PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

MERRIMACK RIVER PROJECT
FERC PROJECT NO. 1893
SHORELINE MANAGEMENT PLAN

MAY 2009

Public Service
Of New Hampshire

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EXECUTIVE SUMMARY

The Merrimack River Project (FERC Project No. 1893) is a federally licensed hydroelectric project owned and operated by Public Service Company of New Hampshire (PSNH). The Project is located on the Merrimack River in Merrimack and Hillsborough Counties, New Hampshire. On May 18, 2007 the Federal Energy Regulatory Commission (FERC) issued a new license (119 FERC ¶61,170) for the 29.9-megawatt (MW) Project. The license included a number of conditions, including license articles that PSNH must meet in order to maintain compliance with FERC regulations and license conditions. Article 407 of the project license requires PSNH to develop and file a Shoreline Management Plan (SMP) with FERC, prepared in consultation with agencies and interested parties.

FERC typically requires SMPs for projects with significant undeveloped segments of shoreline in order to assure management of shoreline use within the Project boundary. FERC's intent is that licensees develop a SMP that provides a comprehensive set of management guidelines and tools necessary to manage various shoreline uses within a Project boundary in a manner that affords protection while addressing both public access needs and project operations and maintenance.

PSNH developed a draft SMP, incorporating specific requirements identified in Article 407 for the protection of conservation lands and sensitive area such as essential eagle habitats, as well as accounting for public recreation access, federal, state, and municipal regulatory requirements and Project operations. In addition to hosting public meetings to discuss the SMP development process and contents, PSHN distributed the draft SMP to agencies and the general public for review March 2, 2009, requesting written comments be submitted within 45 days. PSNH addresses these comments as appropriate in this Final SMP which is being filed with FERC for review and approval.

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ACRONYMS AND ABBREVIATIONS LIST

ACOE	U.S. Army Corps of Engineers
APE	Area of Potential Effects
BMP	Best Management Practice
Commission or FERC	Federal Energy Regulatory Commission
EA	Environmental Assessment
EMP	Bald Eagle Management Plan
FPA	Federal Power Act
GIS	Geographic information system
HPMP	Historic Properties Management Plan
Licensee	PSNH
msl	mean sea level
Mw	Megawatt
NHDES	New Hampshire Department of Environmental Services
NHDES Wetlands	New Hampshire Department of Environmental Services – Wetland Bureau
NHDES Shoreland	New Hampshire Department of Environmental Services – Shoreland Protection
NHDFG	New Hampshire Department of Fish and Game
NPS	Nonpoint source
OHW	Ordinary high water
PD	Project Datum
PM&E	Protection, mitigation and enhancement plans
RM	River mile, numbered from mouth to source
RTE	Rare, threatened, and endangered
SHPO	State Historic Preservation Office
SMC	Shoreline Management Classifications
SMP	Shoreline Management Plan
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VMP	Vegetation Management Plan
USFWS	U.S. Fish and Wildlife Service

STANDARD TERMS LIST

Allowed/Allowable	A use or activity that may occur on Project lands but for which a permit from PSNH and/or a governmental entity may be required (See permit)
Drawdown	The act of discharging of water to lower reservoir storage levels.
Flood plain	The relatively level area of land bordering a stream channel and inundated during moderate to severe floods.
FERC Form 80	FERC mechanism and form for filing periodic reviews of recreation use.
Integrated Use	Shoreline Management Classification - Shoreline areas with no known significant environmental/cultural resources or associated resource management goals that would preclude existing or future shoreline uses.
Ordinary high water	The spring high water line or the area that presents a debris or "bathtub" line along the shore.
Permit/Permitted	A form issued by PSNH or a jurisdictional agency, specifying an action or activity that may be undertaken by the holder of the permit. Permitted means that an activity or action has received a permit (see Allowed).
Project	The Merrimack River Project (FERC Project No. 1893)
Project boundary	The boundary defined in the license issued by FERC for the Project as needed for Project operations. For the Merrimack River Project, the boundary generally follows contour elevations or is identified by metes and bounds. In some cases, the boundary also encompasses additional lands to manage and protect resources (*e.g.*, bald eagle forage habitat).
Project area	All land within the FERC Project boundary and under the jurisdiction of the FERC Project license (see Project lands).
Project lands	All land within the FERC Project boundary and under the jurisdiction of the FERC Project license (see Project area).
Project vicinity	The area extending to about five miles from the Project boundary.

Project works	All infrastructure such as dams, powerhouses, canals, etc., associated with the Project. As Shoreline Management Classification - Shoreline areas occupied by Project works such as dams, powerhouses, and other structures as well as any areas necessary to meet operational requirements.
Relicensing	The process of acquiring a new FERC license for an existing hydroelectric project upon expiration of the current FERC license.
Resource Management	Shoreline Management Classification - Shoreline areas designated for specific resource management, species protection and environmental purposes.
Shoreline	The area of interface between a reservoir and the land. Shoreline includes reservoir bed exposed during drawdowns.
Stakeholders	The public (both resident and non-resident), federal and state resource agencies, NGOs and other interested parties
Tailrace	Channel through which the powerhouse turbines discharges water.

