the 1408 feet used to measure the longest reach of river ineligible due to lack of free-flowing character, and thus excluded from proposed designation. All branches of the Missisquoi River from the upstream property line near the bridge to the downstream property line (parcel 21) are excluded.

Appendix 5. Hydroelectric Projects

North Troy Hydroelectric Project, North Troy, VT - Missisquoi River

Proposed legislation proposes designation of the: 20.5-mile segment of the Missisquoi River from the Lowell/Westfield town line to the Canadian border in North Troy, excluding the property and project boundary of the Troy and North Troy hydroelectric facilities.



The North Troy Project (formerly Missisquoi River Technologies) on the Missisquoi River in the Village of North Troy makes 0.11 miles (585 feet) of the Missisquoi River ineligible due to lack of free-flowing character. This facility is not-operating and has a FERC exemption (FERC P-10172) issued in 1989. The project was acquired by Missisquoi River Hydro, LLC, and the new owners are actively seeking to renew operations at the time of this Report. Designation would have no effect on the existing FERC exemption for this facility.

Hilton Dier III is the Managing Partner for Missisquoi River Hydro at the time of this Report. This project is between Route 105 and the railroad bridge in North

Troy. The dam and intake are just downstream from the highway bridge, and their discharge is just upstream of the railroad bridge. They own plots 060, 017.1, and 016 in the figure below.

The upstream influence of this dam, according to the State of Vermont Section 401s Water Quality Certificate, is 8,000 feet. It was determined that this entire upstream influence need not be excluded from proposed designation because it does not impact the free-flowing character of this section of the river, nor does it inundate the land or create a reservoir.



Figure 4. The numbers in the figure above indicate parcel numbers from the digital landowner parcel data from North Troy, Vermont. The yellow line indicates the 585 foot river reach ineligible for designation due to lack of free-flowing character, and thus excluded from proposed designation. The Missisquoi River adjacent to parcel numbers 060, 017.1 and 016, owned by the North Troy Project, is excluded from proposed designation.

Appendix 5. Hydroelectric Projects

Exhibit B, North Troy Hydroelectric Project, North Troy, Vermont. FERC Project Number P-10172 .

EXHIBIT B PROJECT LOCATION NORTH TROY HYDROPOWER PROJECT

1. GENERAL LOCATION

The general location of the Project is shown by Figure B-1 prepared on a U.S.G.S. topographic map.

2. SPECIFIC LOCATION

Figure B-2 is a drawing showing Project features in relation to the Missisquoi River, State Route 105, and to the Town of North Troy.

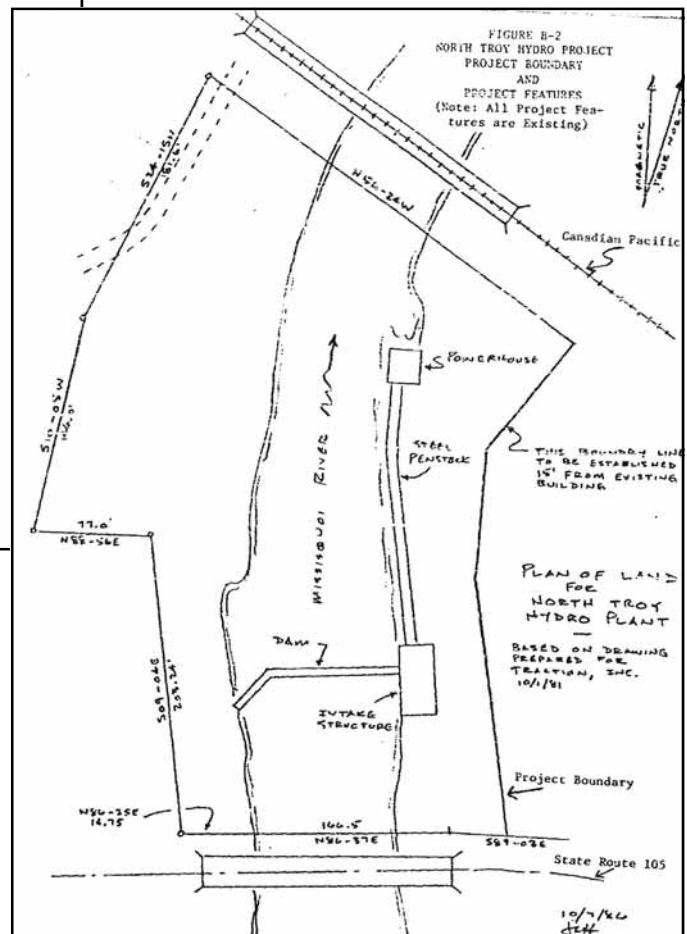
3. PROPERTY OWNERSHIP

The Applicant has an option to purchase all lands occupied by the proposed Project. The lands included are on both sides of the Missisquoi River from State Route 105 bridge downstream approximately 350 feet to a railroad crestle crossing the river. The Applicant will exercise this purchase option immediately upon issuance of the Exemption From Licensing by the Federal Energy Regulatory Commission. The lands included in the property ownership are the same as those included within the Project boundary.

4. PROJECT BOUNDARY

A proposed Project boundary is shown on Figure B-2. The proposed Project boundary coincides with the boundary of the lands of the property described in the preceding paragraph.

