



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
GREATER ATLANTIC REGIONAL FISHERIES OFFICE  
55 Great Republic Drive  
Gloucester, MA 01930-2276

**AUG - 1 2018**

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

RE: Notice of Formal Study Dispute of Study Plan Determination for the Pejepscot Hydroelectric Project (P-4784-095) and comments on the Study Plan Determination

Dear Secretary Bose:

Pursuant to 18 C.F.R. § 5.14(a), we hereby file this Notice of Dispute of the Federal Energy Regulatory Commission's (FERC) study plan determination issued on July 3, 2018, for the Pejepscot Hydroelectric Project (FERC No. 4784-095) located on the Androscoggin River, Maine. We also provide comments on several studies included with the study plan determination that we are not disputing.

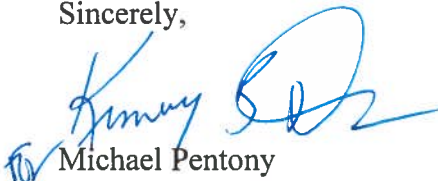
With this Notice, we identify the following study request under dispute: 1) Headpond Predation.

Also, we provide the following index to this filing:

- Enclosure A – Study Dispute Notice and NMFS' Response to the Commission's Study Plan Determination; and,
- Enclosure B – Additional comments on FERC's Study Plan Determination.

If you have any questions or need additional information, please contact Matt Buhyoff in our Protected Resources Division (Matt.Buhyoff@noaa.gov or 207-866-4238).

Sincerely,

  
Michael Pentony  
Regional Administrator

cc: Service List





**UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION**

**Pejepscot Hydroelectric Project**

**4784-095**

**NOTICE OF STUDY DISPUTE**

The National Marine Fisheries Service (NMFS) is a bureau of the National Oceanic and Atmospheric Administration (NOAA) and exercises the authority of the Secretary of Commerce to prescribe fishways for inclusion in hydropower licensing orders, pursuant to section 18 of the Federal Power Act. This Notice of Study Dispute is filed with respect to a request for information or study filed by NMFS, and the request pertains directly to the exercise of NMFS fishway prescriptive authorities under section 18 of the Federal Power Act.

The study plan determination (SPD) was filed on July 3, 2018. FERC Integrated Licensing Process (ILP) regulations state that notices of dispute should be filed with the Commission within 20 days after the filing of the SPD. However, FERC, in its Scoping Document 2 dated February 5, 2018, stated that the deadline for filing study disputes in the current matter would be August 1, 2018. As such, we request that you accept this notice of formal study dispute as timely filed.<sup>1</sup>

Upon review of the SPD for the Pejepscot Hydroelectric Project, we are concerned that Commission staff may not have fully evaluated one of our requested studies (Headpond Predation) and thus, we would appreciate the clarity that could be afforded by this study dispute process.

**Agency Panelist**

The ILP regulations require that a notice of study dispute identify and provide contact information for the panel member designated by the disputing agency. We identify Dan Kircheis to act as the agency panelist.

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<sup>1</sup> We note that a majority of the studies approved in the SPD will commence during the 2019 study season and as such, we believe that your acceptance of this filing will not impact the schedule for the conduct of approved studies, nor the overall relicensing schedule.

Mr. Kircheis has had no direct involvement with this project ILP proceeding. Mr. Kircheis' contact information is:

Dan Kircheis  
National Marine Fisheries Service  
Maine Field Station  
17 Godfrey Drive, Suite 1  
Orono, Maine 04473  
Email: [Dan.Kircheis@noaa.gov](mailto:Dan.Kircheis@noaa.gov)  
Phone: 207-866-7320

### **Satisfaction of Study Criteria**

The ILP regulations require that the notice of study dispute explain how the agency's study request satisfies the criteria set forth in section 5.9(b). We filed our original study request on December 28, 2017, and on May 14, 2018, provided additional information and clarifications in our comments on Topsham Hydro, LLC's proposed study plan. We also include comments on FERC's SPD with regard to the disputed study below. Complete information regarding how our study request satisfies the section 5.9(b) criteria may be found in those documents; however, we summarize it here:

*1. Describe goals and objectives of each study proposal and the information to be obtained*

The goal of this study is to evaluate the effect of project operations on diadromous fish, particularly critically endangered Atlantic salmon. The objective of this study is to quantify the effect of predation by non-native predators on native anadromous fish in the Pejepscot Project impoundment.

*2. If applicable, explain the relevant resource management goals of the agency with jurisdiction over the resource to be studied*

NMFS is a federal resource agency with a mandate to protect and conserve fisheries resources and associated habitat. Resource management goals and plans are codified in our regulatory statutes. We rely on the best available data to support conservation recommendations and management decisions. This study is an appropriate request for the pre-application period.

*3. If the requester is not a resource agency, explain any relevant public interest considerations in regard to the proposed study*

The requestor, NMFS, is a federal resource agency.

*4. Describe existing information...and the need for additional information*

There is no information regarding the effect of predation by non-native predators on native fish species in the project area. This study is needed to quantify ongoing project effects on the survival of native anadromous fish especially critically endangered Atlantic salmon, migrating through the project impoundment.