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SHORELINE MANAGEMENT PLAN

1.0 INTRODUCTION

The Merrimack River Project (FERC Project No. 1893) (Project) is an existing, federally licensed hydroelectric project, owned and operated by Public Service Company of New Hampshire (PSNH). The Merrimack River Project is comprised of three hydroelectric developments located on the Merrimack River in southern New Hampshire: Amoskeag, Hooksett and Garvins Falls. All three developments are located in developed areas within the towns of Bow, Pembroke, Allenstown, and Hooksett, and the cities of Manchester and Concord, New Hampshire. The Federal Energy Regulatory Commission (FERC) issued the original license for this Project on May 8, 1980. FERC issued a new license on May 18, 2007. Article 407 of the Project license requires PNSH to develop a Shoreline Management Plan (SMP). In accordance with the license requirements, this SMP for the Project includes the following:

1) a discussion of PSNH's purpose, goals and objectives for shoreline management
2) a discussion of key issues associated with shoreline management at the project and how PSNH addressed such in developing the plan.
3) an identification and description of land use along the project shoreline, including maps identifying the locations of land use types, a description of how these use classifications were defined and delineated, and descriptions of activities and uses that would be allowed within those classifications.
4) a description of allowed shoreline uses, the permit application process for these uses, and guidelines for applying for a construction permit within the project boundary.
5) measures to protect water, fish and wildlife during shoreline development
6) a description of management policies, monitoring programs and enforcement strategies.
7) provisions for periodically reviewing and updating the plan.
8) provisions for consultation with agencies and other interested entities in implementation of the plan.

9) provisions for coordination with the recreation plan

10) provisions for coordination with the Historic Properties Management Plan.

11) measures to protect the bald eagle and its habitat within the project boundary as specified in the license.

12) a report on the feasibility of protecting specified bald eagle habitat and Natural Heritage inventory sites

1.1 Project Description

The Merrimack River Project consists of three developments located along 21 miles of the Merrimack River. The project's developments from downstream to upstream are Amoskeag, Hooksett and Garvins Falls. All three developments are located in developed areas within the towns of Bow, Pembroke, Allentown, and Hooksett and the cities of Manchester and Concord, New Hampshire.

As currently licensed, the Amoskeag development consists of a 29-foot-high, 710-foot-long concrete gravity dam comprised of a low crest section with a 5.5-foot-high inflatable rubber dam in two sections and a high crest section with 3-foot-high flashboards. The dam impounds a 7-mile-long, 478-acre reservoir. The bypassed reach is approximately 2,000 feet long. The powerhouse contains three generating units with a total installed capacity of 16 MW. Fish passage facilities at the development include a pool and weir type fish ladder at the powerhouse, with an eel trap and a downstream fish passage system at the waste gate. The development also includes a 415-foot-long, 34.5-kilovolt (kV) transmission line.

The Hooksett development consists of a 14-foot-high dam comprised of a 340-foot-long stone masonry section with 2-foot-high flashboards connected to a 250-foot-long concrete section with 2-foot-high flashboards, and a 15-foot-by-20-foot taintor gate. The dam impounds a 5.5-mile-long, 405-acre reservoir. The bypassed reach is about 300 feet long. The powerhouse contains a single generating unit with an installed capacity of 1.6 MW. Fish passage facilities at the development include a downstream fish bypass system between the taintor gate and the powerhouse.

The Garvins Falls development consists of an 18-foot-high, 550-foot-long concrete and granite gravity dam comprised of a low crest section with 3-foot-high flashboards and a high crest section with 1.2-foot-high flashboards. The dam impounds an 8-mile-long, 640-acre reservoir. The bypassed reach is about 650 feet long. The development also includes: a 500-foot-long power canal with a 10-foot-wide waste gate; two powerhouses, each containing two generating units for a total installed capacity of 12.3 MW; and a louver-type fish guidance and downstream bypass system in the canal. The current license also identifies a 340-foot-long, 34.5-kV transmission line.

1.2 Regional Setting

The Merrimack River is the second largest river in New England, draining a total area of 5,014 square miles (sq mi) extending from the White Mountain region of New Hampshire to east-central Massachusetts. The river, which bisects the lower third of New Hampshire, begins at the confluence of the Pemigewasset and Winnipesaukee rivers in Franklin, New Hampshire. It flows for 116 miles before entering the Atlantic Ocean in Newburyport, Massachusetts (NHDES, 1997).

The Merrimack River Hydroelectric Project (Project) is located on the Merrimack River in central New Hampshire. The Project is located in the towns of Bow, Pembroke, Allenstown, and Hooksett and the cities of Concord and Manchester. Major tributaries in the Project vicinity include the Turkey River, which enters the Merrimack River from the west near Concord, the Soucook River (drainage area of 91.4 sq. mi.), which enters the Merrimack River from the east just below Garvins Falls Dam; and the Suncook River (drainage area of 256 sq. mi.), which enters the Merrimack River from the east above the Hooksett Dam. Other smaller tributaries between Garvins Falls and Amoskeag include: Bow Bog Brook, Meetinghouse Brook, Brown's Brook, Brickyard Brook, Peter's Brook, Dalton Brook, Messer Brook, Millstone Brook, and several unnamed brooks (PSNH, 2003). The Merrimack River from Garvins Falls and north is designated as the Upper Merrimack RSA 483, the Rivers Management & Protection Act.

