ORIGINAL

31 Van Voast Lane

Glenville, NY 12302

January 25, 2020

Kimberly D. Bose

Secretary, FERC

888 First Street, NE

Washington, DC 20426

Vischer Ferry Dam Project #4679-049

Dear Secretary Bose:

I am a retired licensed engineer formerly employed by the New York State Department of Environmental Conservation (NYSDEC) in the Flood Protection unit.

The pool behind the Vischer Ferry Dam too frequently floods billion dollar development in the Schenectady/Scotia area. More than twenty years I have urged the Canal Corporation, now administered through the New York Power Authority (NYPA), and its predecessor agencies, to seriously study the upstream flood impact from that structure.

I am aware that NYPA does not wish to do an additional study. This flooding issue has existed for over one hundred years. I urge that FERC require such a study for both ice jam and fluvial flooding events as a relicensing requirement.

Sincerely,

Russ Wege

Russ Wege

retired engineer

Document Content(s)

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Jasmine Roberts, Schenectady, NY.
PLEASE CONTINUE TO STUDY THE DAM. I LIVE IN THE FLOOD ZONE THAT MOST FLOODS COULD BE PREVENTED FROM THE UPSTREAM DAM. THIS IS PERTINENT TO KEEPING THE STOCKADE A HISTORIC AND BEAUTIFUL PART OF SCHENECTADY. IT ALSO WOULD PREVENT PEOPLES HOMES FROM CONTINUING TO BE DAMAGES DUE TO THE DAM.
THANK YOU FOR YOUR CONTINUING WORK TO PREVENT MORE FLOODING IN THE FUTURE!!
JASMINE ROBERTS AND NICK ANTOLINO
HOME OWNERS IN THE STOCKADE DISTRICT.

Document Content(s)

Suzanne Unger, SCHENECTADY, NY.
I am writing regarding the licensing of the Vischer Ferry Dam on the Mohawk River near Niskayuna, New York. As part of the relicensing process, I am asking you and NYPA (New York Power Authority) to consider flooding up river from the dam. While many have suspected for many years, that this fixed dam exacerbates periodic flooding in Schenectady, NY, NO in-depth, definitive study has ever been done. All studies up to now have been cursory and do not provide the data needed to determine the connection between the dam and the flooding The relicensing process is a perfect opportunity to determine once and for all, the role the dam plays in flooding.

The affected area in Schenectady, is the Stockade Historic District which is on the National Register of Historic Places and dates back to 1661. Flood mitigation is a complicated and delicate issue when it comes to the significant historic resources located along the Mohawk. The federal government has an obligation to collect the best possible data before determining how to protect this important resource.

Document Content(s)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits
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www.dec.ny.gov

February 5, 2020

New York Power Authority
Attn: Robert Daly, Licensing Manager
123 Main Street
White Plains, NY 10601

RE: Revised Study Plan (RSP) Comments
Crescent Hydroelectric Project (FERC No. 4678)
Vischer Ferry Hydroelectric Project (FERC No. 4679)
Town of Colonie, Albany County
Towns of Clifton Park and Halfmoon, Saratoga County
Town of Niskayuna, Schenectady County

Dear Mr. Daly:

The New York State Department of Environmental Conservation ("NYSDEC" or "Department") is submitting comments on the January 21, 2020 Revised Study Plan (RSP) by the New York Power Authority ("NYPA" or "Applicant") for relicensing the existing Crescent Hydroelectric Project (FERC No. 4678) and Vischer Ferry Hydroelectric Project (FERC No. 4679). The two projects, collectively referred to as the "NYPA Projects", are located on the Mohawk River with the Crescent Project located in Albany, Schenectady, and Saratoga Counties, New York and the Vischer Ferry Project located in Albany and Schenectady Counties, New York.

General Comments

The NYPA has included in the RSP, a copy of the Reimagine the Canals Task Force Report which was released on January 6, 2020. The report, as it relates the NYPA Projects, focuses on flooding resiliency improvements and other initiatives such as ice jam monitoring, early warning systems and possible retrofits to the Vischer Ferry Dam to mitigate ice jams and seasonal flooding on the Mohawk River. NYPA has further indicated that as a result of the potential work identified in the report, operations and infrastructure at the projects may materially change in the future, and current environmental conditions may not be representative of conditions that will exist if the initiatives are implemented. At the current time however, this should have no bearing on the state or quality of studies as related to the relicensing of the NYPA Projects, as no material changes are being proposed by NYPA to either of the NYPA Projects at this time.

Section 2.3.1 Blueback Herring Study

This section of the RSP indicates that the fish deterrent system at the Crescent power Plant has experienced operational abnormalities and troubleshooting concluded that the power cable experienced water intrusion compromising the power needs of the sound projectors. As a result, "*The Power Authority is currently in the process of ordering a new submarine power cable and has notified the resource agencies*."[1] NYSDEC has no record of being notified of these events or the potential impact upon deterring Blueback Herring from the NYPA Projects. It is important the Department be promptly notified of all such events.

[1] Kleinschmidt. 2020. Revised Study Plan for the Crescent and Vischer Ferry Hydroelectric Projects (FERC No. 4678 and No. 4679). NYPA. Pg 17.

Comments on the Revised Study Plan

The Revised Study Plan is generally well-organized and addresses many of the key issues for the NYPA Projects. NYSDEC offers the following comments and recommendations on the proposed studies:

I. Water Quality Study

Department staff continue to request the addition of bypass monitoring sites to the Water Quality Study and that such monitoring data to be collected over 15-minute intervals.

