

FEDERAL ENERGY REGULATORY COMMISSION

Washington, DC 20426

June 1, 2015

OFFICE OF ENERGY PROJECTS

Project No. 2669-085- Massachusetts  
Bear Swamp Project  
Bear Swamp Power Company, LLC

**Subject: Scoping Document 2 for the Bear Swamp Project, P-2669-085**

To the Party Addressed:

The Federal Energy Regulatory Commission (Commission) is currently reviewing the Pre-Application Document submitted by the Bear Swamp Power Company, LLC (Bear Swamp Power) for relicensing the Bear Swamp Project (FERC No. 2669). The project consists of the Bear Swamp Pumped Storage and the Fife Brook Hydroelectric Developments. The project is located on the Deerfield River, in Berkshire and Franklin Counties, Massachusetts.

Pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended, Commission staff intends to prepare an environmental assessment (EA), which will be used by the Commission to determine whether, and under what conditions, to issue a new license for the project. To support and assist our environmental review, we are engaged in a public scoping process to ensure that all pertinent issues are identified and analyzed, and that the EA is thorough and balanced.

Our preliminary review of the environmental issues to be addressed in our EA was contained in Scoping Document 1 (SD1), which was issued on February 18, 2015. We requested comments on SD1 and held scoping meetings on March 18, 2015, to hear the views of all interested entities on the scope of issues to be included in the EA. Based on the verbal comments we received at the scoping meetings, and written comments we received throughout the scoping process, we prepared the enclosed Scoping Document 2 (SD2). We prepared SD2 to provide information on the proposed action and alternatives, the environmental analysis process we will follow to prepare the EA, and a revised list of issues to be addressed in the EA.

We appreciate the participation of governmental agencies, non-governmental organizations, Indian tribes, and the general public in the scoping process. ***Key changes from SD1 to SD2 are identified in bold, italicized type.*** SD2 is being distributed to all

entities on the Commission's mailing list for this project. SD2 can also be accessed online at: <http://www.ferc.gov/docs-filing/elibrary>.

The enclosed SD2 supersedes the February 18, 2015, SD1. SD2 is issued for informational use by all interested entities; no response is required. Please direct any questions about the scoping process to John Baummer at (202) 502-6837 or [john.baummer@ferc.gov](mailto:john.baummer@ferc.gov). Additional information about the Commission's licensing process and the Bear Swamp Project may be obtained from our website, [www.ferc.gov](http://www.ferc.gov).

Enclosure: Scoping Document 2

cc: Mailing List  
Public Files

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SCOPING DOCUMENT 2

BEAR SWAMP PROJECT

MASSACHUSETTS

PROJECT NO. 2669-085

Federal Energy Regulatory Commission  
Office of Energy Projects  
Division of Hydropower Licensing  
Washington, DC

May 2015

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# SCOPING DOCUMENT 2

## Bear Swamp Project, No. 2669-085

### 1.0 INTRODUCTION

The Federal Energy Regulatory Commission (Commission or FERC), under the authority of the Federal Power Act (FPA),<sup>1</sup> may issue licenses for terms ranging from 30 to 50 years for the construction, operation, and maintenance of non-federal hydroelectric projects. On December 19, 2014, Bear Swamp Power Company, LLC (Bear Swamp Power) filed a Pre-Application Document (PAD) and Notice of Intent to seek a new license for the Bear Swamp Project (FERC Project No. 2669).<sup>2</sup>

The Bear Swamp Project (Project) is located on the Deerfield River, in Franklin and Berkshire Counties, Massachusetts. The Bear Swamp Project consists of the Bear Swamp Pumped Storage Development (Bear Swamp Development) and the Fife Brook Hydroelectric Development (Fife Brook Development) and has a total installed capacity of 610 megawatts (MW). The average annual generation of the Bear Swamp Project from 2009 to 2013 was 435,844 megawatt-hours (MWh), and the average annual energy used by the Bear Swamp Development for pumping during the same period was 551,104 MWh. A detailed description of the project is provided in section 3.0. The location of the project is shown on figure 1. The Bear Swamp Project does not occupy federal lands.

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<sup>1</sup> 16 U.S.C. § 791(a)-825(r) (2012).

<sup>2</sup> The current license for the Bear Swamp Project was issued with an effective date of April 1, 1970, for a term of 50 years and expires on March 31, 2020.

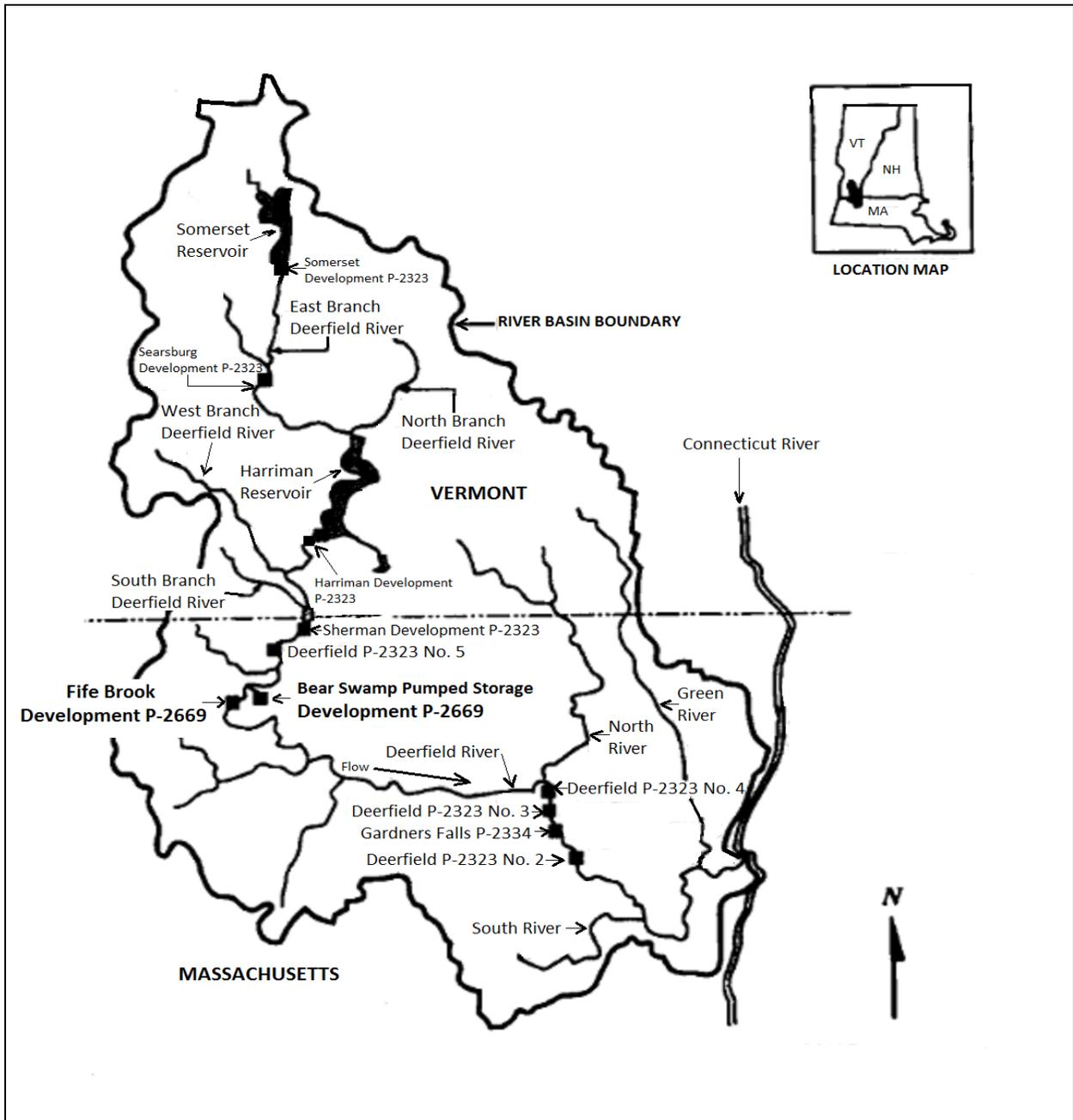


Figure 1. Location of the project and other FERC-licensed hydroelectric projects in the Deerfield River Basin. (Source: staff).