Land use within the Merrimack Project boundary includes utility facilities, open water, recreational development and open space. PSNH has flowage rights over these river and shoreline lands to the level of pondage created by use of the dam flashboards.

These lands are primarily undeveloped farmland and open space. Uses on lands adjacent to the Project boundary include open space, residential, commercial, recreational, farmland, and industrial. Beginning at the most upstream portion of the Garvins Falls the project is bordered by agricultural, conservation and open space lands. Upon entering the city of Concord, the lands adjacent to the impoundment include commercial and industrial uses. The adjacent land use then returns to open space until reaching the Garvins Falls development. Immediately downstream of the Garvins Falls development the land use adjacent to the Hooksett impoundment is a combination of open space, recreational and residential lands. The land use adjacent to the Amoskeag impoundment is a mix of residential, recreational, and open space with more residential development than Garvins Falls or Hooksett. As the river flows into the city of Manchester, the adjacent land use is a mix of industrial, commercial and residential lands. Recreation sites are interspersed along the three impoundments.

2.0 PURPOSE, GOALS AND OBJECTIVES OF THE SHORELINE MANAGEMENT PLAN

The purpose of this Shoreline Management Plan (SMP) is to ensure that PSNH's actions conform to the Project license requirements and that these actions are consistent with the goals of protecting and enhancing scenic, recreational and other environmental values of the Project. FERC guidelines recommend that a SMP use existing resource information to designate Shoreline Management Classifications (SMC) and guidelines. These guidelines provide a framework for determining what proposed shoreline uses are most appropriate in relation to existing shoreline uses, environmental resources and operational requirements of a Project.

2.1 Shoreline Management Plan Goal and Objectives

PSNH is committed to developing a comprehensive, forward looking SMP that coexists with applicable federal, state and local shoreline management requirements without unnecessary redundancy. The SMP will serve as a tool to assist in analyzing appropriate shoreline uses within the Project boundaries effectively, as well as provide a supportable and defensible means for shoreline management and permitting decisions.

The objectives of the Merrimack River SMP are to:

- Provide a means by which PSNH may manage its shoreline resources in compliance with its FERC license,
- Establish an equitable and reasonable balance between public and private uses of the shoreline,
- Protect and maintain the shoreline's natural and cultural resources,
- Establish Shoreline Management Classifications (SMC) and Allowable Uses to aid in the management of Project lands,
- Describe the SMP amendment and monitoring process,
- Provide a reference and/or linkage to other Project-related studies, management plans, and permitting regulations,
- Provide support and rationale for permitting processes and regulations within the Project boundaries,
- Alert property owners adjacent to the Project boundaries of regulatory requirements and State identified Best Management Practices (BMP) they may voluntarily implement on non-Project lands and which PSNH may require them to implement within the Project boundaries.

3.0 CONSULTATION

A primary requirement of FERC in licensee development of SMPs is to consult with specific federal and state agencies. FERC's publication, *Guidance for Shoreline Management Planning at Hydropower Projects* (April 2001), also emphasizes the importance of involving stakeholders such as the general public and local municipalities and organizations in the SMP development process. By doing so, licensees maximize the likelihood of creating a SMP that will successfully balance support local social and economic needs, afford protection of environmental resources and preserved public access and interests at the Project.

3.1 Agency Consultation and Public Outreach

Consistent with FERC's recommendation for licensees to involve a broad range of stakeholders in the SMP development process, PSNH kicked off the process by holding a daytime and evening public meeting on March 17, 2008. PSNH noticed the meetings in the local newspaper and posted associated information and presentation materials on its website at http://www.psnh.com/Energy/Water/ShorelineMgmt.asp.

In addition to soliciting input from the general public, PSNH also met with representatives from all six communities along the Merrimack River abutting the Project (Manchester, Concord, Bow, Pembroke, Allentown, and Hookset) and considered local land use zoning classifications from these municipalities in development of shoreline management classifications and preparation of this SMP. PSNH has also consulted directly with the City of Concord who expressed interest in potential development restrictions along the shoreline within the City.

NHDES and the ACOE currently have a joint application process for permitting shoreline and in-water development in the State of New Hampshire. This process accounts for various criteria including: minimization of impacts on natural resources through limitations on habitat disturbance and vegetation removal, identifies certain restrictions by type of activity and potential mitigation measures, and defines allowable materials/sizes of structures such as docks and timing of construction activities. To a large extent, these criteria are consistent with the shoreline management objectives

intended by FERC license requirements and PSNH's SMP and discussed with agencies during various meetings held as identified below.

PSNH met with representatives from Wetlands Bureau and Shoreland Protection program on April 30 and June 3, 2008 to discuss the objectives of the SMP and its intent to mirror (where possible) state regulations within the SMP and associated permitting program and attended the New Hampshire Comprehensive Shoreland Protection Act Workshop in August 2008.