There should be two bypass monitoring sites at each of the NYPA Projects because of the large size of the Mohawk River and the conditions that present a split channel at both projects. At the Crescent site, one monitoring location should be sited below dam A and the other should be sited below dam C. At the Vischer Ferry site, one monitoring location should be sited below dam D and the other should be sited below dam F. These sites should collect the same data asis collected at the intake and tailrace monitoring sites. Although the bypass reach is short, it still provides suitable habitat for aquatic plants and animals. The generally rocky and shallow conditions of the bypass at the NYPA Projects will present different conditions than that of the impoundment and downstream reaches of the project which may be reflected in the water quality as well.

Monitoring data over 15-minute intervals is a standard that has been practiced in the relicensing studies at multiple Projects across New York State. It also the standard for data collected by USGS at their gaging locations, including the Cohoes location on the Mohawk River (USGS 01357500), which is collected over 15-minute intervals. Concerns regarding battery life does not present an impediment for water quality monitoring when the relicensing of other Projects demonstrates otherwise.

Having adequate and comprehensive water quality data is of particular interest to the Department and will help to guide staff's conditioning of the §401 Water Quality Certificate (WQC).

II. Fish Entrainment Study

NYSDEC agrees with the proposed study and has no further comments.

III. Blueback Herring Migration Study

NYSDEC agrees that there is a large data pool already available for juvenile Blueback Herring (*Alosa aestivalis*) and their interaction with the NYPA projects. NYSDEC has not expressed a lack of interest in the upstream migratory nature and magnitude of the blueback herring, as can be reviewed in the Department's December 20, 2019 letter in response to the PSP. As stated in staff's response to the September 23, 2019 Proposed Study Plan: "*NYSDEC currently has a greater interest and concern, at this time, in adult Blueback Herring and their interaction with the NYPA Projects. As such, the currently proposed study and its goals to assess the timing, duration, and magnitude of the immigrating adults is acceptable; however, NYSDEC is also interested in assessing the timing, duration, magnitude of the emigrating adults as well as downstream mortality. The relationship between the NYPA projects and the adult Blueback Herring population, particularly during their outmigration, is incredibly important to assessing the impacts on the fishery.*"

Much like NYPA and Kleinschmidt, the Department is seeking a more holistic approach to the Blueback Herring Migration Study, such that the full migration path of the adults of the species and their interaction with the NYPA Projects is studied and evaluated, which includes both their immigration and their emigration patterns. Survival and passage of adult blueback herring has not been as well studied as survival and passage of juvenile blueback herring have been in the NYPA

Projects area. Furthermore, there are questions and concerns about the efficacy of the acoustic deterrent system, particularly at the Crescent Project where there have been recent failings in its use and practice.

Studies that have been cited relating to blueback herring movement and passage:

- Chas. T. Main, Inc. 1984. Studies of the Migration of Juvenile Blueback Herring in the Lower Mohawk River. Prepared for the NY Power Authority.
- Curtis and Associates. 1987. Vischer Ferry Hydroacoustic study of Blueback Herring Outmigration in the lower Mohawk River. Prepared for the New York Power Authority, New York, NY.
- Dunning, D.J. and C.D. Gurshin. 2012. Downriver Passage of Juvenile Blueback Herring Near an Ultrasonic Field in the Mohawk River. North American Journal of Fisheries Management. 32:365-380.
- Federal Energy Regulatory Commission (FERC). 2000. Final Environmental Assessment for the Application to Modify Article 41 of the Crescent Project (4678) and Vischer Ferry Project (4679). November 17, 2000.
- Gurshin, C.W.D., M.P. Balge, M.M. Taylor, and B.E. Lenz. 2014a. Importance of Ultrasonic Field Direction for Guiding Juvenile Blueback Herring Past Hydroelectric Turbines. 144th American Fisheries Society Annual Meeting, Quebec, Canada. 21 August.
- Gurshin, C.W.D., M.P. Balge, M.M. Taylor, and B.E. Lenz. 2014b. Importance of Ultrasonic Field Direction for Guiding Juvenile Blueback Herring Past Hydroelectric Turbines. North American Journal of Fisheries Management, 34:6, 1242-1258.
- Kleinschmidt Associates. 2009. Effect of an Ultrasonic System on Adult Blueback Herring at the Crescent Hydroelectric Project: Data Report. Prepared for New York Power Authority. December.
- Mathur, D., P.G. Heisey, K.J. McGrath, and T.R. Tatham. 1996. Juvenile Blueback Herring (Alosa aestivalis) Survival via Turbine and Spillway. Water Resources Bulletin of the American Water Resources Association. Vol. 21, No. 1. February.
- Normandeau Associates. 2009. Hydroacoustic Studies of the Downstream Passage of Juvenile Blueback Herring in the Presence of Ultrasound at the Crescent Hydroelectric Project, Mohawk River, New York.
- Normandeau Associates. 2012. Hydroacoustic Studies of the Downstream Passage of Juvenile Blueback Herring after Reconfiguration of the Ultrasound at the Crescent Hydroelectric Project, Mohawk River, New York.
- RMC Environmental Services, Inc. 1992. Juvenile Blueback Herring (Alosa aestivalis) Survival in Powerhouse Turbine Passage and Spillage Over the Dam at the Crescent Hydroelectric Project, New York. Prepared for the New York Power Authority.
- Ross, Q. E. 1999. Studies to determine the feasibility of using high frequency sound in conjunction with bypasses located outside of the sound field to provide protection for young-of-the-year and adult blueback herring at the Crescent and Vischer Ferry Hydroelectric Projects. Prepared for New York Power Authority. In Fish Protection at Cooling Water Intake Structures: A Technologies Reference, EPRI, Palo Alto, CA, 2004.

A study that investigates and evaluates the movement of adult blueback herring through the NYPA Projects area will provide data on their immigration and emigration patterns, a measure of their survivability, and how project operations impacts that. Such information will help to guide and inform management of the blueback herring stock in the Mohawk River in addition to project operations and fish passage and protection practices at the NYPA Projects.

A white paper study will only be acceptable if it also has the goal to inform and frame a field study that will follow it in the second sampling season.