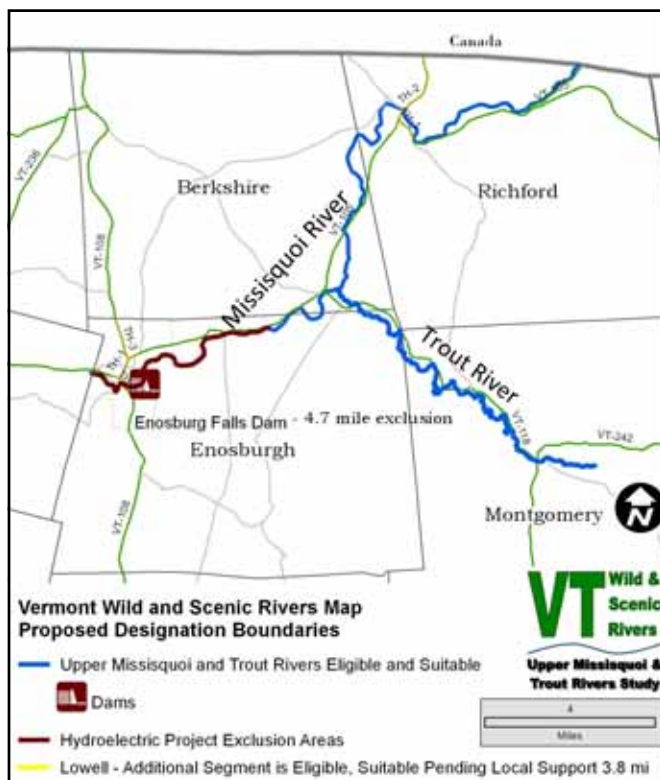
B-1



Appendix 5. Hydroelectric Projects

Enosburg Falls Hydroelectric Facility - Missisquoi River, Vermont

Proposed legislation proposes designation of the: 14.6-mile segment of the Missisquoi River from the Canadian border in Richford to the upstream project boundary of the Enosburg Falls hydroelectric facility in Sampsonville.



The Enosburg Falls Hydroelectric Facility (also known as the Kendall Plant) on the Missisquoi River is operating and licensed by FERC (FERC P-2905, license expires 2023). The river segment in the immediate vicinity of this project are found ineligible for designation due to the lack of free-flowing character. An additional 4.7 mile segment contained within the project boundary of this hydroelectric facility is found eligible for designation based on the free-flowing character.

Proposed designation stops at the Route 108 crossing in Enosburg Falls just upstream of the property

boundary of the hydroelectric facility. All the property boundaries are below the right of way for Route 108; however, the project boundary is upstream of this bridge in Sampsonville. Proposed designation would end on the upstream side of the project boundary, 14.6 miles from the Canadian border. The upstream influence of this dam, according to the State of Vermont Section 401s Water Quality Certificate, is 4.3 miles.

Proposed designation stops at the project boundary of the Enosburg Falls hydroelectric facility to remain consistent with excluding the project boundaries of hydroelectric facilities in the area potentially designated. The free-flowing character of an additional lowermost 4.7 miles of this segment of Missisquoi River remains despite the inclusion this section in the FERC project boundary of the Enosburg Falls Hydroelectric Project. Should the project boundary ever be reduced, the section of the Missisquoi up to the Route 108 bridge (19.3 miles total from the Canadian border) would be both eligible and suitable for designation.