PSNH issued a draft SMP for public review on March 2, 2009, requesting written comments be submitted within 45 days. A public notice of the draft SMP was also run in local newspapers and forwarded to city and town officials and other parties. Written comments on the draft SMP were provided by:

Entity	Date
Manchester Water Works (MWW)	April 9, 2009
Edward Valade	April 14, 2009
NH Fish and Game Department	April 16, 2009
Upper Merrimack River Local Advisory Committee (UMRLAC)	April 16, 2009
City of Concord Conservation Commission	April 16, 2009
Town of Bow	April 17, 2009
US Fish and Wildlife Service	April 21, 2009
Concerned Citizens of Bow	April 30, 2009

Generally, comments provided are incorporated into this SMP, as appropriate. Several commentors request that the Project Boundary be identified on the classification maps, particularly with respect to parcels near Garvins Falls where the project boundary incorporates a buffer zone to protect bald eagle habitat. The classification maps have been updated to include the Project Boundary. Some comments were not incorporated into the plan as explained below:

Manchester Water Works

MWW identifies a concern that the SMP does not specifically identify the PSNH/MWW Water Diversion Agreement Amendment of May 25, 2005. It appears that MWW is concerned that by the amendment not being referenced in the plan that its additional water supply withdrawals may not be allowable in the future. This is not the case. PSNH is simply identifying that certain uses may be permitted by PSNH without FERC approval, while other uses within the Project Boundary may require that PSNH seek FERC approval beforehand. The proposed MWW water withdrawal has been approved by FERC, subject to certain conditions, including agency consultation and the filing of the intake location and design with FERC for final approval at least six months prior to the planned start of construction. Final agency and FERC action will be based on the resources present in the intake and withdrawal area and, if and as applicable, any necessary conditions. When finally approved by FERC, the proposed MWW intake and water withdrawal will be an authorized use under the SMP.

Upper Merrimack River Local Advisory Committee

The UMRLAC requests a portage improvement directive be included in Section 4.3 of the SMP because the existing portage opportunities are essentially inadequate for providing connectivity between the segments upstream and downstream of Garvins falls. Such a directive has not been included because PSNH has performed an on-site evaluation, consulted with agencies, developed a plan and layout, and applied for permits to develop a new portage at Garvins Falls in 2009. PSNH believes development of the portage is consistent with the requirements of the FERC license and the spirit of UMRLAC's comment. PSNH is also in the process of obtaining permits to make improvements to the existing portage take-out at the Amoskeag development.

The UMRLAC also requests that the *Upper Merrimack Management and Implementation Plan* (September 2007, www.merrimackriver.org) be referenced in the SMP and that the SMP goals and objectives be in alignment with those in the UMRLAC plan. As part of the relicensing process, FERC and licensees must evaluate the consistency of a new license with federally approved comprehensive plans. While the

UMRLAC plan is not one identified by FERC as a federally approved plan, it nonetheless identifies objectives associated with management and protection of various resources, including but not limited to, water quality, riparian and wildlife habitat, archaeological and recreational resources. Although PSNH has not incorporated specific objectives of the plan in the SMP, PSNH believes that the intent of the SMP, developed in consultation with state and federal resource agencies, local interest groups, municipalities, and the general public, is consistent in its intent to implement shoreline management policies to protect and enhance such resources within the project boundary.

Concerned Citizens of Bow

The Concerned Citizens of Bow (Citizens) suggest that additional information be provided regarding specific local regulations for the various municipalities, under Section 7.7.3. For the purposes of the SMP, applicable regulations will primarily be floodplain related. PSNH acknowledges that other municipal ordinances may be applicable and may change over time. Therefore, Section 7.7.3 recommends that applicants contact their local Code Enforcement Officer for further information.

Citizens recommend additional detail be included in Section 4.0 regarding state listed mussel species and specific terrestrial RTE species. This information has not been added to the SMP because the shoreline classifications already incorporate locations of mussels and RTE species identified during relicensing. Known locations of species were incorporated into the SMP GIS mapping, resulting in adjacent shoreline segments being classified as Resource Management.

U.S. Fish and Wildlife Service

USFWS recommends eliminating the Integrated Use classification by use of grand-fathering and expanding the Resource Management classification. While PSNH understands the intent of this recommendation, the Resource Management classification is based upon specific resource data such as presence of RTE species and habitat and areas of cultural significance. The Integrated Use classification applies to areas without specific presence of such resources, therefore making it more feasible to allow shoreline

uses that meet PSNH, state, federal, and local permitting requirements.

PSNH met with representatives of NHDES Wetlands Bureau, NH Fish and Game, and USFWS on April 29, 2009, as well as representatives from NHDES Wetland Bureau and Shoreland Protection program on May 1, 2009. During the April 29th meeting, a number of comments were discussed that were also provided in written comments on the draft SMP, included in Appendix F. It was PSNH's intent to develop permitting standards under the SMP consistent with and in support of NHDES' review and approval of proposed shoreline development activities within the Project boundary. At the May 1st meeting, NHDES stated that because the project boundary is on the river side of the "bank full" line, shoreland regulations will not be applicable, therefore wetlands permitting, under RSA 482-A, will the primary requirement for water dependent development regulated under the SMP. In addition, NHDES shoreland regulation continues to be subject to legislative action, and because shoreland management regulations are still undergoing review and revision, NHDES recommended that shoreland permitting considerations be removed from the SMP.