## 2.0 SCOPING

*This Scoping Document 2 (SD2) is intended to advise all participants as to the proposed scope of the EA. This document contains: (1) a description of the scoping process and schedule for the development of the EA; (2) a description of the proposed action and alternatives; (3) a listing of environmental issues to be analyzed in the EA; (4) a proposed EA outline; and (5) a list of comprehensive plans that are applicable to the project.*

### 2.1 Purposes of Scoping

Scoping is the process used to identify issues, concerns, and opportunities for enhancement or mitigation associated with a proposed action. In general, scoping should be conducted during the early planning stages of a project. The purposes of the scoping process are as follows:

- invite participation of federal, state and local resource agencies, Indian tribes, non-governmental organizations (NGOs), and the public to identify significant environmental and socioeconomic issues related to the proposed project;
- determine the resource issues, depth of analysis, and significance of issues to be addressed in the EA;
- identify how the project would or would not contribute to cumulative effects in the project area;
- identify reasonable alternatives to the proposed action that should be evaluated in the EA;
- solicit, from participants, available information on the resources at issue, including existing information and study needs; and
- determine the resource areas and potential issues that do not require detailed analysis during review of the project.

### 2.2 COMMENTS, SCOPING MEETINGS, AND ENVIRONMENTAL SITE REVIEW

*We issued SD1 on February 18, 2014, to enable resource agencies, Indian tribes, NGOs, and the public to more effectively participate in and contribute to the scoping*

*process. In SD1, we requested clarification of preliminary issues concerning the Bear Swamp Project and identification of any new issues that need to be addressed in the project EA. We revised SD1 following the scoping meetings, site visit, and our review of the written comments filed during the scoping comment period, which ended April 18, 2014. This SD2 presents our current view of issues and alternatives to be considered in the EA. To facilitate review, key changes from SD1 to SD2 are identified in bold and italicized type.*

*We conducted scoping meetings in North Adams, Massachusetts on March 18, 2015, and an environmental site review of the project on March 19, 2015, to identify potential issues associated with the project. Notices of the meetings and environmental site review were published in the Federal Register and in a local newspaper. A court reporter recorded and transcribed both of the scoping meetings.*

*In addition to oral comments received at the scoping meetings, the Commission received comment letters from the following resource agencies, NGOs, and other entities:*

<u><i>COMMENTING ENTITY</i></u>	<u><i>FILING DATE</i></u>
<i>American Whitewater</i>	<i>March 19, 2015</i>
<i>New England Flow</i>	<i>March 27, 2015</i>
<i>Massachusetts Historical Commission</i>	<i>March 30, 2015</i>
<i>Crabapple Whitewater</i>	<i>April 14, 2015</i>
<i>Trout Unlimited</i>	<i>April 16, 2015</i>
<i>Appalachian Mountain Club (Appalachian)</i>	<i>April 16, 2015</i>
<i>Massachusetts Department of Environmental Protection (Massachusetts DEP)</i>	<i>April 17, 2015</i>
<i>Massachusetts Division of Fisheries and Wildlife (Massachusetts DFW)</i>	<i>April 17, 2015</i>
<i>United States Fish and Wildlife Service (FWS)</i>	<i>April 17, 2015</i>
<i>Connecticut River Watershed Council</i>	<i>April 17, 2015</i>
<i>TransCanada</i>	<i>April 20, 2015</i>
<i>National Park Service (NPS)</i>	<i>April 20, 2015</i>
<i>Deerfield River Watershed Association</i>	<i>April 20, 2015</i>

*All comments received are part of the Commission’s official record for the project. Information in the official files is available for inspection and reproduction at the Commission’s Public Reference Room, located at 888 First Street, NE, Room 2A, Washington, DC 20426 or by calling (202) 502-8371. Information may also be accessed through the Commission’s eLibrary system using the “Documents and*

Filings” link on the Commission’s webpage at <http://www.ferc.gov>. Call (202) 502-6652 for assistance.

### 2.3 ISSUES RAISED DURING SCOPING

*The issues raised by participants in the scoping process are summarized below. The summaries do not include every oral and written comment made during the scoping process. We revised SD1 to address comments relating directly to scoping and the items listed in section 2.1 of this document. Comments on the Pre-Application Document (PAD) and study requests following the criteria in Appendix A are not discussed here, but will be considered during study plan development and the ensuing study plan meetings. Further, we do not address comments that are recommendations for license conditions, such as protection, mitigation, and enhancement (PM&E) measures, as this will be addressed in the EA or any license order that is issued for this project. We will request final terms, conditions, recommendations, and comments when we issue our Ready for Environmental Analysis (REA) notice. Finally, we do not address comments or recommendations that are administrative in nature, such as requests for changes to the mailing lists. Those items will be addressed separately.*

#### Comprehensive Plans

*Comment: FWS requested that the Commission evaluate whether “Addendum II to the Fishery Management Plan for American Eel”, approved by the Atlantic States Marine Fisheries Division on October 23, 2008, qualifies as a Comprehensive Management Plan under Section 10(a)(2)(A) of the Federal Power Act.*

*Response: The Commission is evaluating this plan to determine if it qualifies as a Comprehensive Management Plan under sections 4.38(e)(6) and 16.8(e)(6) of the Commission’s regulations. If the plan qualifies as a Comprehensive Management Plan, we will determine if the staff-recommended alternative is consistent with the plan in any EA that is issued for the project.*

#### Cumulative Effects

*Comment: TransCanada stated that the geographic scope for cumulative effects on water quality should not include the Deerfield River upstream of the project.*

*Response: The Commission's policy is to address cumulative impacts in considering original and new licenses to the fullest extent possible.<sup>3</sup> The proposed action (new license) is one of several past, present and future actions in the geographic region (i.e. the Deerfield watershed) therefore it is appropriate to analyze cumulative effects on water quality from the headwaters of the Deerfield River to its confluence with the Connecticut River.*

*Comment: The Connecticut River Watershed Council recommended that the Commission evaluate the cumulative effects of continued project operations on recreation on the Deerfield River.*

*Response: We have revised section 4.1.1 of this document to indicate that we will consider cumulative effects of project operation on recreation and defined the geographic scope for cumulative effects of project operation on recreation in section 4.1.2 of this document.*

#### *Effects on Other Hydroelectric Developments*

*Comment: TransCanada requested that the Commission consider the effects of project operation and any recommended environmental measures on the economics of the Deerfield River Project located upstream and downstream of the Bear Swamp Project.*

*Response: To the extent that information is available, we will evaluate the effects of project operation and any recommended environmental measures on other Deerfield River hydroelectric developments as part of our cumulative effects analysis and we have revised section 4.1 of this document accordingly.*

#### *No-Action Alternative*

*Comment: Appalachian stated that Article 405 of the project license<sup>4</sup> specifies an easement for conservation lands in the project boundary which expires with the current license. The No-Action Alternative in SD-1 should include renewal of conservation easement lands, since this represents no change of the current project license.*

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<sup>3</sup> See. FERC Statutes and Regulations, Use of Reserved Authority in Hydropower Licenses to Ameliorate Cumulative Impacts: Policy Statement (December 14, 1994) (RM93-25-000), 59 F.R. 66714, at ¶ 31,218.

<sup>4</sup> See 79 Fed. Reg. 61,009 (1997).