IV. Fish Community Study

NYSDEC agrees with the proposed study and has no further comments.

V. Aquatic Mesohabitat Study

NYSDEC agrees with the proposed study and has no further comments.

VI. Bald Eagle Study

NYSDEC agrees with the proposed study and has no further comments.

VII. Recreation Study

NYSDEC agrees with the proposed study and had no further comments.

Study Requests

As previously requested in our December 20, 2019 letter the Department continues to request that NYPA conduct the following study:

American Eel Study

American eel (*Anguilla rostrata*) has a wide range across the Eastern United States and New York State where it is native in 17 of the 18 watersheds in the state. Eel runs, in which young-of-year juvenile eels known as elvers migrate into freshwater habitat, have long occurred with elvers scaling waterfalls and the faces of dams to access more habitat further inland. Despite their robust nature, the American eel population has been steadily in decline and the construction of dams and the operation of hydropower projects are some of the contributing factors with mortality rates in passing through turbines woefully high without protections in place. American eels are not known to travel well through the canal lock system and may even show a preference for dam sites during their upstream migration in the spring. As the American eel has been documented in surveys to inhabit the Mohawk River Watershed, as well as the mainstem itself, a study is needed to ascertain the abundance of eels in the NYPA Projects' areas and the need to provide them a better and safer mode of passage.

NYPA has proposed to conduct an American eel study following the results of the Fish Community Study, however NYSDEC strongly disagrees with conducting of the American Eel Study as the result of a desktop analysis of previously conducted sampling and studies. The vast majority of the available material for review involves sampling methodologies that were developed for targeting specific species of fish, namely black bass and other sportfish. This presents the problem of a sampling bias and perhaps also a gear bias. While American eel have been caught during some of these sampling efforts, it has been as limited bycatch. It is an inappropriate use of the data to substantiate that bycatch of American eel during sampling for other fish species can be used as an indicator of actual species abundance; to properly determine abundance of any species, a study designed to target that species should be employed. The behavior of the American eel is not comparable to the behavior of a Smallmouth Bass (*Micropterus salmoides*), for example, and their reaction to receiving an electric shock is more often to dig and burrow down into available substrate than to rise to the surface where netters can capture the fish for data collection. Moreover, the Mohawk River is a large and turbid river with great width and depths, which makes the use of boat electrofishing for the purpose of sampling eel all the more difficult.

Furthermore, American eel are a diadromous fish species with an obligatory migratory nature. Regardless of whether or not eel are residents to the NYPA Projects, they will still encounter, interact with, and need to migrate past them in order to complete their life cycle. Information on the abundance of American eel in the NYPA Projects area is necessary to understand the full impacts that the NYPA Projects have on this species.

1. *Goals and Objectives*

   The goals and objectives of this study are to assess the presence and relative abundance of American eel elvers in the NYPA Projects area and assess the need for eel ladders to improve successful and safe upstream passage.

2. *Resource Management Goals*

   NYSDEC's mission is "to conserve, improve and protect New York's natural resources and environment and to prevent, abate and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall economic and social well-being." The natural resource management goals within the Mohawk River Watershed will be consistent with the Department's mission while focusing on protecting and enhancing fish and wildlife habitat and improving public access.

   There is a pre-proposal currently available for public review and comment which will elevate the American eel from a species of conservation need to a species of special concern in New York State (https://www.dec.ny.gov/regulations/34113.html).

3. *Public Interest*

   The requestor is a state resource agency.

4. *Existing Information*

   Although caught in low numbers in the past couple of decades, fishery surveys have continued to collect mature American eels while sampling. There are also historical records of American eel caught in the Mohawk River and adjacent tributaries as referenced by Greeley (1935) in the Atlas of Inland Fishes of New York (Carlson et al. 2016)[2]: "…in waters above barriers eels are much less numerous, but sufficient numbers ascend the Mohawk…" and by Dittman et al. (2009c) that there had been commercial harvests of eel above Cohoes Falls in the Mohawk River during the colonial period.

   More recent records of American eel presence in the Mohawk River come in the form of bycatch from other fish sampling efforts, usually black bass and other sportfish, but also Blueback Herring. There have been limited to no concentrated efforts to sample American eel in the Mohawk River. They have been caught as far upstream as downstream of the Blenheim-Gilboa Dam on the Schoharie Creek (NYSDEC Survey #490009) and downstream of Newport Dam on the West Canada Creek (NYSDEC Survey #688202). They have also been caught in high numbers (100 individuals) above the NYS Dam (FERC No. 7481) in its impoundment and included all mature adults, likely in their migration downstream to reach the Sargasso Sea (NYSDEC Survey #490012). American eel have also been documented from the School Street Project (FERC No. 2539) fish community baseline study, including collections of eel downstream of the tailwater and beneath Dam C of the Crescent Project

[2] Carlson, D.M., R.A. Daniels, and J.J Wright. 2016. Atlas of Inland Fishes of New York. NYS Education Department and NYSDEC. Pg. 28-30.

within the project area.[3] While often caught in small, limited amounts, American eel have been caught in the project area of the NYPA projects such as the tailwater of Vischer Ferry (NYSDEC Survey #413005).

There is an ongoing USGS study to evaluate the status of American eel populations in the Mohawk River basin, however it is not expected to be completed until Fall of 2021 and no data is currently available to the public for inclusion to the records.[4] This study will use American eel DNA to determine presence and abundance based on a model created using known eel populations in other Hudson River tributaries. It does include sample sites on tributaries to the Mohawk, but the locations are not within the NYPA Projects area.