As a result of the recent meeting with NHDES, PSNH is currently working with NHDES to refine a process by which applications received by NHDES will be forwarded to PSNH for review prior to NHDES approval. Under the SMP, as discussed in Section 7.0, PSNH will also provide pre-application screening to potential applicants to evaluate the potential for allowance of proposed activities under the SMP and, will permit allowable activities contingent upon applicants obtaining all necessary federal, state, and local permits and approvals. The results of the pre-screening will be provided in written form, which applicants will include in their application to NHDES if it has not already been submitted, or as a supplement if their application has already been submitted to NHDES.

While no specific comments on the draft SMP were received from the State Historic Preservation Officer (SHPO), PSNH did develop a Historic Properties Management Plan (HPMP) in consultation with the SHPO. The final HPMP, approved by FERC on January 27, 2009, refers to the SMP as a mechanism to protect culturally sensitive areas within the Project Boundary. As such, PSNH has incorporated cultural

resource site location data into the GIS mapping of shoreline classifications. Any shoreline adjacent to culturally significant areas is classified as Resource Management.

4.0 ENVIRONMENTAL, CULTURAL, AND RECREATIONAL RESOURCES

The following is a general description of basin and Project resources. Its intent is to identify key issues relevant to the shoreline management planning process. Resource specific management plans developed by PSNH, the license application and the associated Environmental Assessment (EA) for the Project address some of the topics in more depth.

4.1 Environmental Resources

4.1.1 Aquatic Resources

Currently, the project area contains a widely varied, healthy fish population that supports a good resident sport fishery primarily centered on smallmouth and largemouth bass (Normandeau 1997). Various entities have conducted numerous fishery studies in the project area since the mid 1960's. Saunders (1993) provides a comprehensive review of the environmental studies conducted in the project area between 1967 and 1978 and as continued in 1995 (Normandeau 1997). After reviewing existing records, consulting agencies determined that there was no need to collect any additional fisheries data within the project boundaries for the Project's relicensing.

An anadromous fish restoration program has been ongoing since 1969, when Connecticut River American shad eggs were released into most reaches of the Merrimack River. Earlier efforts established a small run of adult shad that ascended the fishway at the Lawrence Hydroelectric Project during the 1970's and could negotiate the river as far as Pawtucket Dam in Lowell, MA, approximately 11 miles upstream of Lawrence. The fishway at Essex Dam was replaced with a fish lift in the early 1980's in an effort to improve fish passage at the site.

Historically, Atlantic salmon, shad and alewives had large runs that extended into the upper Merrimack River basin, but these runs were

extirpated from the upper Merrimack River as early as 1847 due to Essex Dam in Lawrence, MA. Restoration plans for the Merrimack River continue to focus on American shad, Atlantic salmon and alewife, but blueback herring and American eel have recently been included in the restoration efforts. Other anadromous fish that have benefited from these restoration efforts in recent years include sea lamprey and striped bass.

The Atlantic salmon restoration program that began in 1976 is ongoing, and agencies continue to capture sea-run adult salmon at the Essex Dam and transfer these fish to the Nashua National Fish Hatchery for egg production. In addition, sea-run kelts are maintained at the North Attleboro National Fish Hatchery to support stock development. These salmon fry are used to stock tributaries to the Merrimack River, including the Pemigewasset River and its East Branch, Souheagan River, Piscataquog River, Smith River, Baker River and Mad River. In addition to Atlantic salmon fry stocking, agencies annually stock approximately 50,000 one year old smolts into the Merrimack River.

4.1.2 Terrestrial Resources

The Project area for the terrestrial, botanical and wildlife resource investigations undertaken during relicensing included the habitats within approximately one-quarter mile of each side of the riverbed. Within this study area, PSNH collected data at representative sites of each vegetation cover type that included typical vegetation species and observations of wildlife use. PSNH compiled a list from the available literature, of wildlife species whose known ranges and habitat needs overlap the study area. The list included 12 species of amphibians, 14 species of reptiles, 107 bird species, and 44 mammal species. PSNH also contacted state and Federal agencies and nongovernmental organizations (NGOs) during relicensing regarding information on critical areas, other site-specific data, or other special concerns for the study area.

Like any river of comparable size, the Merrimack River serves a valuable connective function in the landscape, maintaining on its floodplain and banks a continuous corridor of vegetation that persists because of its close proximity to the river. The larger flightless animals, e.g., deer and coyote, can pass from one preferred habitat to another without detection and the danger of road crossings; the smaller animals may actually breed in the corridor as well as use it for population recruitment and exchange.

The Bald eagle is present at the Project and uses Project lands and waters for perching, foraging and winter roosting. No known nesting areas have been documented within the Project boundary. The FERC EA concluded that relicensing the Project would not likely adversely affect the Bald eagle. FERC subsequently required PSNH include specific areas of known or potential habitat in the Project boundary and protect this habitat under the SMP. Specifically, PSNH developed a Bald eagle monitoring plan (Appendix C). PSNH also reviews all proposed shoreline uses regardless of their location to ascertain the potential for adverse effect to eagles and eagle habitat.