*Response: In the event that no new license has been issued prior to the expiration of the existing license, FERC would issue an annual license from year to year "to the then licensee under the terms and conditions of the original license until ... a new license is issued."<sup>5</sup> Any annual licenses would include the requirements of any amendments to the original license. Therefore, under the No-Action Alternative, the project would be the same as the current project license, including the conservation easement.*

### *Project Operation*

*Comment: TransCanada and the Connecticut River Watershed Council stated that any effects to project resources and operations, associated with the replacement of the Bear Swamp Development's turbine runners and rewinding of generators, as authorized by the Commission on August 13, 2008,<sup>6</sup> should be evaluated during relicensing. TransCanada recommended that the Commission consider evaluating the existing project configuration and the project with the proposed upgrades as separate alternatives.*

*Response: The Commission uses current conditions as its baseline for evaluating project effects and alternatives; therefore, when we prepare our NEPA document we will use the project configuration at that time as the baseline. If the approved upgrades have not been completed at the time of NEPA preparation, then we will also evaluate the effects of those upgrades, in combination with other measures being considered, on environmental resources.*

*Comment: Multiple commenters stated that the Bear Swamp Project is authorized to operate as a peaking project, independent of inflow from the Deerfield River Project and is not required to pass the inflow from the Deerfield River Project as part of its license. TransCanada recommended the Commission evaluate alternatives to the proposed project operation.*

*Response: During the course of pre-filing, Bear Swamp Power will conduct studies to assess the effects of the project on resources and this information will be used to evaluate the effects of the project on environmental resources and to develop potential PM&E measures. Changes to project operation will be evaluated in the EA as appropriate.*

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<sup>5</sup> 16 U.S.C. Sec. 808(a) (1985).

<sup>6</sup> See, *Bear Swamp Power Company, LLC, Order Amending License and Approving Revised Exhibit A, 124 FERC ¶ 62,127 (2008).*

### Project Decommissioning

*Comment: FWS recommended that the Commission consider decommissioning as a potential alternative to relicensing.*

*Response: In determining whether an evaluation of decommissioning as an alternative in the EA is warranted, we evaluate different factors relating to the adverse and beneficial effects on a variety of resources and issues. Most significantly, we evaluate whether stakeholders have recommended decommissioning and outlined the expected benefits that might be derived. No entity has recommended that the project be decommissioned or provided any environmental rationale for retiring and/or removing the project. No entity has expressed interest in assuming regulatory control and supervision of the project facilities. Furthermore, operation of the project continues to provide needed energy storage for periods of high demand or when energy is needed in emergency situations. Therefore, based on the information provided, we anticipate that decommissioning is not a reasonable alternative that needs to be evaluated in the EA. However, the Commission may evaluate decommissioning as a potential alternative if additional information gathered during relicensing suggests it may be warranted.*

*Comment: NPS stated that the Commission should evaluate the financial fitness of Bear Swamp Power and determine if a trust fund for decommissioning would be appropriate in any license issued for the project.*

*Response: The financial fitness of an applicant is a matter which the Commission may appropriately consider in deciding whether to issue a license.<sup>7</sup> A licensee is required to operate and maintain its project through the term of the issued license according to the terms of the license. The Commission does not generically impose decommissioning funding requirements on licensees. However, in certain situations, where supported by the record, the Commission may impose license conditions to ensure that funds are available for potential decommissioning.*

### Aquatic Resources

*Comment: Massachusetts DEP, the Connecticut River Watershed Council, Trout Unlimited and the Deerfield Watershed Association expressed concern about the*

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<sup>7</sup> See Clifton Power Corp., 39 FERC ¶ 61,117 at 61,456-58 (1987), *aff'd* Cooley v. FERC, 843 F.2d 1464, 1471-73 (D.C. Cir. 1988), and Rivers Electric Co., 62 FERC ¶ 61,232 at 62,572 (1993).

*quantity and quality of water released from Fife Brook dam into the Deerfield River, including the effects of evaporative losses from the project reservoirs.*

*Response: We have added a bullet to section 4.2.2 of this document to indicate that we will consider effects of project operation on water quantity, including evaporative losses.*

#### **Recreation - Access**

*Comment: American Whitewater commented that the project has a negative impact on recreational boating upstream of Fife Brook dam.*

*Response: We have revised section 4.2.5 to indicate that we will evaluate existing recreation opportunities in the EA. This will be used to determine if measures are needed to improve boating at the project.*

*Comment: American Whitewater commented that providing handicapped accessibility in public accommodations is a requirement of state and federal law, and that the licensee should ensure that all of its public access locations are accessible to all members of the public.*

*Response: We have revised section 4.2.5 to indicate that we will evaluate the adequacy of project recreation sites for individuals with disabilities.*

*Comment: Appalachian commented that the Hoosac Tunnel Loop trail should have been completed under the existing license; however, it is currently incomplete.*

*Response: We have revised section 4.2.5 to indicate that we will evaluate the adequacy of existing recreational facilities, including the Hoosac Tunnel Loop trail.*

#### **Recreation – Form 80**

*Comment: NPS and Appalachian commented that the FERC Form 80 reports underestimate current visitor use numbers and future needs of the project site.*

*Response: The need for additional information on visitor use will be evaluated during the ILP study planning process.*

#### **Recreation – Fishing**

*Comment: Crabapple Whitewater commented that Fife Brook Fishing Access is*

*inadequate because the area is too small to accommodate boat launches and retrieval.*

*Response: As indicated in section 4.2.5, we will address the adequacy of existing recreation facilities and public access to meet current and future recreational demand.*

*Comment: Deerfield River Watershed Association commented that current flows downstream of Fife Brook dam can strand waders.*

*Response: We have revised section 4.2.5 to indicate that we will evaluate the effects of whitewater releases on public safety.*

### **Socioeconomic Resources**

*Comment: Many commenters stated that the whitewater release flows established as part of the settlement agreement approved by the Commission on April 4, 1997,<sup>8</sup> have made the Deerfield River a vital recreational resource and have been significantly beneficial to the surrounding communities' economic stability. Commenters requested an examination of the socioeconomic benefits of recreational opportunities during relicensing.*

*Response: We have revised section 4.2 to indicate that we will examine the effects of the project on the socioeconomic resources in the project vicinity.*

## **3.0 PROPOSED ACTION AND ALTERNATIVES**

In accordance with NEPA, the environmental analysis will consider the following alternatives, at a minimum: (1) the no-action alternative, (2) the applicant's proposed action, and (3) alternatives to the proposed action.

### **3.1 No-action Alternative**

Under the no-action alternative, the Bear Swamp Project would continue to operate as required by the current project license (i.e., there would be no change to the existing environment). No new environmental protection, mitigation, or enhancement measures would be implemented. We use this alternative to establish baseline environmental conditions for comparison with other alternatives.

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<sup>8</sup> See, *New England Power Company, Order Amending License, 79 FERC ¶ 61,009 (1997)*.

### 3.1.1 Existing Project Facilities

#### Bear Swamp Development

The existing Bear Swamp Development consists of an upper reservoir, upper reservoir intake structure and penstocks, powerhouse and transmission lines, tailrace and lower reservoir outlet structure, and appurtenant facilities (figure 2).

Upper Reservoir: The 118-acre upper reservoir is contained by existing topography and four dikes. The four dikes include: (1) a 1,300-foot-long curved, earth and rockfill dike (North Dike); (2) a 350-foot-long earth and rockfill extension of the North Dike (Dike A); (3) a 2,880-foot-long earth and rockfill dike (South Dike); (4) a 750-foot-long earth and rockfill dike (East Dike). Each dike is constructed with an impervious glacial till core with a compacted rockfill shell and has a crest elevation of 1,606-feet National Geodetic Vertical Dam of 1929 (NGVD). The upper reservoir has a gross storage capacity of 8,300 acre-feet at the normal full water level elevation of 1,600-feet NGVD. A 420-foot-long emergency spillway with a crest elevation of 1,602-feet NGVD is excavated into the bedrock to the east of Dike A.