According to the 2017 American Eel Stock Assessment Update by the Atlantic States Marine Fisheries Commission[5], there is evidence of a trend of neutral or declining abundance of eels and that the stock is depleted. This is a cause for concern as the eel is important for both its ecological and commercial value. The New York State freshwater stock of eels, from the elver through the yellow and to the silver eel life stage, are of great concern and as a result NYSDEC is considering the proposal of raising the species to the status of a species of concern in the state and begin to afford it some additional protection. Additionally, the American eel is on the IUCN red list of threatened species as endangered.[6]

5. *Nexus to Projects Operations and Effects*

Both NYPA Projects have constructed dam structures which pose a migratory hurdle for the American eel in their upstream migration as elvers. While elvers may be able to ascend the dam face, they are also put at a higher risk of predation and will have to expend additional energy to do so. They may stage at the foot of the dam and then ascend by crawling up the face of the dam with slow and steady progress in order to surmount the dam and have access to upstream habitat. As mature adults, American eel will again have to pass the NYPA Projects in order to complete their reproductive cycle as they migrate downstream, seaward.

6. *Methodology Consistent with Accepted Practice*

The sampling of eels should be conducted through the deployment of eel traps and eel mops to determine staging of upstream migration and relative abundance of elvers. The recommended study uses standard sampling techniques such as those used by Kleinschmidt in the relicensing of the Parr Hydroelectric Project (FERC Project 1894) [7], utilizing an eel ramp pass trap design as developed by Haro (2006). Consultation with NYSDEC and USFWS will help to refine the number, size, and placement of the eel traps and eel mops.

Traps and mops should be in place by the end of April to ensure that they will function well and be available to collect any early arriving immigrating elvers. Traps should be checked at regular intervals; once a week at numbers less than 50 and daily at more than 50 individuals. Eel mops should be checked daily and removed during high water to prevent loss of gear. Collected eels should be enumerated and have their length and life stage recorded. All elvers should be released upstream and any yellow or silver eels released downstream of the

[3] Falcinelli, D.P. 1994. Response to Schedule B AIR No. 4 Fish Resources Baseline Study. School Street Project (FERC No. 2539-003). Niagara Mohawk.
[4] https://www.sciencebase.gov/catalog/item/5d70f37ee4b0c4f70cfcb202
[5] http://www.asmfc.org/species/american-eel
[6] https://www.iucnredlist.org/species/191108/121739077
[7] Kleinschmidt. 2016. American Eel Abundance Study Report: Parr Hydroelectric Project (FERC Project 1894). Kleinschmidt. Lexington, S.C.

associated NYPA project dam. Traps should be removed in September to conclude the sampling season.

7. *Level of Effort, Cost, and Why Alternative Studies Will Not Suffice*

The level of effort would involve one field crew. The study would last for one field season, two if abnormally high flows damage the sampling gear and disrupt the study. The actual cost is unknown and would depend upon the cost of sampling gear, number of sampling locations, local labor costs, the ability to combine multiple studies (e.g., water quality) into one task, etc. The existing literature provided in the PAD (Section 4.4.2.3), PSP (3.2.1), and RSP (Section 3.2.1) is inadequate to fully address the NYPA projects impacts and the proposed Fish Community Study would not be truly representative of the American eel population in the Mohawk River or within the NYPA Projects area.

Data from a literature review of other studies conducted in the Mohawk River Watershed may contribute to an understanding of the relationship between American eel and the NYPA Projects. However, to use that same data to 'suggest[8]' American eel are present in small numbers is inappropriate when an active study conducted within the NYPA Projects area aimed specifically to collect eels would provide the best and most useful data to inform NYSDEC on the state of the population and how it interacts with the NYPA Projects. Such data is necessary to make well-informed recommendations to NYPA regarding fish passage and protection measures.

The Department appreciates the opportunity to comment. If you have any questions or would like to discuss further, please feel free to contact me at (518) 402-9179 or michael.higgins@dec.ny.gov.

Sincerely,

Michael Higgins
Project Manager
Bureau of Energy Project Management

[8] Kleinschmidt. 2020. Revised Study Plan for the Crescent and Vischer Ferry Hydroelectric Projects (FERC No. 4678 and No. 4679). NYPA.

Document Content(s)

RIVERKEEPER
NY's clean water advocate

February 5, 2020

Via Electronic Filing

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First St. NE
Washington, DC 20426

Re: Comments of Riverkeeper, Inc. on the Revised Study Plans for the Crescent Hydroelectric Project (P-4678-052) and/or Vischer Ferry Hydroelectric Project (P-4679-049)

Dear Secretary Bose,

Riverkeeper appreciates this opportunity to comment on the proposed environmental studies as part of the relicensing applications for the Crescent and Vischer Ferry Dams (FERC Nos. 4678 & 4679, respectively), located on the Mohawk River in Saratoga, Albany, and Schenectady Counties, New York.

A. Consistency with NYDEC's Policies and Goals

Riverkeeper urges that FERC take our recommendations into account in light of their consistency with the New York State Department of Environmental Conservation (NYSDEC)'s own policies and goals. For example, NYSDEC has consistently made it clear that nutrient levels are a concern in State waters, and play a role in concerns related to drinking water.[1] NYSDEC's 2011 NY Nutrient Standards Plan states that this concern should be interpreted broadly: "New York State believes nutrient criteria development should go beyond a focus on just the causal stressors of phosphorus and nitrogen, and also incorporate appropriate response variables, such as *chlorophyll a*, water clarity, and *measures of biological impact*."[2] These concerns are highlighted in the Mohawk River specifically as shown in 2018-2022 Mohawk River Basin Action Agenda. The Mohawk Agenda identified both reducing nutrient levels and improving

[1] NYSDEC, New York State Nutrient Standards Plan 6 (July 7, 2011), available at https://www.dec.ny.gov/docs/water_pdf/nutrientstds2011.pdf. (*hereinafter* "NY Nutrient Standards Plan").
[2] *Id.* (emphasis added).

fisheries as goals, and the use of surveys and studies a key tool to reach these goals.[3] In particular for fisheries, the Mohawk Agenda identifies "targeted actions to improve habitat and habitat connectivity," including "[m]onitor[ing] to measure impacts of the modified canal lockage plan on fish species in the Mohawk River" and providing grants to replace, remove, or retrofit dams.[4] The action here, to study impacts of the Crescent and Vischer Ferry dams, is directly applicable to these goals as discussed in more detail below.