4.2 Cultural Resources

In consultation with the New Hampshire SHPO and the National Park Service (NPS), PSNH commissioned archaeological and historical resource evaluations for the Merrimack Hydroelectric Project in support of relicensing. The Area of Potential Effects (APE) for the relicensing of the project encompasses all lands within the Project boundary as well as locations outside the project boundary where Project operation or project-related activities, such as recreational enhancements, could affect properties listed in or eligible for inclusion in the National Register of Historic Places (NRHP).

The APE with respect to historic and archaeological resources for the Merrimack River Hydroelectric Project corresponds to the area within the licensed Project boundary. Actual flowage rights extend only to the contour

associated with the elevation of the top of the wooden flashboards mounted on the dams' spillways at each of the three hydroelectric developments that comprise the Merrimack River Project. As the Project boundary is derived from flowage rights over abutting property owners' lands, these flowage rights were assumed (for purposes of the archaeological reconnaissance) to extend 10 meters (33 feet) inland of the shoreline as marked by the pond at the time of survey.

The APE contains no archaeological or historical resources listed in the NRHP. No archaeological sites within the APE have been formally determined eligible for inclusion in the NRHP. However, during SHPO's analysis of the Phase IA archaeological investigation they determined that structures at all three developments are eligible for inclusion in the National Register under Criteria A, C, and D for Amoskeag Development, Criteria C for Hooksett Development and Criteria C in the area of engineering for the Garvins Falls development.

4.3 Recreation

PSNH reviewed the area within 50 miles of the project to determine the availability of recreational facilities and opportunities in the surrounding region. In addition to the opportunities provided at the Merrimack Project, recreationists in the southern New Hampshire region participate in bank and boat fishing, motor boating, jet skiing, canoeing, kayaking, hiking, hunting, camping, and wildlife viewing. During the winter season, ice fishing, snowmobiling, downhill and cross-country skiing, and snowshoeing are popular activities. There are over 300 known fishing areas, more than 320 miles in hiking trails, nearly 200 ponds and lakes, 386 miles of rivers and streams, and more than 120 boat launch sites in the region.

In addition to SMP development requirements under Article 407 of the FERC license for the Merrimack River Project, Article 408 requires PSNH to develop a Recreation Plan. PSNH developed the Recreation Plan in consultation with agencies and approved by FERC on June 9, 2008. The Recreation Plan includes provisions for improvements to existing Project recreation facilities and

monitoring of adequacy associated with FERC's Form 80 recreational monitoring program. Should future monitoring indicate that facilities are inadequate or new facilities are needed to accommodate public usage demand, PSNH will consider development of new facilities under the guidelines of this SMP to ensure such development is consistent with the goals of the SMP and permitting requirements.

5.0 SHORELINE MANAGEMENT GUIDELINES FOR PROJECT LANDS

Development of Shoreline Management Classifications (SMC) for the Merrimack River Project involved review and analysis of existing land uses, the environmental and cultural resources adjacent to and within the Project boundary, federal and state shoreline use and permitting requirements and municipal zoning classifications adjacent to and within the Project boundary. This effort included review of areas identified during the Project relicensing as supporting particularly sensitive or valuable environmental and cultural resources, and field verification of existing uses and structures. This analysis resulted in PSNH defining and applying distinct SMCs within the Project boundary. These Project specific classifications provide PSNH a basis for assessing future allowable uses and supporting appropriate and consistent permitting for such uses within the Project boundary.

Except for the areas around the dams and powerhouses and a parcel of land downstream of the Garvins Falls dam, the current Project boundary for the most part is comprised of contour lines that follow the reservoirs' shoreline: at Amoskeag, it is at 175.0 feet mean sea level (msl); at Hooksett, it is 189.0 feet msl; and at Garvins Falls, it is at 219.8 feet msl. Because the project boundary with rare exception hugs the shoreline, there are almost no project lands or buffer zones around the reservoirs. As PSNH does not own the majority of land immediately adjacent to the Project reservoirs and these lands are not within the FERC jurisdictional Project boundary, the scope of the SMCs and associated allowed uses are limited to the minimal amount of land located directly along the Merrimack River and included within the Project boundary.

5.1 Shoreline Management Classifications and Permitting of Shoreline Uses

The following sections provide a description of each SMC, a discussion of allowable uses within each SMC and, if applicable, a summary of permitting process necessary. Table 5.1-1 provides a matrix of uses, identifies associated NHDES Wetland Bureau (WB) regulation fact sheets, indicates if PSNH allows particular uses within the specific SMCs.

5.1.1 Integrated Use

The shoreline areas which PSNH classifies as Integrated Use have no known significant environmental/cultural resources or associated resource management goals that would preclude existing or future shoreline uses. Accordingly, the Integrated Use classification acknowledges and accommodates the presence of existing and allows for potential future private, public and commercial shoreline uses. PSNH will manage these lands to accommodate reasonable demands for public and private uses within the guidelines of PSNH's SMP Permitting Program.