Appendix 5. Hydroelectric Projects

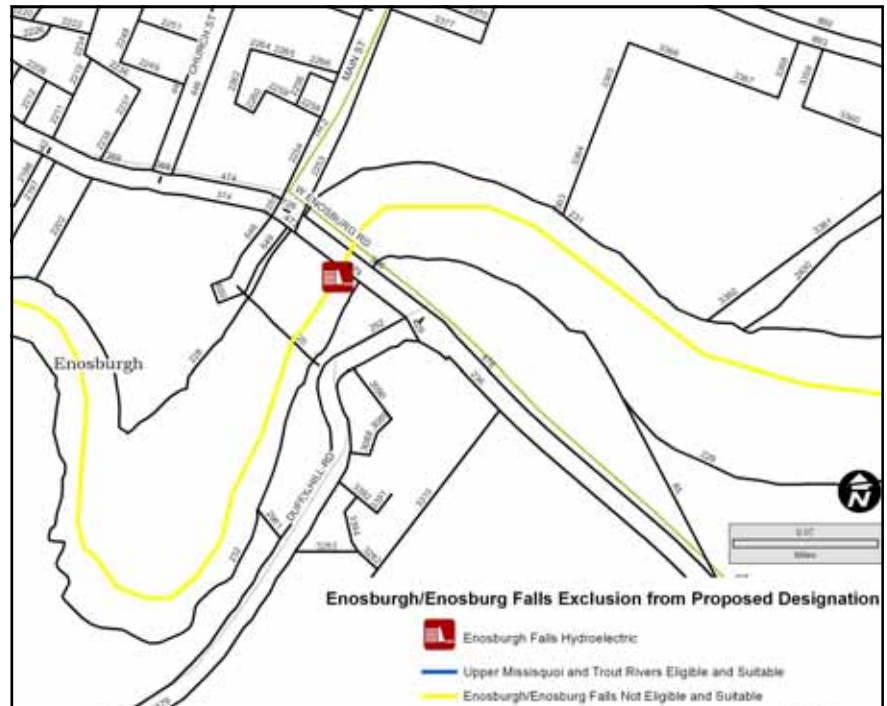
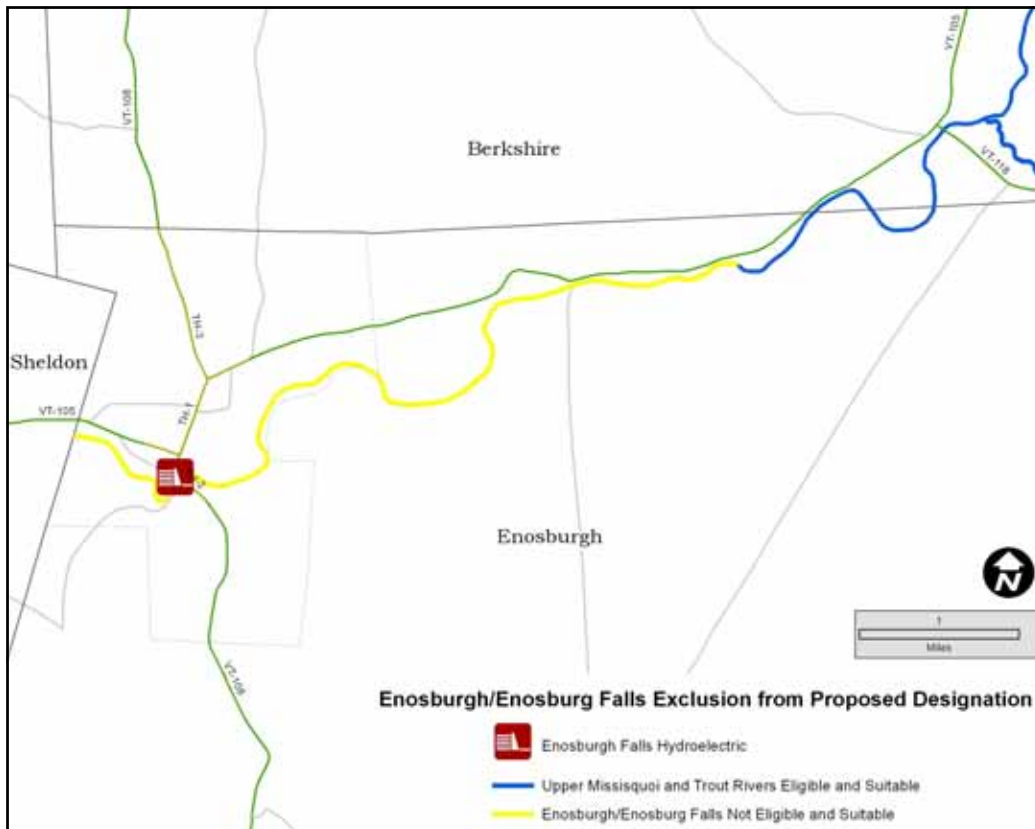
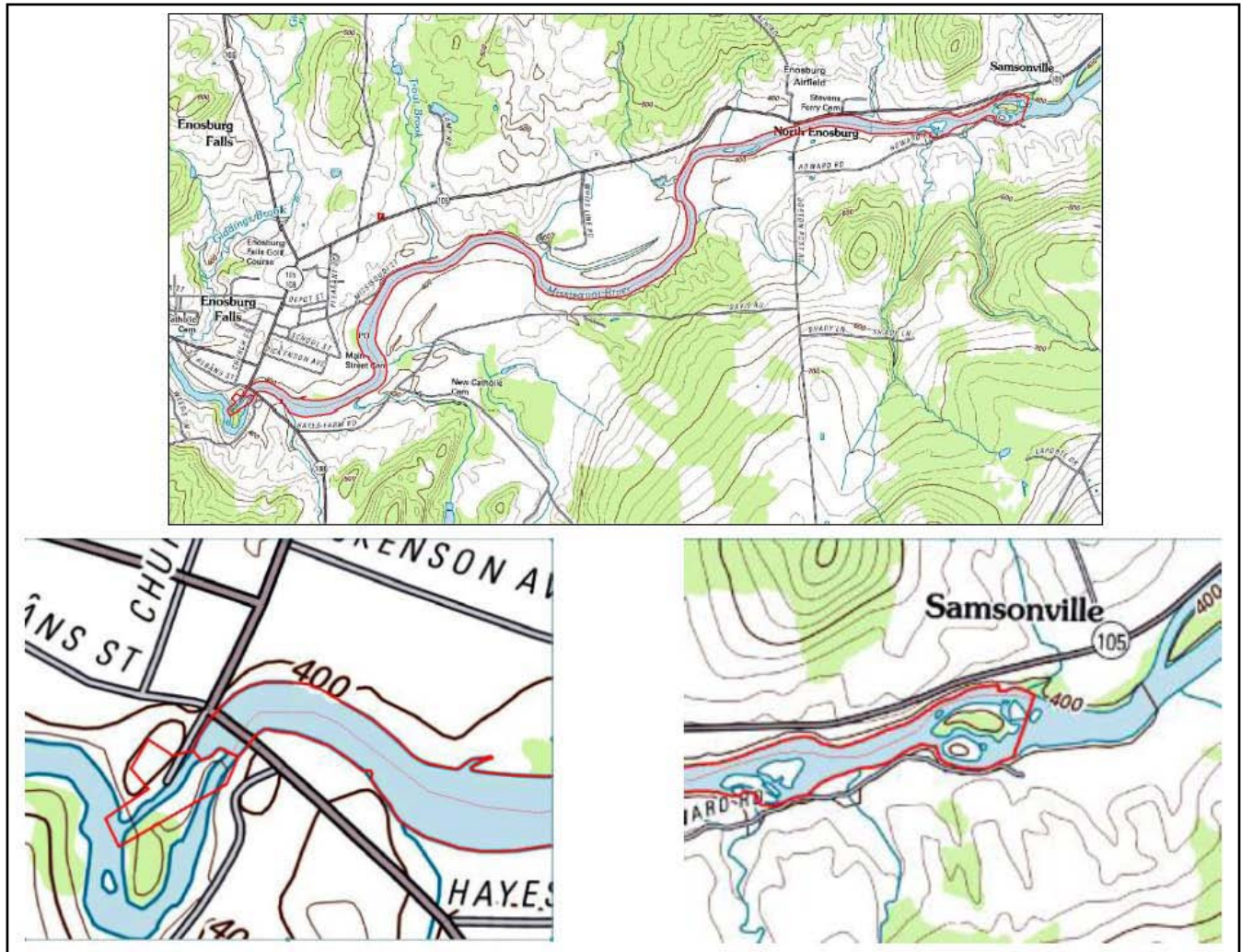


Figure 5 & 6. The numbers in the figure above indicate parcel numbers from the digital landowner parcel data from Enosburgh and Enosburg Falls, Vermont. The yellow line indicates the 4.7 mile river reach ineligible for designation due to its inclusion in the FERC Project boundary. Suitability