In a related context, a core tenet of administrative law is that an agency's specialized expertise provides grounds for courts' deference towards an agency's own interpretation of its own regulations and rulings.[5] Furthermore, even interpretations of documents without the force of law such as opinion letters, policy statements, and manuals are "entitled to respect . . . to the extent that those interpretations have the power to persuade."[6] Here, there is even greater flexibility to take NYSDEC's expertise and guidance into consideration in this discretionary context. The importance of studying both nutrients and fish has been clearly and consistently articulated by NYSDEC both broadly and within the context of the Mohawk River. FERC and NYSDEC itself should respect NYSDEC's policies and goals, and require that NYPA incorporate Riverkeeper's recommendations within the study plans to remain consistent with the existing guidance.

B. Water Quality Study

FERC has defined the geographic scope of water quality assessment for these licenses "to include the Mohawk River from the Vischer Ferry impoundment to its confluence with the Hudson River."[7] The Mohawk River in the vicinity of the Vischer Ferry and Crescent dams, and the area immediately downstream, are classified by NYSDEC as Class A waters.[8] According to NYSDEC regulations, the best usage of these waters includes "a source of water supply for drinking, culinary or food processing purposes."[9]

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[3] NYSDEC, Mohawk River Basin Action Agenda 2018-2022 at 3-7 (2018) (*hereinafter* "Mohawk Agenda").
[4] *Id.* at 9.
[5] *Matter of Riverkeeper, Inc. v. Seggos*, 75 N.Y.S.3d 854, 867 (Sup. Ct. 2018); *Matter of N.Y. State Superfund Coal., Inc. v. NYSDEC*, 892 N.Y.S.2d 594, 595 (App. Div. 3rd Dept. 2009).
[6] *Matter of Riverkeeper, Inc.*, 75 N.Y.S.3d at 867 (citing see *Skidmore v. Swift & Co.*, 323 US 134, 140 (1944)).
[7] S.D. 2
[8] 6 CRR-NY 876.4
[9] 6 CRR-NY 701.6

As a reason for excluding nutrients and chlorophyll from its study, NYPA asserts in the Revised Study Plan that these parameters are not affected by project operations.[10] This is impossible to know without study. Chlorophyll and nutrients are related to the exact same biological processes that influence dissolved oxygen and temperature, which NYPA accepts as related to operations. Furthermore, based on recent water quality data collected in the vicinity of these projects, NYSDEC and USGS have concluded that the projects may be having an impact on chlorophyll levels.[11]

One of the main objectives of NYSDEC's Mohawk Basin Action Agenda is to "protect and assess source waters."[12] The agenda identifies harmful algal blooms as a direct threat to water supplies and lays out numerical thresholds for phosphorus and chlorophyll a to protect drinking water sources.[13] Based on the currently proposed water quality study parameters, Riverkeeper asks how NYPA will be able to assess the potential effects of the project on drinking water in the project area, and requests additional study to better evaluate the potential impacts of the Crescent and Vischer Ferry projects on water quality in the Mohawk River.

NYPA has proposed to study water quality parameters and the intake and tailrace of each project for a single study season. The geographic footprint of the projects and the scope of potential impacts justify additional effort. The water quality study should be conducted over two years, to provide information about interannual variability and to maximize the opportunity of capturing significantly different weather conditions. In addition to continuous data collected at the intakes and tailraces, data should be collected from sites within the project impoundments, with the purpose of understanding how water quality varies over space and time, and in relation to locations of wastewater treatment plant outfalls and other pollution sources in the project areas.

C. Fish Studies

Eels were historically found in high abundance in the Mohawk River and its watershed. However, hydroelectric dams have contributed to the decline of eels across their ancestral

[10] NYPA, Revised Study Plan, § 2.1.5.
[11] Alexander J. Smith & Elizabeth Nystrom, *Enhanced Water Quality Monitoring in Support of Modeling Efforts in the Mohawk River Watershed* in Proceedings from the 2017 Mohawk Watershed Symposium, Union College, Schenectady NY (J.M.H. Cockburn & J.I. Garver eds., 2017).
[12] Mohawk Agenda, *Supra* note 3, at 15.
[13] *Id.* at 17.

habitat.[14] In recognition of the importance of American eels in the Mohawk Watershed, the NYSDEC Mohawk River Basin Program set forth the following principles with regard to American eels in its Draft 2018-2022 Action Agenda:

- "Investigate and gather baseline information to better understand the spatial distribution and condition of existing populations.
- Conduct watershed-wide surveys to determine the status of American eel in the Mohawk River and tributaries. Identify prime eel habitat and identify limiting factors for juvenile migration into the watershed.
- Implement the successful "Hudson River Eel Project: Citizen Science Juvenile American Eel Survey" to document the movement of glass, yellow, and silver life stages of American eel within the Mohawk River and tributaries.
- Augment this program with additional academic research of these life stages."[15]

In general, the agenda calls for "comprehensive management actions that help grow, recover, or restore migratory fish populations that are struggling or on the edge of extirpation (local extinction)."[16] The breadth of these principles underscores the significance and value of this species in the watershed.