5.1.1.1 Allowable Uses within Integrated Use Classification Areas

PSNH recognizes the following as allowable shoreline uses within the Integrated Use Classification; however, this does not mean that all uses listed below are appropriate for all shoreline areas within the classification locations. Under RSA 482-A, regulates dredging, filling, and construction in or on any bank, flat, marsh, wetland, or swamp in and adjacent to any waters of the state. NHDES governs activities within the Protected Shoreland under RSA 483-B, establishing minimum standards for various activities.

State wetland and shoreland permitting requirements may preclude certain uses if they have potential to adversely impact adjacent wetlands or significant wildlife habitats such as PSNH owned parcels designated for future habitat protection (*i.e.*, bald eagle roosting habitat). Additionally, NHDES has specific permitting regulations for the following uses, including design criteria for boat docks. These criteria will be a condition of PSNH permit issuance (see Section 7.0).

- seasonal and permanent docks and boat slips
- accessory structures (canopies and boat lifts)
- moorings, swim lines, and swim rafts connected to shoreline or docking (if not connected, are regulated by Department of Safety)
- shoreline boathouses
- beaches
- boat launches or ramps
- bank shoreline stabilization measures (including retaining walls, riprap and other "naturalized" shoreline stabilization measures)
- dredging
- water withdrawal structures
- water elevation gaging stations
- vegetation management (including shoreline planting and vegetation removal), subject to review for large trees that may serve as current or future nesting habitat for Bald eagles.
- stairways and walkways
- footpaths
- public recreation sites
- installation and maintenance wildlife support facilities
- ≤ 50 % replacement, repair, and maintenance (in kind) of existing uses and structures[1]

5.1.1.2 Permitting of Uses within the Integrated Use Classification

All uses within the FERC Project boundary require review and approval by PSNH, including those that may consist of substantive vegetation removal that may adversely affect future potential Bald eagle habitat (*e.g.*, removal of vegetation for segments over 50 feet or large trees in the area of the proposed use). As part of implementing this SMP, PSNH will survey and photograph existing uses within the Integrated Use classifications.

[1] If actions result in > 50% or not kind replacement, then a structure is considered a new facility and will require a new permit as opposed to an amendment to an existing permit.

PSNH will issue permits for uses in existence prior to the FERC's approval and PSNH's enactment of the SMP. As a condition of any such permit issuance, shoreline use owners who receive these permits must maintain such facilities in accordance with standards and requirements as discussed in Sections 7.0 and 8.0.

Any new shoreline structures, facilities and other uses proposed after SMP enactment must also meet PSNH's permitting standards and requirements.

Additionally, most shoreline uses will likely require review and approval by the local municipality, the NHDES Wetlands Bureau (under RSA 482-A) and Shoreline Protection (under RSA 483-B) and, in some instances the New Hampshire Fish and Game Department, New Hampshire Natural Heritage Bureau and New Hampshire Division of Historical Resources. Other federal agencies also may exercise jurisdiction over some activities such as the Army Corps of Engineers and FERC (as defined by the Merrimack River Project standard license articles). PSNH will not permit any shoreline use without proof of receipt of all other relevant permits. Sections 7.0 and 8.0 provide further details on PSNH's shoreline use review and permitting process.

5.1.1.3 Case by Case Review for Bald Eagles

As Section 4.1.2 discusses and Appendix C details, PSNH is committed to protecting Bald eagle habitat; however, eagle use of the lands and habitat within the Project boundary is somewhat transient and can change over time. Accordingly, not all allowable uses will necessarily have an adverse effect on this species. Some potential future Bald eagle habitat areas exist within the Integrated Use classification. While these areas are not specifically and publicly identified, PSNH has an extensive mapping database that

it uses internally when reviewing shoreline use proposals. As such, any proposed activity that includes tree removal in these areas will be reviewed closely.

PSNH will review any permit application to determine first, if proposed activities within the Project boundary are within active nesting and/or roosting areas and to assess the proposed timing of construction and the type of shoreline use to determine if the proposed activity or shoreline use is appropriate and in keeping with its Bald Eagle Habitat Protection Plan. PSNH will not allow any uses which have the potential to adversely effect Bald eagles or their habitat. Should a proposed use be located in a Bald eagle habitat area, PSNH will ensure that USFWS, NHFG, and the Audubon Society are appropriately consulted by the applicant, to determine if the proposed timing or type of shoreline use has potential to adversely affect eagles and what measures may be necessary.

5.1.2 Resource Management

Shoreline areas PSNH classifies as 'resource management' are designated as such for specific resource management, species protection and environmental purposes. The objective of the Resource Management classification is to protect habitat, cultural significance, character, and aesthetic value of particular locations. These areas may include palustrine wetlands[2], steep slopes[3], sensitive aquatic or terrestrial habitat, and islands. This classification also includes shoreline areas with significant Rare Threatened or Endangered (RTE) species habitat or known presence of

[2] For the purpose of the SMP, PSNH uses UFSWS National Wetland Inventory data to identify wetland areas. This identification does not preclude the right or responsibility of adjacent property owners to further delineate wetlands in support of permit applications for facilities or uses within the Project boundary.