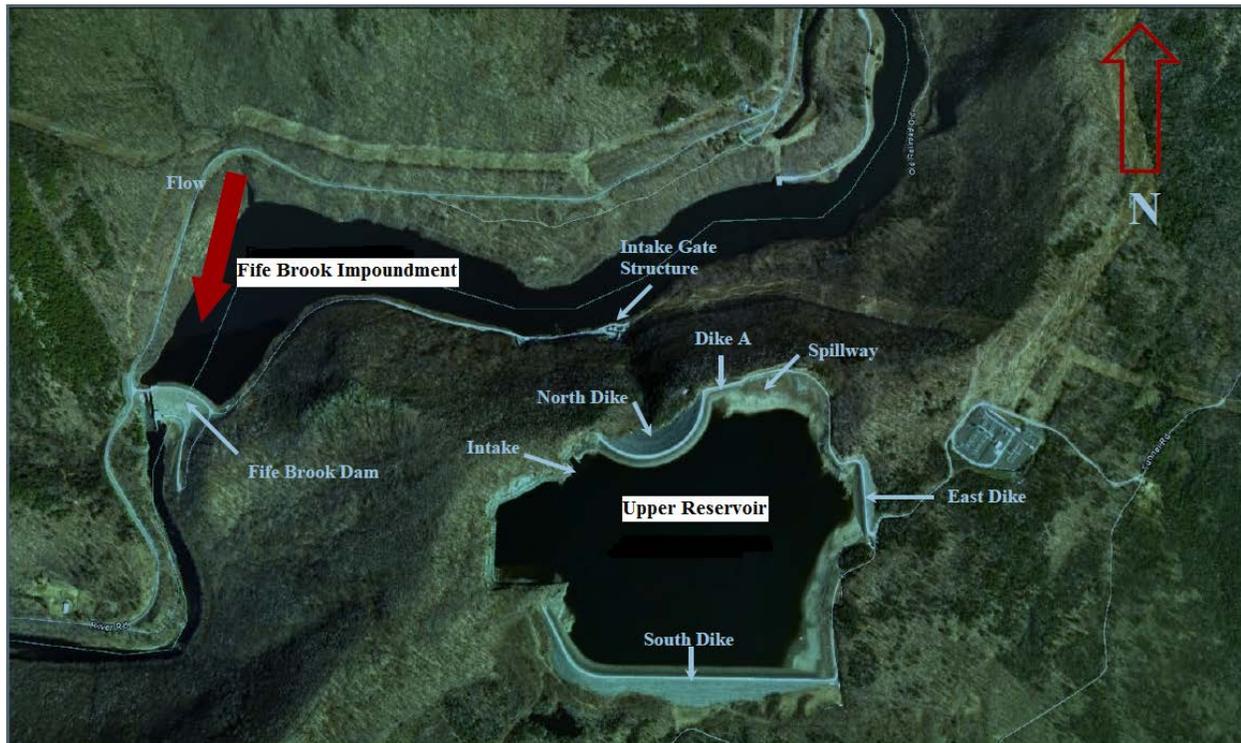


Figure 2. Aerial view of the Bear Swamp Project (Source: staff).

Upper Reservoir Intake Structure and Penstocks: Water is conveyed from the upper reservoir to the powerhouse through a 1,090-foot-long underground tunnel system. A 40-foot-diameter, concrete intake structure is located on the floor of the upper reservoir. Water passing through the intake structure enters a 740-foot-long, 25-foot-diameter concrete-lined vertical shaft and horizontal tunnel that bifurcates into two 350-foot-long, 17.5-foot-diameter concrete-lined penstocks.

Powerhouse and Transmission Lines: The powerhouse consists of an underground cavern that is 227-foot-long, 79-foot-wide, 182-foot-high and contains two reversible 300-megawatt (MW), Francis-type turbine-generator units. Two 230-kilovolt (kV), generator leads and two 230-kV, 1-mile-long above-ground transmission lines connect the reversible turbine-generator units to the regional grid. The powerhouse is accessed via a 700-foot-long, 25-foot-wide, 29-foot-high tunnel or via a 600-foot-long, 15-foot-wide, 23-foot high tunnel that houses the generator leads.

Tailrace and Outlet Structure: Water is conveyed from the powerhouse to the lower reservoir (i.e., Fife Brook impoundment) through two 504-foot-long, 22-foot-wide, 29-foot-high, concrete-lined, underground draft tube tunnels. Each draft tube tunnel connects to a 15-foot-wide, 20-foot-tall outlet structure that includes two 20-foot-high, 15-foot-wide discharge bays. The four discharge bays are equipped with slide gates and trashracks with a clear bar spacing of 6-inches. A 150-foot-long concrete apron extends from the trashracks into the Fife Brook impoundment.

### **Fife Brook**

The existing Fife Brook Hydroelectric Development consists of: (1) an 890-foot-long, 130-foot-high earthen rock-fill dam that includes a 90-foot-long concrete spillway; (2) a 152-acre impoundment with a gross storage capacity of 6,900 acre-feet at a normal maximum water surface elevation of 870 feet NGVD; (3) two 36-foot-wide, 40-foot-high steel tainter gates; (4) a 30-inch-diameter minimum flow release pipe that bifurcates into a 20-inch-diameter pipe and a 24-inch-diameter pipe; (5) a concrete intake structure with a 3-inch clear bar spacing trashrack and 15-foot-wide, 18-foot-high headgate; (6) a 10-foot-diameter, 200-foot-long steel penstock; (7) a concrete powerhouse containing a 10-MW Francis turbine-generating unit; (8) a steel-lined draft tube; (9) an 1.6-mile-long, 13.8-kV transmission line connecting the turbine-generating unit to the regional grid; and (10) appurtenant facilities (figure 2).

The existing project boundary around the Bear Swamp Project extends approximately 2.5 miles upstream of the Fife Brook dam and includes lands around the upper and lower reservoirs. Downstream of the Fife Brook dam, the project boundary

includes lands associated with project structures, such as the dam, powerhouse and appurtenant facilities and extends to a point approximately 7.5 miles downstream of the dam.

### **Recreation Facilities**

Bear Swamp Power operates and maintains the recreation facilities described below.

Bear Swamp Visitor Center: An underground visitor center is located about a mile and half upstream from the Fife Brook dam. The visitor center provides information about the Bear Swamp Project and its history through interactive displays, artifacts, and guided tours.

Fife Brook Fishing and Boating Access Area: A non-motorized boat launch and fishing area is located approximately 2,000 feet downstream from the Fife Brook dam along River Road. The site is a popular boat launching and fishing site, and has aluminum boat slides and stairs to the river.

Zoar Whitewater Access Area: A car-top non-motorized boat launch is located upstream from the rapids at Zoar Gap along River Road. The site is a popular launching area for commercial whitewater guide services.

Zoar Picnic Area: A picnic area and car-top launch for non-motorized boats is located approximately seven miles downstream of the Fife Brook dam along River Road. This site features 25 concrete picnic tables, 22 barbeque grills, and access to the river.

Fife Brook Overlook Hiking Trail: A 1.3-mile section of the Bear Swamp and Hoosac Tunnel Loop hiking trail is accessible from Tunnel Road near the upper reservoir. The trail provides views of the Deerfield River Valley, the Fife Brook impoundment, and the Fife Brook Dam.

Bear Swamp Public Hunting Area: A 900-acre hunting area is located south and west of the upper reservoir and accessible via Tunnel Road.

### **3.1.2 Existing Project Operations**

#### **Bear Swamp Development**

The Bear Swamp Development is a pumped storage hydroelectric facility with a usable storage of 4,900 acre-feet (a 44.5-foot drawdown). An additional 5.5 feet (for a

total allowable drawdown of 50 feet) is reserved for emergency power generation and meeting the minimum flow requirements of the Fife Brook Development. The Bear Swamp Development typically cycles between pumping and generation during a 24-hour period. During pumping operation, the turbine-generator units are operated in reverse and water is pumped from the Fife Brook impoundment to the upper reservoir. The approximate hydraulic capacity of the development during pumping operation is 9,040 cubic feet per second (cfs). During generation, the turbine-generator units are operated conventionally and water from the upper reservoir is discharged into the Fife Brook impoundment. In generation mode, the approximate hydraulic capacity of the Bear Swamp Development is 10,860 cfs.