NYSDEC has recently proposed to increase protection for eels in NYS, making them a species of concern.[17] In light of the fact that American eels are present in the Mohawk River, management agencies must apply the precautionary principle to protect the existing populations of American eel and especially juveniles entering the system to ensure their maximum contribution to the panmictic recruitment effort. Ample scientific research has clearly shown that American eels are greatly impacted by hydropower production and their tendency to use turbine intakes when moving downstream.[18]

The USGS asserts that a "knowledge gap" exists regarding the presence of American eel in the Mohawk River, and "is due in part to the fact that surveying American Eel populations is

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[14] NYSDEC, Species Assessment for American Eel 13 (2014), https://www.dec.ny.gov/docs/wildlife_pdf/sgcnameel.pdf.
[15] Mohawk Agenda, *Supra* note 3, at 27.
[16] *Id.* at 27.
[17] NYSDEC, Draft Species List Under the Part 182.5 Pre-proposal (2019), https://www.dec.ny.gov/docs/wildlife_pdf/preproposal182.pdf
[18] Species Assessment for American Eel, *supra* note 14, at 13.

challenging and time consuming with traditional fish sampling techniques (electrofishing, netting, etc.) because the species is largely nocturnal and buries itself in coarse substrates."[19] A scientifically robust survey technique is needed to accurately determine the actual abundance of American eel populations in the project area (see our comments from December 2019). The current plan proposed by NYPA is insufficient in scope, scale, and sampling design with regard to American eel. NYPA must conduct a rigorous and robust scientific study to fully understand the population and abundance of the American eel that currently exist in the project areas of the Vischer Ferry and Crescent Dams.

NYPA must conduct a study using effective gear from which quantification of effort can be measured. NYPA must also incorporate catchability into study designs, since it is critical when indexing abundance. In addition, NYPA must account for any variability in catchability to avoid biased survey results, and ultimately arriving at an incorrect estimation. Finally, it must be clearly noted that NYPA's study must thoroughly evaluate sampling effort and gear selectivity to avoid inadequate designs leading to inaccurate results.

Additionally, we strongly encourage the use of environmental DNA (eDNA) studies to determine to supplement other studies seeking to determine presence and abundance of American eel in and around the project dams. Environmental DNA in water samples has been used effectively to determine the occurrence of some aquatic species but has not been extensively applied to American eel. A recent study found that detection of eDNA in water samples from streams was greater than 90% effective at determining the occurrence of Eastern Brook Trout, *Salvelinus fontinalis*, and the quantity of DNA in water samples was a significant predictor of population density and biomass.[20] However, eDNA studies should only supplement a full assessment survey of American eel in the Mohawk River basin.

If eel populations in the Mohawk River are scant, it is at least in part because dams have significantly reduced their ability to enter the system, flourish while in the system, and have contributed to their demise when they become mangled in the turbines. It is without question that

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[19] USGS, Status of American Eel populations in the Mohawk River Basin. https://www.usgs.gov/centers/ny-water/science/status-american-eel-populations-mohawk-river-basin?qt-science_center_objects=0#qt-science_center_object

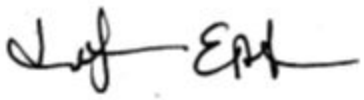
[20] Baldigo et al. (2017) Efficacy of Environmental DNA to Detect and Quantify Brook Trout populations in Headwater Streams of the Adirondack Mountains, New York. Transactions of the American Fisheries Society 146:99-111.

American eels in the project area are likely to be seriously impacted by the dams and may be delayed, entrained, or killed by the presence of the Vischer Ferry and Crescent Dams, as has led to the decline of their species across its range.[21]

NYPA must not rely on flawed or inadequate studies to make conclusions or declare that eels are an oddity in the Mohawk River and thus dismiss the importance of protecting eel populations. The studies conducted as part of this relicensing process must be used to fill the knowledge gaps regarding American eels in the Mohawk River, and ensure that proper protections are put in place. Hydroelectric production should not come at the expense and health of a native migratory species that has been grievously harmed by hydropower production and other anthropogenic forms of river regulation, yet hydropower facilities will continue to negatively impact American eels if no protective measures are undertaken. Providing screens over the turbine intakes, along with an appropriate adjusted flow velocity through the turbines to prevent impingement, is absolutely necessary to provide safe passage past the dams for eels and other migrating diadromous fish. We respectfully request that FERC take strict action to ensure safe upstream and downstream passage of American eel in the Mohawk River system.

Riverkeeper appreciates this opportunity to comment. If you have any questions about these comments, please contact Jennifer Epstein at jepstein@riverkeeper.org or (914) 478-4501 x248.

Sincerely,



Jennifer Epstein

Water Quality Program Scientist

[21] Atlantic States Marine Fisheries Commission, 2017 American Eel Stock Assessment Update (2017).

Document Content(s)

Carol Delamarter, Schenectady, NY.
Stockade Association of Schenectady
32 Washington Ave
Schenectady, NY 12305

February 4, 2020
Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Vischer Ferry Dam Project #4679-

0Study Plan49
Dear Secretary Bose,

Dear Secretary Bose:
The Stockade Association of Schenectady has reviewed NYPA's January 21, 2020 revised Study Plan. Flooding concerns in the Stockade neighborhood and limits of NYPA proposed in initial were addressed in Stockade Association letter dated December 18, 2019.
It is our understanding that in order for FERC to complete the relicensing process for Vischer Ferry Hydroelectric plant, FERC must have the information needed to complete an environmental assessment. This environmental assessment requires that all issues including flooding (Section 4.2.2 of SD 2) are analyzed. To do this NYPA must provide data that allows for a thorough and balanced assessment of all impacts of the project on resources. The NYPA Revised Study Plan dated January 21, 2020, as submitted, asserts there is sufficient existing information to allow FERC to evaluate flooding issues in order to complete an Environment Assessment. (Section 3.1.3 related to Criteria 4, 18 CFR 5.9 (b). NYPA addresses flood study requirements in response to FERC in Appendix B, response 40. The Stockade Association asserts that NYPA cannot dismiss study needs through other efforts that may be underway in the future. These efforts do not fully address seasonal flooding or provide all information needed to complete an Environmental Assessment.