Appendix 5. Hydroelectric Projects

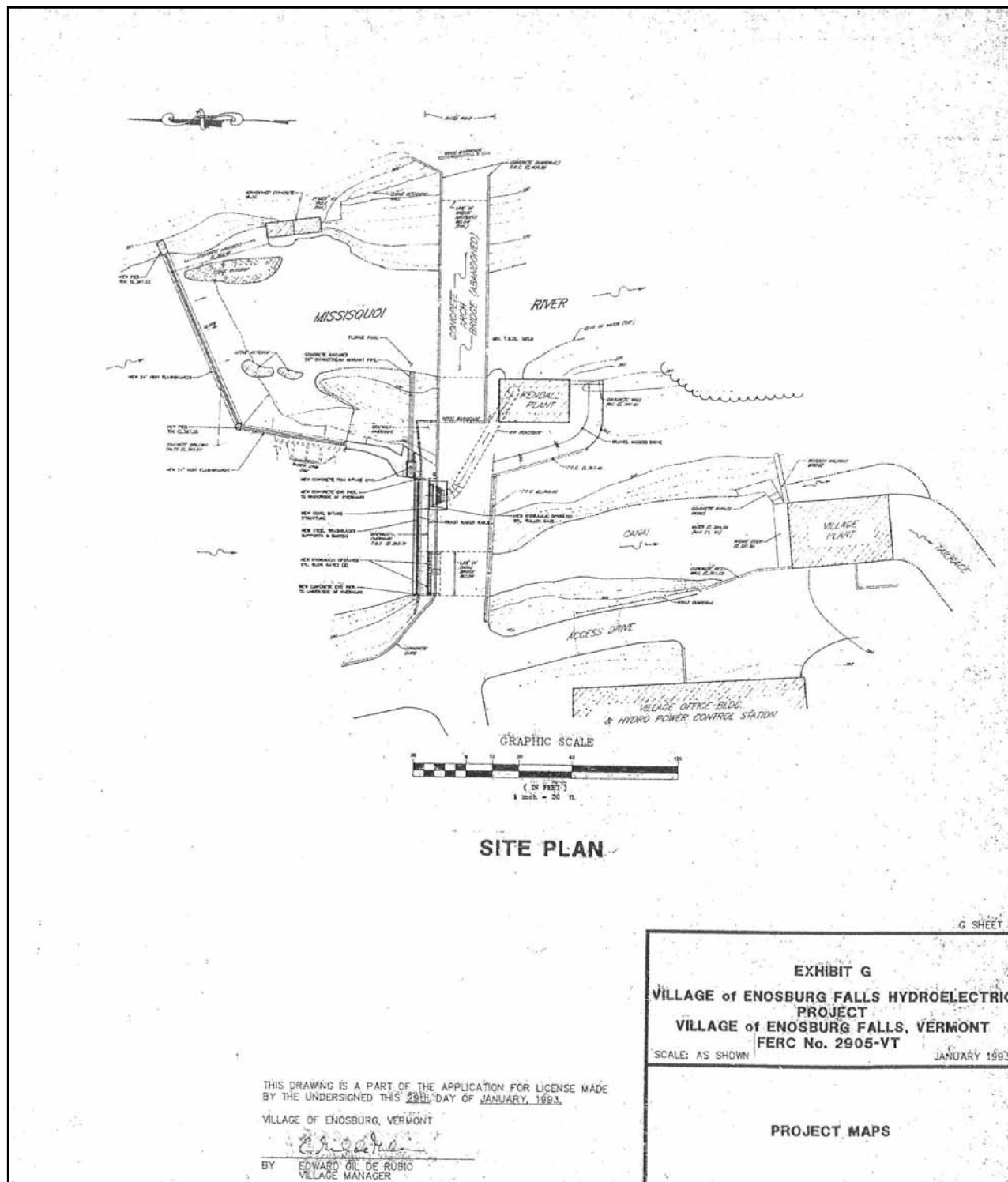
Enosburg Falls Hydroelectric Facility - Missisquoi River, Vermont
FERC Project Boundary (digitized in red).



Appendix 5. Hydroelectric Projects

Enosburg Falls Hydroelectric Facility - Missisquoi River, Vermont

FERC Project Number P-2905.



Appendix 5. Hydroelectric Projects

Troy Hydroelectric, Troy, VT - Missisquoi River

Official Study Committee Letter to FERC, July 16, 2010.

Upper Missisquoi and Trout Rivers
Wild and Scenic River Study Advisory Committee

July 16, 2010

VIA ELECTRONIC FILING

Kimberley Bose, Secretary
Federal Energy Regulatory Commission
888 First Street N.E.
Washington, DC 20426

Troy Hydroelectric Project FERC P-13381

**Position of the Upper Missisquoi and Trout Rivers Wild and Scenic River Study
Advisory Committee in support of the Troy Hydroelectric Project and Expedited
Treatment as requested by Applicant**

Dear Secretary Bose,

The Upper Missisquoi and Trout Rivers Wild and Scenic River Study Advisory Committee (Committee) is an informal advisory body convened by the National Park Service to advise and assist in the conduct of the Wild and Scenic River Study of the upper Missisquoi and Trout Rivers. Our Committee represents the ten communities included in the study area, as well as the Missisquoi River Basin Association and key state and regional agencies.

At our regular monthly meetings, we have twice had presentations and discussions concerning the proposed re-activation of the Troy Hydroelectric facility. Prior to our meeting July 15 the applicant (Jayne and Jonathan Chase) hosted a site visit which many of our members attended. And, as an agenda item the Committee unanimously passed a motion in support of the National Park Service's letter to FERC dated May 7, 2010 and in support of the proposed, expedited re-activation of the Troy Hydroelectric facility. As such, it is specifically our intent to recommend exclusion of the land and waters associated with the Troy Hydroelectric Project (project boundary) from any eventual river segments recommended for inclusion in the Wild and Scenic Rivers System.

Thank you for your consideration.

Sincerely,

Jacques Couture
Chairman, Upper Missisquoi and Trout Rivers
Wild and Scenic River Study Advisory Committee

Troy Hydroelectric, Troy, VT - Missisquoi River

NPS Letter to FERC, May 7, 2010.



United States Department of the Interior

NATIONAL PARK SERVICE
Northeast Region Office
15 State Street
Boston, Massachusetts 02109-3572

IN REPLY REFER TO:

May 7, 2010

Kimberly Bose, Secretary
Federal Energy Regulatory Commission
888 First Street N.E.
Washington, DC 20426

Troy Hydroelectric Project, FERC Project Number 13381-000

Dear Secretary Bose:

The National Park Service recently commenced work on a congressionally authorized Wild and Scenic River Study of the Missisquoi and Trout Rivers in Vermont. Public Law 111-11 (March 30, 2009) identified two segments of the Missisquoi River and the entire length of its tributary the Trout River for study. The two Missisquoi segments are:

The approximately 25-mile segment of the upper Missisquoi from its headwaters in Lowell to the Canadian border in North Troy

The approximately 25-mile segment from the Canadian border in East Richford to Enosburg Falls

The National Park Service commenced work on the Study in the Fall of 2009, with the formation of a locally-based advisory committee, the hiring of project staff and related activities. The NPS expects to complete its study and provide a Study Report to Congress by October of 2012.