### **Fife Brook**

The Fife Brook Hydroelectric Development operates in a run-of-river mode where releases from Fife Brook dam generally match the inflow from the upstream Deerfield No. 5 Development. However, due to operation of the Bear Swamp Development the Fife Brook impoundment does not maintain stable elevation. Operation of the Bear Swamp Development fluctuates water levels in the Fife Brook impoundment between elevations 830 and 870 feet NGVD.

The hydraulic capacity of the Fife Brook Development turbine-generator unit ranges from approximately 270 cfs to 1,540 cfs. When the Fife Brook impoundment is full and inflow exceeds the hydraulic capacity of the Fife Brook Development turbine, the turbine-generator unit is operated at its maximum capacity and excess flow is released through the tainter gates.

The current license requires Bear Swamp Power to provide a continuous minimum flow of 125 cfs into the tailrace of the Fife Brook dam.<sup>9</sup> The minimum flow is released through a system of gated pipes, sized to pass the required minimum 125 cfs.

The Fife Brook Development turbine generally has a minimum operating output of 3 MW. To avoid sudden increases in flow downstream of Fife Brook dam that could

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<sup>9</sup> The minimum flow from the Deerfield No. 5 Hydroelectric development into the Fife Brook impoundment is 73 cfs, which is less than the required minimum flow of 125 cfs into the Fife Brook tailrace. Article 401 of the current license, as amended by the Commission's April 4, 1997 order, requires water to be released from the Bear Swamp Development upper reservoir, if necessary, to ensure that the minimum flow of 125 cfs is met.

affect wading anglers, increases from the 125-cfs minimum flow to higher generating flows are ramped to a discharge level equivalent to an approximate 3-MW output level (generally between 270 cfs and 650 cfs) and held for 15 minutes before bringing the powerhouse to its scheduled discharge level.<sup>10</sup>

To provide flows for whitewater recreation, Article 404 of the current license requires 106 periodic, scheduled releases of 700 cfs from April 1 through October 31. These flows are generally released through the Fife Brook turbine-generator unit.

## **3.2 Applicant's Proposal**

Bear Swamp Power proposes to continue to operate and maintain the Bear Swamp Project as is required in its existing license. Bear Swamp Power does not propose any new development<sup>11</sup> or changes in project operation at this time. The current license for the project expires on March 31, 2020.

### **3.2.1 Proposed Environmental Measures**

The environmental measures that are currently proposed by Bear Swamp Power are described below.

#### Aquatic Resources

- Continue to release a 125-cfs minimum flow in the tailrace of the Fife Brook Development.

#### Recreation and Land Use

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<sup>10</sup> Daily flow release forecasts at the Fife Brook dam are posted on the Waterline website at <http://www.h2oline.com/default.aspx?pg=si&op=255123>.

<sup>11</sup> On August 13, 2008, the Commission authorized Bear Swamp Project (*See* 124 FERC ¶ 62,127) to replace the Bear Swamp Development's turbine runners and rewind the generators. These project modifications must be completed by August 13, 2019 (*See* 147 FERC ¶ 62,124).

- Continue to provide public access.
- Continue to maintain existing recreation facilities.
- Continue to provide whitewater releases.

### Cultural Resources

- Develop a Historic Properties Management Plan, in consultation with the Massachusetts Historical Commission and Stockbridge-Munsee Community Band of Mohican Indians, to provide for the protection and management of historic properties.

### **3.3 Dam Safety**

It is important to note that dam safety constraints may exist and should be taken into consideration in the development of proposals and alternatives considered in the pending proceeding. For example, proposed modifications to the dam structure, such as the addition of flashboards or fish passage facilities, could impact the integrity of the dam structure. As the proposal and alternatives are developed, the applicant must evaluate the effects and ensure that the project would meet the Commission's dam safety criteria found in Part 12 of the Commission's regulations and the Engineering Guidelines (<http://www.ferc.gov/industries/hydropower/safety/eng-guide.asp>)

### **3.4 Alternatives to the Proposed Action**

Commission staff will consider and assess all alternative recommendations for operational or facility modifications, as well as protection, mitigation, and enhancement (PM&E) measures identified by the Commission, the agencies, Indian tribes, NGOs, and the public.

### **3.5 Alternatives Considered But Eliminated From Detailed Study**

At present, we propose to eliminate the following alternatives from detailed study in the EA.

### **3.5.1 Federal Government Takeover**

In accordance with § 16.14 of the Commission’s regulations, a federal department or agency may file a recommendation that the United States exercise its right to take over a hydroelectric power project with a license that is subject to sections 14 and 15 of the FPA.<sup>12</sup> We do not consider federal takeover to be a reasonable alternative. Federal takeover of the project would require congressional approval. While that fact alone would not preclude further consideration of this alternative, there is currently no evidence showing that federal takeover should be recommended to Congress. No party has suggested that federal takeover would be appropriate, and no federal agency has expressed interest in operating the project.

### **3.5.2 Non-power License**

A non-power license is a temporary license the Commission would terminate whenever it determines that another governmental agency is authorized and willing to assume regulatory authority and supervision over the lands and facilities covered by the non-power license. At this time, no governmental agency has suggested a willingness or ability to take over the project. No party has sought a non-power license, and we have no basis for concluding that the Bear Swamp Project should no longer be used to produce power. Thus, we do not consider a non-power license a reasonable alternative to relicensing the project.

### **3.5.3 Project Decommissioning**

Decommissioning of the project could be accomplished with or without dam removal. Either alternative would require denying the relicense application and surrender or termination of the existing license with appropriate conditions. There would be significant costs involved with decommissioning the project and/or removing any project facilities. The project provides a viable, safe, and clean renewable source of power to the region. With decommissioning, the project would no longer be authorized to generate power.

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<sup>12</sup> 16 U.S.C. §§ 791(a)-825(r).

## 4.0 SCOPE OF CUMULATIVE EFFECTS AND SITE-SPECIFIC RESOURCE ISSUES

### 4.1 Cumulative Effects

According to the Council on Environmental Quality's regulations for implementing NEPA (40 C.F.R. 1508.7), a cumulative effect is the effect on the environment that results from the incremental effect of the action when added to other past, present and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time, including hydropower and other land and water development activities.

#### 4.1.1 Resources that could be Cumulatively Affected

Based on information in the PAD for the Bear Swamp Project, and preliminary staff analysis, we have identified *water resources (water quality and quantity), aquatic resources (fish, benthic macroinvertebrates, and mussels), recreation, and hydroelectric development in the Deerfield River* as resources that could be cumulatively affected by the proposed continued operation and maintenance of the Bear Swamp Project in combination with other hydroelectric projects and other activities in the Deerfield River Basin.

#### 4.1.2 Geographic Scope

Our geographic scope of analysis for cumulatively affected resources is defined by the physical limits or boundaries of: (1) the proposed action's effect on the resources, and (2) contributing effects from other hydropower and non-hydropower activities within the Deerfield River Basin. We have identified the geographic scope for water *resources* to include the Deerfield River Basin from its headwaters in southern Vermont to its confluence *of the Deerfield and Connecticut Rivers*. *For aquatic resources and recreation resources, we define the geographic scope to include the upper extent of Fife Brook impoundment downstream to the confluence of the Deerfield and Connecticut Rivers*. *For hydroelectric development in the Deerfield River, we define the geographic scope to include the Somerset Development downstream to the Deerfield No. 2 Development (see figure 1).*

#### 4.1.3 Temporal Scope

The temporal scope of our cumulative effects analysis in the EA will include a

discussion of past, present, and reasonably foreseeable future actions and their effects on each resource that could be cumulatively affected. Based on the potential term of a new license, the temporal scope will look 30 to 50 years into the future, concentrating on the effect on the resources from reasonably foreseeable future actions. The historical discussion will, by necessity, be limited to the amount of available information for each resource. The quality and quantity of information, however, diminishes as we analyze resources further away in time from the present.