The Stockade Association acknowledges and supports all efforts by NYS Reimagine the Canal Task Force to make improvements to the NYS Canal System. New studies by Bergmann and BuroHappold are informing future improvement activities on the NYS Canal. In its revised study plan submission, NYPA does not provide any evidence how relying on these 0r other studies and possible future actions by NYS will inform all FERC relicensing requirements for the Vischer Ferry Dam Project. We are requesting that FERC Directors Study Plan Determination include some clarification for NYPA of how information in all external flood studies cited by NYPA will be integrated with FERC relicensing requirements and completion of Environmental Assessment.

Carol DeLaMarter, Chair
Stockade Association Preservation Committee
Cdelam6533@aol.com

Document Content(s)

United States Department of the Interior

FISH AND WILDLIFE SERVICE
3817 Luker Road
Cortland, New York 13045

February 5, 2020

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First St., NE
Washington, DC 20426

RE: Crescent and Vischer Ferry Hydroelectric Projects (FERC Nos. 4678 and 4679) Comments on Revised Study Plan

Dear Ms. Bose:

The U.S. Fish and Wildlife Service (Service) has reviewed the January 24, 2020, Revised Study Plan (RSP) filed by the Power Authority of the State of New York (NYPA) for the Crescent and Vischer Ferry Hydroelectric Projects (Project or Projects) (FERC Nos. 4678 and 4679, respectively), located on the Mohawk River in Schenectady, Albany, and Saratoga Counties, New York. The Service provided our comments on the Proposed Study Plan in our December 23, 2019, letter to the NYPA (PSP Comments).

General Comments

The NYPA has indicated that the January 2020 announcement of the recommendations and findings of the Reimagine the Canals Task Force[1] may have substantive changes related to the Projects, especially in relation to ice jam flooding and modifications to crest gates and flashboards that may lead to changed conditions at the Vischer Ferry Project in the future. We note that currently no plans or modifications to the Vischer Ferry Project have been formalized beyond the announcement. We are unaware of any proposed changes at the Crescent Project. At this time, the Reimagine the Canals initiative is still in the early stages of development, and it is appropriate to continue studies and relicensing until the NYPA requests amendments to the Project works through the Federal Energy Regulatory Commission (Commission).

Blueback Herring

In the RSP, the NYPA has indicated that the acoustic deterrent system at the Crescent Project is in need of repair and the installation of the system will not occur until the Summer of 2020. The

[1] https://www.governor.ny.gov/news/governor-cuomo-annnounces-approval-300-million-funding-reimagine-canals-initiative

NYPA contacted the Service on December 19, 2019, to notify us of this issue, and we advised the NYPA that they should coordinate closely with our office and the New York State Department of Environmental Conservation regarding the efficacy of the system in its damaged condition and any needed mitigation measures until the system is repaired. However, we are concerned that the timing of this particular issue is occurring during the study period for relicensing and has been suggested by the NYPA as a reason for lessening the rigor of studies that are needed to assess the impacts of the Projects on the movement of blueback herring (*Alosa aestivalis*) (BBH) in the Mohawk River.

In our PSP Comments, the Service discussed that while existing information is available for both of the Projects regarding the migration of BBH, there are notable gaps in the available information for the river between the Projects, for the current configurations for fish protection measures, and between adults and juveniles for routing and survival between the Kaplan and Francis turbines present in the powerhouses. The Service recommended that the NYPA conduct an updated, holistic assessment for the downstream routing of BBH through the Projects. With a comprehensive study, the NYPA will be able to readily evaluate the proportion of BBH passing through the current flashboard notches, over the dams, through the locks, and through turbines at both Projects. Coupled with existing or any needed assessments of turbine mortality for both life stages, this would provide the information needed for our analysis of BBH passage at the Projects.

The NYPA has proposed to conduct a holistic desktop analysis of BBH migration at the Projects based on the existing information at the Projects and at other projects. While this proposed study would partially meet the goal of the Service's request, we believe that site-specific data are necessary for proper evaluation of the Projects' impacts. For instance, the proportion of BBH that may approach the Project intakes, fish notches, and canal locks is likely unique to each Project. The Service recommended that the NYPA conduct a downstream radio telemetry and balloon tagging mortality study to evaluate migration and mortality at the Projects, and we continue to recommend this approach.

American eel

The NYPA has proposed to conduct a desktop-only analysis of fisheries data in the lower Mohawk River to evaluate the presence of American eel (*Anguilla rostrata*). Based on information included in the PSP, the NYPA has concluded that the available information shows that American eel are present in the Project area in low numbers. The NYPA cites information from the United States Geological Survey (USGS) that indicates that of 35 surveyed tributaries in the Mohawk River, none found American eel. Additionally, the NYPA states that the USGS is proposing to conduct environmental DNA studies in the Mohawk River to be completed in the Fall of 2021 to further evaluate American eel presence. After reviewing the information provided in Figure 3-1 of the RSP, it is clear that only 3 of the 35 surveys occurred in tributaries below the Vischer Ferry Dam, and none occurred below the Crescent Dam. As the NYPA has concluded that American eel are present in low numbers below the Projects, the Service recommends that the Commission require an Upstream Passage Study for American eel. American eel should be included in the NYPA's proposed Entrainment and Mortality Study.

Run-of-River Study

The NYPA has declined to include the Run-of-River Study requested by the Service. As indicated in our PSP Comments, this study will allow the Service to evaluate how the Projects influence downstream flows through ramping rates and allowable fluctuation ranges. The NYPA questions whether the study is for the purpose of evaluating fluctuations at the downstream Cohoes USGS gauge, which are also influenced by a downstream project. This is not the case. The Service requested this study, and specifically the deployment of a water level monitor downstream of the Crescent Project, to evaluate the effects of the Projects on downstream river flows due to our observation of fluctuations at the Cohoes gauge. The NYPA has also indicated that these data are already collected, except for the water level monitor downstream of the Crescent Project, and will be provided in the Final License Application (FLA). However, this study is intended to provide a continuous record of the Projects' operations and influence on downstream flows to the stakeholders, which is not generally provided to the Commission in the FLA, as suggested by the NYPA. The Service has requested this study in several relicensings in New York State where gauge data suggests that run-of-river operations could be improved. The Service continues to recommend that the Commission require our requested Run-of-River Study.