Troy Hydroelectric Project

Upon commencement of Study activities, the NPS was made aware that Jonathan and Jane Chase had applied for (February 2009) and been granted (November 4, 2009) a Preliminary Permit to study reactivation of the Baker's Falls Hydroelectric Project in Troy, VT. This site is within the headwaters segment of the Missisquoi River included for Wild and Scenic River Study in PL 111-11. At this time the NPS informed the Chases that we had no objection to the issuance of the Preliminary Permit, and that the studies and investigations related thereto would be a useful complement to the Wild and Scenic River Study. The Chase's have since participated on a regular basis in the Wild and Scenic River Study and the monthly meetings of the Study Advisory Committee.

As a part of the Chase's participation in the Study they have made presentations to the Study Advisory Committee related to their project proposal, and have requested that the NPS expedite review of their proposal in relation to the Wild and Scenic River potential of the Missisquoi River. To this end we have reviewed the project in the context of the Chase's Initial Consultation Document (January 2010) and have coordinated with the US Fish and Wildlife Service, which has separately filed comments with the applicant on the ICD.

The applicant proposes to re-activate the Baker's Falls Hydroelectric Project in Troy, VT, which was previously owned and operated by Citizens Utilities Company. According to the applicant, these facilities generated power at the site until a flood in 1998 rendered the facility inoperable. All major project works necessary for hydroelectric generation have existed at the site for many decades and continue to exist at the site at this time, including dam, water conduit, powerhouse, transmission lines, and associated infrastructure. The applicant proposes to a rehabilitate and upgrade the site and project works and return the site to active hydroelectric generation as a FERC authorized facility (Exemption is being sought).

NPS Determinations Under the Wild and Scenic River Study

Standard of Review The NPS believes the proposed Troy Hydroelectric Facility is most appropriately reviewed as an existing hydroelectric facility under the Wild and Scenic Rivers Act. All major project works exist at the site, including dam, water conduit, powerhouse, transmission lines, and associated facilities. Some rehabilitation of existing facilities is envisioned by the applicant, including the potential to replace the existing turbine with a new, more efficient one. For Wild and Scenic River review purposes, this situation is akin to the relicensing of an existing hydroelectric facility, with the principal question before FERC not whether the project should be constructed but how the project should be operated. Therefore, while the first clause of Section 7b of the Wild and Scenic Rivers Act temporarily prevents FERC from licensing the construction of new project works on a congressionally authorized study segment, the NPS is reviewing the Troy Hydroelectric Proposal under the review standard of the second clause of Section 7b of the Act which states, "...no department or agency of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river might be designated, as determined by the Secretary responsible for its study or approval --". Such review is required for any federally assisted water resource development project with the potential to alter free-flowing conditions within a congressionally authorized study segment.

Values under Consideration for Potential Wild and Scenic River Designation

Free-Flow The NPS has concluded, in consultation with our Study Advisory Committee, that the project infrastructure currently existing at the Baker's Falls site (including dam, reservoir, powerhouse, transmission lines and other project works) create a pre-existing impact to the free-flowing resources within the immediate project area that will likely result in a recommendation to exclude the project area from potential Wild and Scenic designation. This absence of free-flowing character as defined in the Wild and Scenic Rivers Act includes the entire area proposed by the Chase's for inclusion in the Troy Hydroelectric Facility project boundary.

Appendix 5. Hydroelectric Projects

There are, however, substantial free-flowing river areas both upstream and downstream of the Baker's Falls site that have potential for Wild and Scenic River designation. Given this situation, the NPS could not support project conditions that would allow for the raising of the existing dam's height (addition of flashboards), since such action would inundate presently free-flowing river areas. Similarly, the NPS can only support instantaneous run-of-river operations since any other operational scheme would almost certainly constitute an adverse impact to downstream free-flowing conditions.

The Chase's ICD is supportive of the project constraints noted above, as they are not proposing to raise the height of the dam through flashboards or otherwise, and are specifically proposing to operate the Troy Hydroelectric Facility in an instantaneous run-of-river manner.

Impacts to Potential Outstandingly Remarkable Values

The NPS is in the beginning stages of identifying and assessing potential outstandingly remarkable values that may warrant recognition and protection on the two segments of the Missisquoi. While such values have not been firmly identified, without doubt, the most important factor related to the proposed development is the preservation of free-flowing character as noted above.

Additional resource values under investigations include: fish and wildlife values; scenic and geologic resources including falls and gorges; recreational fishing (notably Brown Trout); recreational boating (canoeing); and historic and archaeological values. Features of particular note on headwaters segment of the Missisquoi (where the proposed project is located) include numerous gorges and waterfalls with significance as geologic resources and as recreational attractions. The applicant has documented some of these in their Appendix C Resource Reports. Trout fishing is also a popular activity and could contribute to Wild and Scenic River eligibility. We do not believe that operation of the project as presently proposed would have any negative impact upon such resources.

The applicant notes that, due to multiple impassible Falls in the vicinity, that little recreational boating occurs in the project vicinity, and any such users would necessarily portage the Bakers Falls site in any case. Similarly, fish passage through the project area would have been blocked by the presence of the Falls whether in a natural condition or given the pre-existing dam presently at the site.

To this end we conclude that human and fish movement through the project area is essentially unaffected by the proposed operation of the Troy Hydroelectric Facility.

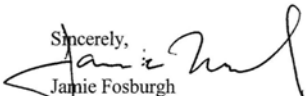
Areas downstream of the Baker's Falls project area are potentially impacted by stream flow and water quality issues. However, we are satisfied that instantaneous run-of-river operation will avoid potential flow related downstream impacts. Additionally, we are satisfied that water quality issues are being successfully addressed through the appropriate state and federal resource agencies.

Conclusions

In consideration of the above analysis, the NPS specifically supports instantaneous run-of-river operation for the proposed facility, as proposed by the applicant. We additionally support the broader set of *Preliminary Terms and Conditions* contained in the US Fish and Wildlife Service's letter dated April 15, 2010.