5. *Explain any nexus between project operations and effects...and how the study results would inform the development of license requirements*

The Pejepscot Project impounds water. The ongoing impoundment of water by the project alters the upstream riverine ecosystem and creates an ecosystem that is more lacustrine in nature. Lacustrine ecosystems support the establishment and success of non-native predators and may slow the migrations of native anadromous fish, making them more susceptible to predation. As such, the Pejepscot Project creates an environmental condition that likely reduces the survival of native anadromous fish, including endangered Atlantic salmon, thus establishing a nexus to project-effects. We note that the project occupies critical habitat designated for the Gulf of Maine distinct population segment of Atlantic salmon. Results from the proposed study are essential for a complete understanding of the effect of non-native predators on the native anadromous fish assemblage, and therefore, the consequences of lacustrine conditions created and perpetuated by the Pejepscot Project. Study results will also provide information regarding the project's effects on Atlantic salmon survival, and therefore will be an essential component in the necessary consultation for Atlantic salmon and their critical habitat that will be required by section 7 of the Endangered Species Act.

6. *Explain how any proposed study methodology....is consistent with generally accepted practice in the scientific community*

We recommend study methods similar to those outlined by Counihan et al., 2012. The study should:

- a. Validate the presence and estimate the relative abundance of non-native piscivorous predators in the project's headpond;
- b. Develop consumption indices for non-native predators;
- c. Develop predation indices for non-native predators; and,
- d. Use the above information to develop a bioenergetics model to estimate prey consumption for non-native predators of different age cohorts during anadromous fish migration period (typically May-November).

Study methods for the estimation of relative abundance and predation are consistent with generally accepted scientific practice and commonly utilized in FERC project relicensing proceedings throughout the country, including the Don Pedro Project (P-2299).

7. *Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs*

We estimate the cost of the study to be between \$15,000 and \$30,000. The level of effort and cost of the recommended study is commensurate with a project the size of the Pejepscot Project and the likely license term. No alternatives (e.g., desktop studies) can accurately provide this

necessary information, and no other approved study provides the information sought by this requested study.

### **NMFS Comments on FERC's July 3, 2018 Headpond Predation Determination**

In the SPD, Commission staff indicate that given the “low” number of Atlantic salmon smolts that would pass through the impoundment, it is very unlikely that the applicant, Topsham Hydro, LLC, would be able to obtain sufficient samples to produce a reliable predation estimate. However, Commission staff do not provide any analysis regarding the expected number of smolts, nor the sample size required to obtain statistically defensible results to support their conclusion. Furthermore, we note that the Commission’s study plan determination required that the applicant perform a telemetry study of juvenile Atlantic salmon. As such, contrary to Commission staff’s assertion, there will be juvenile salmonids in the project area available for a predation study. Finally, we note that our December 28, 2017, study request sought an evaluation of the predation effects on *all* native anadromous species, not simply juvenile Atlantic salmon. Commission staff do not address our study request in light of the potential project-related predation effects on these other species.

Commission staff state that “any potential license requirement directed at reducing the population size of these non-native predatory fish would be inconsistent with the state’s management of the fishery resource of the Androscoggin River.” Upon review of the Maine Department of Marine Resource’s and Inland Fisheries and Wildlife’s 2017 *Draft Fisheries Management Plan for the Lower Androscoggin River, Little Androscoggin River and Sabattus River*, we disagree with Commission staff’s characterization. According to the management plan, the overall management goals for the reach of the Androscoggin River within the project area are:

1. Manage [the reach] as a migratory pathway for Alewife, American Shad, Blueback Herring, Atlantic Salmon, American Eel, Striped Bass, and Sea Lamprey and for sustained production of these species consistent with habitat capacities (if known);
2. Manage species in accordance with the Atlantic States Marine Fisheries Commission's (ASMFC) Interstate Fisheries Management Plan for American Shad and river Herring, ASMFC's Interstate Fisheries Management Plan for American Eel, and Species Protection Plans for Atlantic Salmon; and,
3. Provide recreational angling opportunities for anadromous and freshwater sport fisheries.

Element 3(a) of the management plan states: “The MDMR and MDIFW will enhance opportunities to fish for Striped Bass and American Shad when sufficient numbers of these species are able to access habitat in this reach.” Element 3(e) of the management plan states: “The MDIFW will work to limit the distribution and spread of existing northern pike and other invasive fish.”

The reduction of the population of non-native predatory fish in the project area is consistent with the first and second goals of the state’s management plan. Elements 3(a) and 3(b) of the

management plan are also entirely consistent with a goal of reducing the population of non-native predatory fish in the project area. While we acknowledge that a non-native predatory species fishery exists in the Androscoggin River, there are no management actions or plans in the project area designed to enhance or support these non-native predatory species. In fact, as noted above, any management action to support non-native predatory species would contradict the state's management goals for this reach.