Water Quality

In our PSP Comments, the Service recommended that the NYPA utilize two floating downstream monitors collecting data at 15-minute intervals for the duration of the study and to measure chlorophyll-a during discrete monitoring events. The NYPA's proposal of one downstream monitor does not appear to adequately cover the extent of the tailrace flows from both the Francis and Kaplan turbines. A 15-minute interval for data collection is a standard interval used in many hydroelectric relicensings for water quality studies, especially where units may ramp up and down quickly, such as at the Projects. The NYPA has suggested that battery limitations may prevent this; however, the record across many other Projects has shown that this is not the case. The NYPA has declined to monitor chlorophyll-a, stating that the Projects do not influence chlorophyll-a. The slow moving, warmer impoundments associated with the Projects can increase algal productivity above levels in naturally flowing rivers, and can notably influence dissolved oxygen in the system. We continue to recommend two downstream monitors at both Projects, a 15-minute data collection interval, and the collection of chlorophyll-a in the Water Quality Study.

* * * * *

Thank you for the opportunity to provide study requests for the Projects. If you have any questions or desire additional information, please contact John Wiley at john_wiley@fws.gov or 607-753-9334.

Sincerely,

David A. Stilwell

David A. Stilwell
Field Supervisor

cc: NYSDEC, Stamford, NY (C. VanMaaren, S. Wells)
NYSDEC, Albany, NY (N. Cain)
NYSDEC, New Paltz, NY (W. Eakin)
FERC e-file

Document Content(s)

James L Woidt, Scarborough, ME.
To Whom It May Concern:

I have previously submitted to FERC technical comments requesting a study of the contribution, if any, Vischer Ferry Dam has on the formation, magnitude, and frequency of ice jam-induced flooding. As NYPA's response to my December 22, 2019 comments provided in Appendix B or the Revised Study Plan states that the reason for not studying ice jamming is because NYPA is studying ice jams as part of other efforts, I presume NYPA understands the technical merit of studying this issue and I will not re-iterate those previously-submitted comments. Instead, I opine that the impact of Vischer Ferry Dam should be studied as part of the FERC re-licensing process for the following reasons:

1. In NYPA's response to my December 22, 2019 comments, NYPA justified their decision to not study ice jams as part of the FERC re-licensing process because NYPA is already evaluating and mitigating ice jams as part of the Reimagine the Canals effort. While I commend NYPA for the Reimagine the Canals effort, the Reimagine the Canals effort is an elective effort, not regulatory. NYPA is just beginning the visioning and preliminary planning for the Reimagine the Canals effort. There are no regulatory or legal requirements that require accomplishment of an explicit objective relative to ice jam mitigation for the Reimagine the Canals effort. The effort is also subject to political support at the state level. For these reasons, it is possible that the Reimagine the Canals effort does not yield any ice jam mitigation actions – possibly as the result of, but not limited to, de-funding of the effort at the state level or NYPA's election to not pursue ice jam mitigation strategies. Therefore, I opine that the FERC re-licensing process is the only process that will require adverse impacts to be mitigated.

2. In January 2020, the Ice Jams in the Mohawk River Valley Report to the Reimagine the Canals Task Force prepared by BuroHappold (2019) on behalf of NYPA was made publicly available. In this report, BuroHappold/NYPA state:

"Under ice jam conditions, this [Vischer Ferry] dam can block the flow of water, elevating water levels, and ice jams easily accumulate at locks and related facilities. Ice can interfere with the movement of the locks and place additional load on their structural and mechanical components by, for example, preventing full gate opening…Removing Vischer Ferry Dam would reduce the risk of ice jam creation by removing the existing obstructions to water flow."

In this statement, NYPA acknowledges that Vischer Ferry Dam adversely impacts ice jam-flooding. Further, NYPA also acknowledges that icing of the gates can prevent their function which could reduce NYPA's capacity to manage water levels above Vischer Ferry Dam and inadvertently exacerbate flooding. From the statement in the BuroHappold (2019) report, it is understood that Vischer Ferry adversely impacts ice jam flooding. It can also be logically extrapolated that the operation of Vischer Ferry Dam, specifically the increasing or decreasing of water levels, can

exacerbate or decrease this adverse effect of the dam (which I acknowledge would remain even in the extreme scenario that NYPA's license is not renewed). As NYPA is responsible for operation of Vischer Ferry Dam levels, I opine that NYPA's operation of Project P-4679 can decrease or increase the impacts of ice jamming. As such, re-licensing of the Project should require that NYPA operate Vischer Ferry Dam in a way to mitigate the adverse impact of ice jams specifically caused by NYPA's operation of the Vischer Ferry Dam.

My hope is that with the above comments, FERC and NYPA will recognize that Vischer Ferry Dam is likely to adversely impact the important local issue of ice jam flooding on the Mohawk River. I further hope that NYPA, as part of the FERC re-licensing process, will undertake a study that quantifies the frequency and magnitude of ice jamming on the Mohawk River upstream and downstream of Vischer Ferry Dam, quantifies the impact of Vischer Ferry Dam operations on the frequency and magnitude of flooding upstream and downstream of the dam, and requires mitigation of any adverse impacts identified from the above. As previously stated, the FERC re-licensing process is the only on-going regulatory process that will require NYPA to undertake specific actions to mitigate the yet unquantified, but reasonably suspected, adverse impacts of Vischer Ferry Dam operations on ice jamming. Thank you for your consideration of this important issue.

Sincerely,
James Woidt

Document Content(s)