Based upon these findings, the National Park Service has no objection under the Wild and Scenic Rivers Act to the FERC's continued processing of Jonathan and Jayne Chase's proposed re-activation of the Baker's Falls (now Troy Hydroelectric) facility, nor to the expedited treatment requested by the Chase's. We will continue to coordinate with the Chases, the US Fish and Wildlife Service and local and state partners as this project moves forward.

If you have any questions related to this letter or need additional information, please contact me at your convenience.


Sincerely,

Jamie Fosburgh
Northeast Region Rivers Program
New England Team Leader
(617) 223-5191
Jamie_fosburgh@nps.gov

Copy:


Jonathan and Jayne Chase
Jacques Couture, Chair, Wild and Scenic River Study Advisory Committee

Troy Hydroelectric, Troy, VT - Missisquoi River

NPS Letter to FERC, June 22, 2011.



United States Department of the Interior
OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
408 Atlantic Avenue - Room 142
Boston, Massachusetts 02110-3334



9043.1
ER 11/465

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

RE: COMMENTS
Application Ready for Environmental Analysis
Troy Hydroelectric Project, FERC No. 13381-001
Missisquoi River, Orleans County, Vermont

Dear Secretary Bose:

The U.S. Department of the Interior (Department) has reviewed the Federal Energy Regulatory Commission's (Commission) Notice of Application Ready for Environmental Analysis, dated May 26, 2011, for the Troy Hydropower Project, located on the Missisquoi River in Orleans County, Vermont. These comments are submitted in accordance with provisions of the Fish and Wildlife Coordination Act, as amended; the National Environmental Policy Act, as amended; and the Federal Power Act, as amended.

CONSULTATION

The Department, through its Bureaus, has actively participated in pre- and post-filing consultation for the subject project. The Department, directly, and through the U.S. Fish and Wildlife Service (Service) and National Park Service (NPS), has submitted written comments by letters dated September 8, 2009, April 15, 2010, May 7, 2010, July 6, 2010, September 2, 2010, and April 26, 2011. These letters, which are part of the Commission's record of these proceedings, detail our comments, concerns and recommendations regarding various environmental issues associated with the proposed project.

On September 2, 2010, the Service provided preliminary terms and conditions to prevent loss of, or damage to, fish and wildlife resources at this project, pursuant to 16 U.S.C. §823a and 16 U.S.C. §2705(d). This letter modifies and finalizes our preliminary conditions. Pursuant to the terms of the statutes cited above, these conditions shall be included as terms of any exemption.

2

RESPONSE TO COMMENTS

The Service's September 2, 2010, letter contained preliminary terms and conditions for the Troy Hydropower Project. To date, the Applicants (Jonathan and Jayne Chase) have provided no objections to the draft conditions.

FISH AND WILDLIFE RESOURCES

The proposed project would be located on the Missisquoi River. In the vicinity of the proposed project, the Missisquoi River supports an extensive coldwater fishery, including brook, brown and rainbow trout, white sucker, tessellated darter, and minnow species. In addition, the Vermont Fish and Wildlife Department stocks the Missisquoi River downstream of the dam with brown trout and stocks tributaries upstream of the Bakers Falls Dam with brook trout.

Currently, there are no migratory fish species present in the vicinity of the project and no active migratory fish restoration program on the Missisquoi River. Below we discuss fish passage in more detail.

PUBLIC ACCESS AND RECREATION

The Department, through the NPS, is currently studying natural, cultural and recreational resources of the upper Missisquoi River as a part of the ongoing Wild and Scenic River Study. Although the area included in the Project Boundary will not be included in the proposed Wild and Scenic River segment, the falls (upper or lower) are recognized an important scenic and recreational feature of the upper Missisquoi. As such, the ability of the public to access the site for scenic viewing, as well as to pass through the site via canoe and fishing portage, is important to the overall context of the upper Missisquoi. Therefore, the Department supports the findings and recommendations regarding public access and recreation contained in the State of Vermont's draft 401 certificate. Specifically, we support the importance of providing a fishing and canoe/kayak portage trail (either in the location of the existing informal trail or at another suitable location), and developing public access to view the Falls. The NPS is willing to assist the applicant in the design and location of both a portage trail and falls viewing area. For more information, please contact Jamie Fosburgh, National Park Service, at 617-223-5191.

IMPACTS AND MITIGATION

Project Operation

The Applicants propose to operate the project in a true run-of-river mode, with inflow equal to outflow on an instantaneous basis. Maintaining natural flow through the project will protect the existing habitat which benefits riparian wildlife and instream aquatic species. Accordingly, we support the Applicants' proposal to operate in run-of-river mode, and provide herein a condition to require this mode of operation at the Troy Hydropower Project.

3

Below-Project Flows

The Applicants propose to operate the project run-of-river, with inflow equal to outflow on an instantaneous basis. We support the Applicants' proposal, as it will result in stable habitat, benefiting the riverine assemblage in the river below the dam.

Impoundment Fluctuations

The Applicants propose to operate the project run-of-river, as described above, eliminating concern regarding the impact daily water level fluctuations may have on aquatic resources within the headpond.

Bypass Flows

Under the proposed project configuration, there will be a bypass reach approximately 250 feet long. The Applicants propose to release 44 cfs, or inflow (whichever is less), at the dam to maintain habitat and water quality within the bypass reach. The proposed discharge is based on the median monthly flow for August from the nearby North Troy U.S. Geological Survey Gage 04293000, prorated to the drainage area at the project. We support the Applicants' proposal, and provide herein a condition to require this bypass release at the Troy Hydropower Project.

Trashrack Design

The Applicants propose to utilize Ouseberger crossflow turbines. This type of unit, while very efficient to generate power, has proven to be quite lethal to fish.¹ Research indicates that mortality increases with size of fish. In its April 15, 2010, letter to the Applicants, the Service raised the issue of impacts to fish entrained by this type of unit, and discussed the need to minimize impingement and entrainment by designing the racks to be angled, have narrow spacing, and maintain a low intake velocity.

In response, the Applicants propose to construct a full-depth, angled trashrack with one-inch clear spacing. The dimensions of the rack will result in a wetted area of at least 120 square feet, to ensure that approach velocities do not exceed two feet per second. These rack specifications meet Service design criteria for anadromous fish, and should protect most resident species from impingement and/or entrainment. In this case, there are no anadromous species present in the project area, therefore the primary concern is protecting resident riverine species from impingement and entrainment.