## **4.2 Resource Issues**

In this section, we present a preliminary list of environmental issues to be addressed in the EA. We identified these issues, which are listed by resource area, by reviewing the PAD and the Commission's record for the Bear Swamp Project. This list is not intended to be exhaustive or final, but contains the issues raised to date. After the scoping process is complete, we will review the list and determine the appropriate level of analysis needed to address each issue in the EA. Those issues identified by an asterisk (\*) will be analyzed for both cumulative and site-specific effects.

### **4.2.1 Geologic and Soils Resources**

- None.

### **4.2.2 Aquatic Resources**

- Effects of continued project operation on dissolved oxygen and water temperature in the Deerfield River downstream of the project.\*
- Effects of continued project operation on aquatic habitat for trout, other resident fish, *American eel*, benthic macroinvertebrates, and *mussels*.\*
- *Effects of project operation, including ramping during startup, reservoir fluctuations, peaking flows, minimum flow releases and evaporative losses from project reservoirs, on aquatic resources in the Fife Brook impoundment and in the Deerfield River downstream of Fife Brook Dam.\**

### **4.2.3 Terrestrial Resources**

- Effects of continued project operation, including reservoir fluctuations, on riparian and wetland habitat and associated wildlife, including waterfowl and wetland-dependent birds.

- Effects of continued project operation and maintenance on upland wildlife habitat and associated wildlife.

#### **4.2.4 Threatened and Endangered Species**

- Effects of continued project operation and maintenance on the federally endangered northeastern bulrush, federally threatened bog turtle, and federally *threatened* northern long-eared bat.

#### **4.2.5 Recreation Resources**

- *Effects of continued project operation on year-round recreational use.\**
- Effects of continued project operation on the adequacy of existing recreational access *and opportunities*, the adequacy and capacity of existing recreational facilities (*including the Hoosac Tunnel Loop trail*), *the adequacy of recreation facilities to accommodate individuals with disabilities*, and the adequacy of existing whitewater flows *and their effects on public safety*.

#### **4.2.6 Cultural Resources**

- Effects of continued project operation on historic properties and archaeological resources.

#### **4.2.7 Socioeconomic Resources**

- *Effects of project operation on socioeconomic resources in the project vicinity.*

#### **4.2.8 Developmental Resources**

- Economics of the project and the effects of any recommended environmental measures on the project's economics.

## 5.0 PROPOSED STUDIES

Depending upon the findings of studies completed by Bear Swamp Power and the recommendations of the consulted entities, Bear Swamp Power will consider, and may propose certain other measures to enhance environmental resources affected by the project as part of the proposed action. Bear Swamp Power’s initial study proposals are identified by resource area in table 1. Detailed information on Bear Swamp Power’s initial study proposals can be found in the PAD. Further studies may need to be added to this list based on comments provided to the Commission and Bear Swamp Power from interested participants, including Indian tribes.

Table 1. Bear Swamp Power’s initial study proposals for the Bear Swamp Project.  
(Source: Bear Swamp Project PAD)

<b>Resource Area</b>	<b>Proposed Study</b>
<b>Aquatic Resources</b>	
	Survey the 7.5 mile reach downstream of the Fife Brook dam to evaluate the effects of project operation on river levels.
	Conduct a baseline water quality study of the Fife Brook impoundment and the 7.5 mile reach downstream of the Fife Brook dam to confirm compliance with state water quality standards.
	Conduct a fish survey, including rare, threatened or endangered species, in the Fife Brook impoundment and the 7.5 mile reach downstream of the Fife Brook dam.
	Characterize aquatic habitat in the fluctuation zone of the Fife Brook impoundment and in the 7.5 mile reach downstream of the Fife Brook dam.
	Characterize and survey macroinvertebrate communities downstream of the Fife Brook dam.

<b>Resource Area</b>	<b>Proposed Study</b>
<b>Terrestrial Resources</b>	
	Map and characterize existing terrestrial habitat and vegetative cover within the project boundary. Document occurrence of federal and state-listed rare, threatened, or endangered species.
	Map and characterize floodplain, wetland, and riparian habitat within the project boundary.
<b>Recreation, Land Use, and Aesthetics</b>	
	Characterize existing recreational facilities and conditions in the project boundary and nearby areas.
<b>Cultural Resources</b>	Identify historic properties, assess project-related effects on historic properties, and develop appropriate management measures

## **6.0 EA PREPARATION**

At this time, we anticipate the need to prepare a single EA. The EA will be sent to all persons and entities on the Commission’s service and mailing lists for the Bear Swamp Project. The EA will include our recommendations for operating procedures, as well as environmental protection and enhancement measures that should be part of any license issued by the Commission. All recipients will then have 30 days to review the EA and file written comments with the Commission.

The major milestones, with pre-filing target dates are as follows:

<u>Major Milestone</u>	<u>Target Date</u>
Scoping Meetings	March 2015
License Application Filed	March 2018

Ready for Environmental Analysis Notice Issued	May 2018
Deadline for Filing Comments, Recommendations, and Agency Terms and Conditions/Prescriptions	May 2018
Single EA Issued	January 2019
Comments on EA Due	February 2019
Deadline for Filing Modified Agency Recommendations	April 2019
License Order Issued	September 2019

A copy of Bear Swamp Power’s process plan, which has a complete list of relicensing milestones for the Bear Swamp Project, including those for developing the license application, is attached as Appendix B to this SD1.

## **7.0 PROPOSED EA OUTLINE**

The preliminary outline for the Bear Swamp Project EA is as follows:

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## 8.0 COMPREHENSIVE PLANS

Section 10(a)(2) of the FPA, 16 U.S.C. section 803(a)(2)(A), requires the Commission to consider the extent to which a project is consistent with federal and state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by a project. The staff has preliminarily identified and reviewed the plans listed below that may be relevant to the Bear Swamp Project. Agencies are requested to review this list and inform the Commission staff of any changes. If there are other comprehensive plans that should be considered for this list that are not on file with the Commission, or if there are more recent versions of the plans already listed, they can be filed for consideration with the Commission according to 18 CFR 2.19 of the Commission's regulations. Please follow the instructions for filing a plan at <http://www.ferc.gov/industries/hydropower/gen-info/licensing/complan.pdf>.

The following is a list of comprehensive plans currently on file with the Commission that may be relevant to the Bear Swamp Project.

Atlantic States Marine Fisheries Commission. 1995. Interstate fishery management plan for Atlantic striped bass. (Report No. 24). March 1995.

Atlantic States Marine Fisheries Commission. 1998. Amendment 1 to the Interstate Fishery Management Plan for Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*). (Report No. 31). July 1998.

Atlantic States Marine Fisheries Commission. 1998. Interstate fishery management plan for Atlantic striped bass. (Report No. 34). January 1998.

Atlantic States Marine Fisheries Commission. 1999. Amendment 1 to the Interstate Fishery Management Plan for shad and river herring. (Report No. 35). April 1999.

Atlantic States Marine Fisheries Commission. 2000. Technical Addendum 1 to Amendment 1 of the Interstate Fishery Management Plan for shad and river herring. February 9, 2000.

Atlantic States Marine Fisheries Commission. 2009. Amendment 2 to the Interstate Fishery Management Plan for shad and river herring, Arlington, Virginia. May 2009.