Commission staff indicate that even in the event that our requested study could produce results with acceptable statistical rigor, they are unclear how the data would be used to develop license requirements. Commission staff produce examples of how the Project's limited operational flexibility would not lend itself to the ability to "intentionally alter the fish community." We addressed a similar contention by Topsham Hydro in its proposed study plan. In our May 14, 2018, comment letter we stated: "the project does directly affect the survival of anadromous fish by way of the project's efficacy for safe, timely, and effective passage. As such, structures and/or operations that affect the efficacy of the project for safe, timely, and effective fish passage are absolutely within the purview of FERC license requirements." To clarify our statement above, Topsham Hydro has the capability to implement project operations or structures that directly affect the mortality of anadromous fish and therefore, could conceivably compensate for its project-related predation effects on those species. In the event that there were no license requirements that could adequately mitigate for project-related mortality due to predation, Topsham Hydro could conceivably be required to implement mitigation-based license requirements that could enhance the productivity of native anadromous species in the project vicinity. Commission staff do not address the validity of our statement regarding how the requested study could inform potential license measures, nor explain why other potential license measures, beyond management of invasive predators, such as the one we suggest, would not be appropriate.

## **Enclosure B**

### **National Marine Fisheries Service Comments on FERC's Study Plan Determination**

The Commission's July 3, 2018, study plan determination fails to adopt specific elements of three studies, which we originally requested in our December 28, 2017, filing. The Commission's study plan determination states: "...Topsham Hydro may choose to conduct any study not specifically required herein that it feels would add pertinent information to the record." Our study requests were crafted to provide information that would inform the need for and scope of any Federal Power Act section 18 prescription as well as the required section 7 Endangered Species Act consultation for Atlantic salmon and its critical habitat. As such, we continue to recommend that Topsham Hydro pursue obtaining the information that we requested. In the absence of detailed and reliable information regarding the Project's effects on diadromous fish and the habitat on which they depend, we will be forced to be conservative in the development of any recommendations or mandatory conditions in order to ensure adequate protection of our trust species.

### **Sediment Storage and Mobility and Large Woody Debris**

Topsham Hydro did not propose any study of project effects on sediment or large woody debris. In its study plan determination, FERC required studies to assess the effect of the project on sediment and large woody debris as they relate to aquatic habitat characteristics. While the study modifications recommended by Commission staff will not provide a robust understanding of the project's effects on these elements of Atlantic salmon critical habitat, we appreciate FERC's acknowledgement that a better understanding of the impact of the project on elements of aquatic habitat is necessary. The modifications recommended by Commission staff should be sufficient to evaluate the effect of the project on Atlantic salmon and other diadromous species and to develop license requirements that address those effects.

### **Evaluation of Spring Migration Season Fish Passage Effectiveness**

In our May 14, 2018, letter, we disagreed with Topsham Hydro that its proposed desktop evaluation would likely render an estimate of the project-related entrainment effects that is suitable and representative of existing real-world effects. Specifically, we noted that: 1) Topsham Hydro's proposed methodology would not provide information regarding the type or source of mortality associated with its project's effects; 2) the efficacy of turbines for safe passage may change over time, thus potentially biasing the results of any desktop evaluation; and, 3) the Pejepscot Project's four turbine units (three Francis and one Kaplan) do not operate with equal consistency (i.e. some units operate more frequently than others; some units may not operate at all during the study period); therefore, the study as proposed would be unlikely to gather the information necessary to fully evaluate the efficacy of all possible passage routes at the project.

In the study plan determination, FERC staff indicate that the Commission does not require information regarding the source of mortality to "assess turbine mortality effects at the project or the benefits and costs of potential protection measures." We question the sensibility of



evaluating the benefits and costs of potential protection measures as they relate to turbine passage without complete information. FERC staff do not specifically address the concerns we outlined in #2 and #3 above, other than to indicate that desktop techniques that rely on extrapolation based two-decade-old information are consistently used in FERC relicensing proceedings. On July 6, 2018, the U.S. Court of Appeals issued a decision in *American Rivers and Alabama Rivers Alliance v. FERC and the U.S. Secretary of the Interior* that underscores our concern:

“The Commission points out that it reviewed a 1997 “summary of fish entrainment studies” to ground its findings and to cross-check Alabama Power’s estimates. Environmental Assessment at 102. But that then-twelve-year-old study did nothing more than “review” the results of 43 fish entrainment studies conducted at hydroelectric projects” located in completely different regions of the United States. *Id.* (explaining that the summary reviewed other studies conducted in the early- to mid-1990s at hydroelectric projects located primarily in the Northeast, Southeast, and Midwest). An old review of even older and geographically remote projects is far too thin a reed on which to rest a conclusion...”

We note that §5.15(d) and (e) of the Commission’s ILP regulations permit relicensing participants to request the modification of an approved study or a new study after the filing of the Initial Study Report. As such, we will evaluate the results of the approved desktop study in light of the concerns we have described above and expect that if those concerns are not adequately addressed in the desktop study, we will again request an empirical evaluation of turbine entrainment. We note that in the absence of a reliable estimate of the efficacy of each turbine passage route, we will be forced to be conservative in the development of any recommendations or mandatory conditions in order to ensure adequate protection of our trust species.



Document Content(s)

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