The design of the proposed trashracks should physically exclude larger fish that are more likely to be injured or die from turbine entrainment. Angled racks help guide fish away from the intake, if velocities do not exceed their swimming capabilities. While trashracks that meet our anadromous design criteria should protect many riverine fish, there are some species and sizes of fish that still will be susceptible to entrainment. If future fish surveys by the Vermont Fish and Wildlife Department indicate a change in community structure within the project area that can reasonably be attributed to entrainment/impingement mortality at the Troy Hydropower Project, these specifications may be modified.

¹ Literature citations supporting this statement were provided to the Applicants in a Service letter, dated April 15, 2010.

Appendix 5. Hydroelectric Projects

4

Water Quality

The Service's letter of April 15, 2010, details the Department's concerns regarding how the Troy Hydropower Project may impact water quality; specifically, because the majority of inflow would pass through the project's turbine rather than over the spillway, dissolved oxygen (DO) levels could be reduced below the dam. Due to the lack of site-specific water quality information, the Service requested that the Applicants conduct a pre-operational survey to document existing water quality.

The Applicants undertook the water quality study in the summer of 2010. The results of the study were provided to the Service on November 18, 2010. Based on the study results, the Service agreed with the report's conclusion that Class B cold-water quality standards currently are being met at the project site.

These pre-operational data represent baseline conditions at the site, and will be used to establish non-degradation standards for the project. In the event that project operations lower DO, mitigation measures would need to be implemented to maintain pre-project water quality conditions.

The Applicants have acknowledged and agreed to perform water quality monitoring of project operations, and to provide measures to improve river DO, if necessary. Accordingly, we provide herein a condition that directs the Exemptee to conduct a post-operational water quality monitoring survey, in consultation with the Service.

Monitoring Plan

The Applicants' proposal contains impoundment fluctuation limits, spillway discharges, and below-project flows that will need to be monitored to ensure compliance. The Applicants will be required to develop a formal plan that details the equipment, systems, etc., that will monitor and record the information needed to verify compliance with the various operational constraints at the project.

Refill Procedure

The exemption application does not contain a description of the procedure that will be used to refill the impoundment after dam maintenance or emergency drawdown. Because the project will operate run-of-river and maintain a stable headpond, a refill procedure needs to be developed to ensure that flows below the project are maintained while refilling the impoundment after authorized drawdowns.

We require herein that the Exemptee adopt a refill procedure under which, during refilling of the reservoir after dam maintenance or emergency drawdowns, the Exemptee shall operate the project such that 90% of the inflow is released to the Missisquoi River downstream of the dam until reservoir refilling is complete and run-of-river operation is restored.

5

Fish Passage

While there are no anadromous fish species present in the Lake Champlain watershed, there are a number of native and introduced adfluvial² species, such as lake sturgeon, walleye, steelhead and landlocked salmon. With the exception of the salmonids, these species historically did not ascend tributaries beyond the fall-line (typically marked by the first set of rapids or waterfalls). The catadromous American eel also inhabits Lake Champlain and its tributaries, and there was a commercial fishery for eels in the lake until 1998, when it was closed due to a dramatic decline in harvest. Because of the dramatic decline in young eels (elvers) returning to the St. Lawrence River, a stocking program was initiated in 2005, whereby elvers are transplanted into the Upper Richelieu River³ and Lake Champlain.⁴

Presently, there are no migratory fish in the vicinity of the project, and no active migratory fish restoration program on the Missisquoi River.⁵ Further, there are five dams downstream of the Bakers Falls Dam that would need fish passage before it would be required at the Troy Hydropower Project. However, since the Commission exemptions are issued in perpetuity and it is possible that passage for migratory fish will be required at some future date, the Service includes a future fish passage provision in the terms and conditions it prescribes for the project.

Agency Notification

As-built drawings should be provided to the Service so that we may verify the project was constructed as proposed. We provide herein a condition that requires the Exemptee to furnish the Service with a copy of as-built designs. We also provide herein a condition that requires the Exemptee to notify the Service in writing when the project commences operation.

MODIFIED TERMS AND CONDITIONS

Under Section 30(c) of the Federal Power Act (16 U.S.C. § 823a), state and federal fish and wildlife agencies have the opportunity to prescribe terms and conditions for exemptions to prevent loss of, or damage to fish and wildlife resources, and to otherwise carry out the purposes of the Fish and Wildlife Coordination Act.

Consistent with our responsibilities, we have determined that the following terms and conditions, to be included in their entirety, shall apply to any exemption which the Federal Energy Regulatory Commission issues for the Troy Hydropower Project.

1. The Exemptee shall operate the project in an instantaneous run-of-river mode, whereby inflow to the project will equal outflow from the project at all times and water levels above

² Fish that live in lakes and migrate into rivers or streams to spawn.

³ Strategic Plan for Lake Champlain Fisheries, July 2009. Fisheries Technical Committee of the Lake Champlain Fish and Wildlife Management Cooperative.

⁴ http://www.mnr.gov.on.ca/en/Newroom/LatestNews/MNR_E004285.html

⁵ While there is no restoration plan *per se* for the Missisquoi River, the Strategic Plan for Lake Champlain Fisheries identifies the need to increase numbers of American eels "consistent with global efforts for their rehabilitation" and the State's Wildlife Action Plan denotes the American eel as a Species of Greatest Conservation Need in Lake Champlain tributaries, noting that reconnecting these fish with this habitat would likely be beneficial to their long-term survival.

6

the dam are not drawn down for the purpose of generating power. Run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of the Exemptee, or for short periods upon mutual agreement between the Exemptee, the U.S. Fish and Wildlife Service, and the Vermont Agency of Natural Resources.