- Atlantic States Marine Fisheries Commission. 2010. Amendment 3 to the Interstate Fishery Management Plan for shad and river herring, Arlington, Virginia. February 2010.
- Atlantic States Marine Fisheries Commission. 2000. Interstate Fishery Management Plan for American eel (*Anguilla rostrata*). (Report No. 36). April 2000.
- Connecticut River Atlantic Salmon Commission. 1992. A management plan for American shad in the Connecticut River Basin. Sunderland, Massachusetts. February 1992.
- Connecticut River Atlantic Salmon Commission. 1998. Strategic plan for the restoration of Atlantic salmon in the Connecticut River. Sunderland, Massachusetts. July 1998.
- Franklin County Planning Department. 1990. Deerfield River comprehensive management plan. Greenfield, Massachusetts. June 1990.
- Massachusetts Department of Environmental Management. n.d. Commonwealth connections: A greenway vision for Massachusetts. Boston, Massachusetts.
- Massachusetts Department of Environmental Quality Engineering. 1983. Connecticut River Basin water quality management plan. Westborough, Massachusetts. June 1983.
- Massachusetts Department of Fish and Game. 2006. Comprehensive wildlife conservation strategy. West Boylston, Massachusetts. September 2006.
- Massachusetts Executive Office of Energy and Environmental Affairs. Statewide Comprehensive Outdoor Recreation Plan (SCORP): Massachusetts Outdoor 2006. Boston, Massachusetts.
- National Marine Fisheries Service. 1998. Final Amendment #11 to the Northeast Multi-species Fishery Management Plan; Amendment #9 to the Atlantic sea scallop Fishery Management Plan; Amendment #1 to the monkfish Fishery Management Plan; Amendment #1 to the Atlantic salmon Fishery Management Plan; and Components of the proposed Atlantic herring Fishery Management Plan for Essential Fish Habitat. Volume 1. October 7, 1998.

National Marine Fisheries Service. 1998. Final Recovery Plan for the shortnose sturgeon (*Acipenser brevirostrum*). Prepared by the Shortnose Sturgeon Recovery Team for the National Marine Fisheries Service, Silver Spring, Maryland. December 1998.

National Park Service. The Nationwide Rivers Inventory. Department of the Interior, Washington, D.C. 1993.

Technical Committee for Fisheries Management of the Connecticut River. 1981. Connecticut River Basin fish passage, flow, and habitat alteration considerations in relation to anadromous fish restoration. Hadley, Massachusetts. October 1981.

U.S. Fish and Wildlife Service. 1989. Atlantic salmon restoration in New England: Final environmental impact statement 1989-2021. Department of the Interior, Newton Corner, Massachusetts. May 1989.

U.S. Fish and Wildlife Service. 1995. Silvio O. Conte National Fish and Wildlife Refuge final action plan and environmental impact statement. Department of the Interior, Turners Falls, Massachusetts. October 1995.

U.S. Fish and Wildlife Service. Canadian Wildlife Service. 1986. North American waterfowl management plan. Department of the Interior. Environment Canada. May 1986.

## 9.0 MAILING LIST

The list below is the Commission's official mailing list for the Bear Swamp Project (FERC No. 2669). If you want to receive future mailings for the Bear Swamp Project and are not included in the list below, please send your request by email to [efiling@ferc.gov](mailto:efiling@ferc.gov) or by mail to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First Street, N.E., Room 1A, Washington, DC 20426. All written and emailed requests to be added to the mailing list must clearly identify the following on the first page: Bear Swamp Project No. 2669-085. You may use the same method if requesting removal from the mailing list below.

Register online at <http://www.ferc.gov/esubscribenow.htm> to be notified via email of new filings and issuances related to this or other pending projects. For assistance, please contact FERC Online Support at [FERCOnlineSupport@ferc.gov](mailto:FERCOnlineSupport@ferc.gov) or toll free at 1-866-208-3676, or for TTY, (202) 502-8659.

**Official Mailing List for the Bear Swamp Project**

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<p>United States Coast Guard MSO Boston 447 Commerce St. Boston, MA 02109</p>	<p>U.S. Department of Interior Regional Environmental Officer 408 Atlantic Ave. Suite 142 Boston, MA 02110</p>
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<p>U.S. National Park Service North Atlantic Region 15 State Street Boston, MA 02109</p>	<p>Kevin Mendik NPS Hydro Program Coordinator U.S. National Park Service 15 State Street, 10th Floor Boston, MA 02109</p>
<p>Edward J. Markey Senator U.S. Senate 218 Russell Senate Office Building Washington, DC 20510</p>	<p>Mike Kline General Manager U.S. Generating New England, Inc. PO Box 1898 Wilder, VT 05088</p>
<p>Andrew Raubvogel Vermont Agency of Natural Resources 103 S. Main Street Center Building Waterbury, VT 05671</p>	<p>John M. Pratt Town of Walpole PO Box 729 Walpole, NH 03608</p>

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<p>Ms. Kim Marsili  Chief Environmental Health and  Safety Officer  Essential Power  15 Agawam Avenue  West Springfield, MA 01089</p>	<p>Office of Dam Safety  Massachusetts Department of Conservation  and Recreation  John Augustas Hall  180 Beaman Street  West Boylston, MA 01583-1109</p>
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<p>Massachusetts Department of  Environmental Protection  One Winter Street  Boston, MA 02108-4747</p>	<p>Mr. John Howard  FERC Hydro Compliance Director  FirstLight Hydro Generating Co.  Northfield Mountain Station  99 Millers Fall Road  Northfield, MA 01360</p>
<p>Mr. Michael Gorski  Reg Dir - Western Regional Office  Massachusetts Department of  Environmental Protection  436 Dwight Street  Springfield, MA 01103</p>	<p>Franklin Regional Council of Governments  12 Olive Street  Suite 2  Greenfield, MA 01301</p>
<p>Hyytinen Hollow Tubes  7 Tea Street Ext  Charlemont, MA 01338</p>	<p>Massachusetts Department of Fish and Game  251 Causeway Street  Suite 400  Boston, MA 02114</p>
<p>Ms. Valerie Gingrich  Massachusetts Office of Coastal Zone  Management  251 Causeway Street  Suite 800  Boston, MA 02114-2136</p>	<p>Mr. Brian Harrington  Massachusetts Dept of Environmental  Protection  436 Dwight Street  Springfield, MA 01103</p>

<p>Mr. Russel Cohen Rivers Advocate Massachusetts Riverways Program 251 Causeway Street Suite 400 Boston, MA 02114-2119</p>	<p>Massachusetts Executive Office of Energy &amp; Environmental Affairs 100 Cambridge Street Suite 900 Boston, MA 02114</p>
<p>Hon. Benjamin B Downing Massachusetts Senate 7 North Street Suite 307 Pittsfield, MA 01201</p>	<p>Mr. Jonathan Patton Preservation Planner Massachusetts Historical Commission 220 Morrissey Blvd Boston, MA 02125-3314</p>
<p>Moxie Outdoor Adventures 1609 US Route 201 The Forks, ME 04985</p>	<p>Secretary of the Commonwealth Massachusetts Historical Commission 220 Morrissey Blvd Boston, MA 02125-3314</p>
<p>Ms. Misty Anne Marold Senior Review Biologist Natural Heritage Endangered Species Program Division of Fish and Wildlife 100 Hartwell Road Suite 200 West Boylston, MA 01583</p>	<p>Hon. Gailanne M Cariddi Massachusetts House of Representatives MA State House Room 155 Boston, MA 02133</p>
<p>Mr. Tom Christopher New England FLOW 252 Fort Pond Inn Road Lancaster, MA 01523</p>	<p>Hon. Paul W Mark Massachusetts House of Representatives PO Box 114 Dalton, MA 01227</p>
<p>Mr. John Bullard Regional Administrator NOAA Fisheries Service Greater Atlantic Regional Fisheries Office 55 Great Republic Drive Gloucester, MA 01930-2276</p>	<p>Ms. Kathy Reynolds Town Clerk Town of Charlemont Town Hall 157 Main Street Charlemont, MA 01339</p>

<p>Mr. Michael Walsh  Director Emergency Management  Town of Charlemont  PO Box 325  Charlemont, MA 01339</p>	<p>Town Clerk  Town of Florida  379 Mohawk Trail  Drury, MA 01343</p>
<p>Ms. Jennifer Morse  Town Clerk  Town of Rowe  321 Zoar Road  Rowe, MA 01367</p>	<p>Mr. Wallace A Miller  Acting President  Stockbridge Munsee Community, Wisconsin  N8476 Mo He Con Nuck Road  Bowler, WI 54416</p>
<p>Mr. Matthew Cole  TransCanada Hydro  3A School Street  PO Box 9  Monroe Bridge, MA 01350</p>	<p>Ms. Ann Birch  Regulatory Analyst  TransCanada Pipelines Ltd  450 1st St SW  Calgary, Alberta T2P 5H1  CANADA</p>
<p>The Berkshire Visitors Bureau  66 Allen Street  Pittsfield, MA 01201</p>	<p>Department of Geosciences  The Massachusetts Geological Survey,  University of Massachusetts  269 Morrill Science Center  611 North Pleasant Street  Amherst, MA 01003-9297</p>
<p>Office of the Solicitor  US Department of the Interior  1849 C Street Northwest MS 6557  Washington, DC 20240</p>	<p>Mr. Andrew Tittler  US Department of the Interior  1 Gateway Center  Suite 612  Newton, MA 02458-2881</p>
<p>Mr. Andrew L Raddant  Off of Envir Policy &amp; Comp  US Department of the Interior  Northeast Region  15 State Street  Suite 400  Boston, MA 02109</p>	<p>Mr. Kevin Parsons  Deerfield River Watershed Chapter  Trout Unlimited  PO Box 133  Shelburne Falls, MA 01370</p>

<p>Mr. Greg Penta  New England District  US Army Corps of Engineers  696 Virginia Road  Concord, MA 01742-2751</p>	<p>Mr. Curt Orvis  Fisheries Program  US Fish and Wildlife Service  300 Westgate Center Drive  Hadley, MA 01036-9589</p>
<p>Greenfield Field Office  US Department of Agriculture  Natural Resources Cons Service  55 Federal Street  Greenfield, MA 01301</p>	<p>Pittsfield Field Office  US Department of Agriculture  Natural Resources Cons Service  78 Center Street Suite 206  Pittsfield, MA 01201</p>
<p>Mr. Brett Towler  CT River Coordinator  US Fish and Wildlife Service  300 Westgate Center Drive  Hadley, MA 01035-9589</p>	<p>Vermont Public Service Department  112 State Street 3rd Floor  Montpelier, VT 05620-2601</p>
<p>Mr. Kenneth Sprankle  CN River Coordinator  US Fish and Wildlife Service  103 East Plumtree Rd  Sunderland, MA 01375</p>	<p>Hon. Richard E Neal  US House of Representatives  78 Center Street  Pittsfield, MA 01201</p>
<p>Mr. Bruce Lessels  Zoar Outdoor  PO Box 245  Charlemont, MA 01339</p>	<p>Mr. Karl Meyer  85 School Street No 3  Greenfield, MA 01301</p>
<p>Mr. Kevin D. Parsons  PO Box 133  Shelburne Falls, MA 01370</p>	<p>Hon. Elizabeth Warren  US Senate  317 Hart Senate Office Building  Washington, DC 20510</p>
<p>Jon Elmer  Director of Operations  Brookfield Renewable Energy Group  800 Starbuck Avenue  Suite 802  Watertown, NY 13601</p>	<p>Secretary's Office  Vermont Agency of Natural Resources  1 National Life Drive Davis 2  Montpelier, VT 05620-3901</p>

**APPENDIX A**  
**STUDY PLAN CRITERIA**  
**18 CFR Section 5.9(b)**

Any information or study request must contain the following:

1. Describe the goals and objectives of each study proposal and the information to be obtained;
2. If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied;
3. If the requester is not a resource agency, explain any relevant public interest considerations in regard to the proposed study;
4. Describe existing information concerning the subject of the study proposal, and the need for additional information;
5. Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements;
6. Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge; and
7. Describe considerations of level of effort and cost, as applicable, and why proposed alternative studies would not be sufficient to meet the stated information needs.

**APPENDIX B**  
**BEAR SWAMP PROJECT PROCESS PLAN AND SCHEDULE**

Shaded milestones are unnecessary if there are no study disputes. If the due date falls on a weekend or holiday, the due date is the following business day. Early filings or issuances will not result in changes to these deadlines.

<b>Responsible Party</b>	<b>Pre-Filing Milestone</b>	<b>Date</b>	<b>FERC Regulation</b>
Bear Swamp Power	Issue Public Notice for NOI/PAD	12/19/14	5.3(d)(2)
Bear Swamp Power	File NOI/PAD with FERC	12/19/14	5.5, 5.6
FERC	Tribal Meetings	1/18/15	5.7
FERC	Issue Notice of Commencement of Proceeding; Issue Scoping Document 1	2/17/15	5.8
FERC	Scoping Meetings and Project Site Visit	3/18/15 3/19/15	5.8(b)(viii)
All stakeholders	PAD/SD1 Comments and Study Requests Due	4/18/15	5.9
FERC	Issue Scoping Document 2 (if necessary)	6/2/15	5.1
Bear Swamp Power	File Proposed Study Plan (PSP)	6/2/15	5.11(a)
All stakeholders	Proposed Study Plan Meeting	7/2/15	5.11(e)
All stakeholders	Proposed Study Plan Comments Due	8/31/15	5.12
Bear Swamp Power	File Revised Study Plan	9/30/15	5.13(a)
All stakeholders	Revised Study Plan Comments Due	10/15/15	5.13(b)
FERC	Director's Study Plan Determination	10/30/15	5.13(c)

<b>Responsible Party</b>	<b>Pre-Filing Milestone</b>	<b>Date</b>	<b>FERC Regulation</b>
Mandatory Conditioning Agencies	Any Study Disputes Due	11/19/15	5.14(a)
Dispute Panel	Third Dispute Panel Member Selected	December 2015	5.14(d)
Dispute Panel	Dispute Resolution Panel Convenes	12/9/15	5.14(d)(3)
Bear Swamp Power	Applicant Comments on Study Disputes Due	12/14/15	5.14(j)
Dispute Panel	Dispute Resolution Panel Technical Conference	December 2015	5.14(j)
Dispute Panel	Dispute Resolution Panel Findings Issued	1/8/16	5.14(k)
FERC	Director's Study Dispute Determination	1/28/16	5.14(l)
Bear Swamp Power	First Study Season	2015-2016	5.15(a)
Bear Swamp Power	Initial Study Report	10/29/16	5.15(c)(1)
All stakeholders	Initial Study Report Meeting	11/13/16	5.15(c)(2)
Bear Swamp Power	Initial Study Report Meeting Summary	11/28/16	5.15(c)(3)
All stakeholders	Any Disputes/Requests to Amend Study Plan Due	12/28/16	5.15(c)(4)
All stakeholders	Responses to Disputes/Amendment Requests Due	1/27/17	5.15(c)(5)
FERC	Director's Determination on Disputes/Amendments	2/26/17	5.15(c)(6)
Bear Swamp Power	Second Study Season	2016-2017	5.15(a)
Bear Swamp Power	Updated Study Report due	10/29/17	5.15(f)
All stakeholders	Updated Study Report Meeting	11/13/17	5.15(f)

<b>Responsible Party</b>	<b>Pre-Filing Milestone</b>	<b>Date</b>	<b>FERC Regulation</b>
Bear Swamp Power	Updated Study Report Meeting Summary	11/28/17	5.15(f)
All stakeholders	Any Disputes/Requests to Amend Study Plan Due	12/28/17	5.15(f)
All stakeholders	Responses to Disputes/Amendment Requests Due	1/27/18	5.15(f)
FERC	Director's Determination on Disputes/Amendments	2/26/18	5.15(f)
Bear Swamp Power	File Preliminary Licensing Proposal	2/1/18	5.16(a)
All stakeholders	Preliminary Licensing Proposal Comments Due	5/1/18	5.16(e)
Bear Swamp Power	File Final License Application	3/31/18	5.17
Bear Swamp Power	Issue Public Notice of License Application Filing	4/14/18	5.17(d)(2)