2. The Exemptee shall discharge a continuous flow of 44 cfs, or inflow, if less, over the dam at all times for the protection of instream habitat, water quality and aesthetics.
3. The Exemptee shall install trashracks that meet the following criteria: (1) have an approach velocity ≤ 2.0 fps (as measured six inches in front of the racks); (2) have clear spacing of one inch or less; and (3) extend full depth. The trashracks shall be installed and operational concurrent with project start-up. The racks shall be required to be kept free of debris and maintained to design specifications.
4. The Exemptee shall conduct a post-operation water quality monitoring survey. The survey protocol shall be identical to the pre-operation survey that was conducted in the summer of 2010, and shall be developed in consultation with, and require approval by, the U.S. Fish and Wildlife Service. Data shall be collected over a minimum of three (3) years, and shall be initiated the first low-flow season after project start-up. Results of the post-operation survey will be compared to the pre-operation data. If results indicate that the project is causing depletion of dissolved oxygen, mitigation measures may be required (e.g., releasing additional flow over the dam for recreation).
5. The Exemptee shall, within three (3) months of the date of issuance of an exemption from licensing, prepare and file for approval by the U.S. Fish and Wildlife Service, a plan for maintaining and monitoring run-of-river operation and bypass flows at the project. The plan shall include a description of the mechanisms and structures that will be used, the level of manual and automatic operation, the methods to be used for recording data on run-of-river operation and bypass flows, an implementation schedule, and a plan for maintaining the data for inspection by the U.S. Fish and Wildlife Service, the Federal Energy Regulatory Commission, and the Vermont Agency of Natural Resources.
6. The Exemptee shall implement a refill procedure whereby, during impoundment refilling after drawdowns for maintenance or emergency purposes, 90% of inflow is passed downstream, and the headpond is refilled on the remaining 10% of inflow to the project. This refill procedure may be modified on a case-by-case basis with the prior approval of both the U.S. Fish and Wildlife Service and the Vermont Agency of Natural Resources.
7. The Exemptee shall be responsible for constructing, operating, maintaining and evaluating upstream and downstream fish passage facilities at this project when notified by the U.S. Fish and Wildlife Service and/or the Vermont Agency of Natural Resources that such fishways are needed. All plans and schedules associated with the design, construction, and evaluation of any prescribed fishways shall be developed by the Exemptee in consultation with, and require approval by, the U.S. Fish and Wildlife Service. The fishways shall be operated and maintained in accordance with the schedule identified by the agencies.

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8. The Exemptee shall notify the U.S. Fish and Wildlife Service in writing when the project commences operation. Such notice shall be sent within 30 days of start-up to Supervisor, New England Field Office, 70 Commercial Street, Suite 300, Concord, New Hampshire 03301. The Exemptee shall furnish the U.S. Fish and Wildlife Service with a set of as-built drawings concurrent with filing said plans with the Federal Energy Regulatory Commission.
9. The Exemptee shall allow the U.S. Fish and Wildlife Service to inspect the project area at any time while the project operates under an exemption from licensing to monitor compliance with their terms and conditions.
10. The U.S. Fish and Wildlife Service reserves the right to add to and alter terms and conditions for this exemption as appropriate to carry out its responsibilities with respect to fish and wildlife resources. The Exemptee shall, within thirty (30) days of receipt, file with the Federal Energy Regulatory Commission any additional terms and conditions imposed by the U.S. Fish and Wildlife Service.

11. The Exemptee shall incorporate the aforementioned terms and conditions in any conveyance—by lease, sale or otherwise—of its interests so as to legally assure compliance with said conditions for as long as the project operates under an exemption from licensing.


These conditions are required with the understanding that the Commission likely will want to retain concurrent approval authority over some or all of the plans and actions described above, and the above conditions should not be read as preventing this.

RECOMMENDATIONS

The Department recommends that the Exemptee permit access to the project area wherever possible to allow for public utilization of fish and wildlife resources, taking into consideration any necessary restrictions to maintain public safety and protect project civil works.

Thank you for the opportunity to review and comment on this application. For more information, please contact Melissa Grader at (413) 548-8002, extension 124. Please contact me at (617) 223-8565 if I can be of further assistance.

Sincerely,


Andrew L. Raddant
Regional Environmental Officer

cc: FERC Service List

Enosburg Falls Hydroelectric Facility - Missisquoi River, Vermont

NPS Letter to the Village of Enosburg Falls, February 4, 2013.



United States Department of the Interior

NATIONAL PARK SERVICE
Northeast Region Office
15 State Street
Boston, Massachusetts 02109-3572

IN REPLY REFER TO:

2-04-13

Mr. Jon Elwell
Village Manager, Enosburg Falls
42 Village Drive
Enosburg Falls, VT 05450

Dear Mr. Elwell:

It was good speaking with you the other day regarding the potential Wild and Scenic River designation of the Missisquoi River and that designation's relationship to the Village's municipally owned/operated Enosburg Falls hydroelectric facility.

The conversation confirmed several important understandings, including:

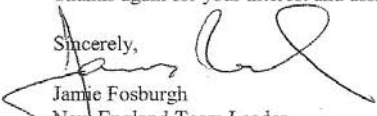
- The National Park Service concurs with the Study Committee's proposal to end the proposed Wild and Scenic River designation upstream of the project boundary of the Enosburg Falls hydroelectric project. As we discussed, if the upstream extent of the project boundary is not well defined in the FERC documents, then we will work with you to choose an endpoint that achieves the goal of avoiding overlap with the project and its impoundment.
- The NPS believes that existing FERC and State regulatory review processes are adequate, and is aware of no reason NPS involvement is warranted or necessary regarding existing operation, maintenance, or potential future renovations or upgrades. The intent of avoiding any overlap between the Wild and Scenic designation and the hydroelectric project is to avoid unnecessary consultations or approvals that might otherwise be required by FERC (if there were overlap).
- In addition to the language that is in the Draft Management Plan, the National Park Service will describe this intent in its report to Congress, and we will review that language with you in draft form prior to Report submittal.

In sum, we do not foresee having any impact or involvement with your project and its ability to continue to provide low cost, renewable energy for the citizens of Enosburg Falls.

Let me know if there is anything else that I can do to assist you. Please continue to stay in touch with Shana, and I know that she will do likewise.

Thanks again for your interest and assistance.

Sincerely,


Jamie Fosburgh
New England Team Leader
Northeast Region Rivers Program
617 223-5191
Jamie_fosburgh@nps.gov

National Park Service
U.S. Department of the Interior



Upper Missisquoi and Trout Rivers Wild and Scenic River Study

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National Park Service

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