[3] For the purposes of the SMP, PSNH uses NHDES Wetlands Bureau restrictions on constructing structures on slopes greater than 25%.

communities of RTE species[4].

5.1.2.1 Allowable Uses within the Resource Management Classification

Generally, other than site-specific maintenance and resource protection activities (e.g. erosion control) or uses administered and authorized by PSNH or other resource agencies, PSNH allows no permanent shoreline uses within this classification regardless of other state or federal approvals for these uses. PSNH will only consider new use(s) within the Resource Management classification if they reduce existing impacts to resources (e.g. use of mooring buoys instead of docks), have minimal effect on environmental/cultural resources and meet the criteria outlined below. Actions specifically required under the FERC license and 401 Water Quality Certification occurring within the Resource Management classification (*e.g.* providing public recreation access) are automatically allowed. They will be completed in accordance with applicable requirements.

5.1.2.2 Permitting Uses within the Resource Management Classification

The majority of the shoreline classified as Resource Management applies to the project boundary, which generally follows the normal high water line of the impoundments. As such, PSNH is required by FERC to regulate development from the project boundary into the water. Lands on the inland side of the project boundary are not the responsibility of PSNH to regulate, with the exception of limited areas where the project boundary runs inland to encompass parcels designated for the protection of Bald Eagle habitat.

[4] based upon review of NH Natural Heritage Bureau species mapping and some field verification.

Within segments of the Project boundary classified as Resource Management, PSNH will generally not permit new shoreline structures or other uses, identified in Table 5.1-1, in these areas. PSNH will only consider any new structures, facilities other uses proposed within the Resource Management classification by adjacent property owners or other entities if the proponent of this activity can:

1) Obtain all required permits from NHDES and ACOE and any other jurisdictional entity,
2) Meet the FERC license conditions for the Project, and
3) Provide specific protection, mitigation and/or environmental enhancements (PM&E measures) as may be prescribed by PSNH or through any consultation with jurisdictional agencies or municipal zoning entities.

In the event a shoreline use proponent wishes to pursue proposing shoreline development activities within the Resource Protection classification, they must request a waiver from PSNH. Section 8.0 describes this process.

5.1.3 Project Works

PSNH must maintain strict control over infrastructure required for Project operations and to which, due to safety, security, operational or other constraints, public access may be legitimately restricted. PSNH must also provide for the establishment of facilities, structures and sites required by the FERC license. PSNH includes shoreline areas occupied by Project works such as dams, powerhouses and other structures, as well as any areas necessary to meet any requirements of the FERC license, such as recreational sites and fish passage facilities, within this classification.

5.1.3.1 Allowable Uses within the Project Works Classification

PSNH will not allow any uses other than those associated with Project operation or fulfillment of FERC license requirements within the Project Works classification.

Table 5.1-1. Allowable Uses by Shoreline Classification

	Classified By DES Permit Regulations Under RSA 482-A[5]	Integrated Use	Resource Management	Project Works
Private Uses and Facilities				
Single Family docks[6]	YES (WB-12)	YES	NO	NO
Structures to accommodate private/residential water withdrawal[11]	YES (WD-DWGB-1-17)	YES	YES	NO
Accessory Structures (seasonal canopies, lifts for boats and personal watercraft)	YES (WB-12)	YES	NO	NO
Boathouses	YES (WB-12)	YES	NO	NO
Commercial/Municipal Uses and Facilities				
Multi-boat slips		YES	NO	NO
Structures to accommodate municipal/agricultural water withdrawal & discharges[7]	YES (WD-DWGB-1-17 and 401 Water Quality Certification)	YES	Only as administered/ approved by PSNH	NO
Public recreation sites		YES	Only as administered/ approved by PSNH	
General Uses and Facilities				
Boat launches or ramps	YES (WB-12)	YES	Only as administered/approved by PSNH	As needed for FERC compliance or project operations
Retaining walls[8]	YES (WB-11)	YES	NO	
Shoreline/bank stabilization measures	YES (WB-11)	YES	Only natural or bio control measures allowed	
Beaches and replenishment of sand	YES (WB-12)	YES	NO	NO
Moorings, swim rafts, and swim lines	No – regulated by Department of Safety (WB-12)	YES	YES	As needed for project operations
Dredging[9]	YES (WB-12)	YES	NO	
Breakwaters	Only allowed on Lake Winnipesaukee (WB-12)	NO	NO	NO
Water elevation gaging stations		YES	YES	YES
Vegetation removal[10]	YES (WB-13)	YES	Only as administered	As needed for project

[5] WB designations identify NHDES Wetlands Bureau Fact Sheets. **Note that these fact sheets may change over time and applicants should contact NHDES Wetland Bureau for current permit requirements under RSA 482-A.**

[6] Single family docks are allowed if location is not conducive to a multi-user facility to service all residents of a particular area.

[7] PSNH does not have the authority to authorize water withdrawals.

[8] Retaining walls are not the preferred method of erosion control or bank stabilization. PSNH will only authorize these types of structures when no other measures are feasible.

[9] All dredging activities must be reviewed and approved by FERC as well as the Army Corps of Engineers and the NHDES.

[10] While PSNH does not regulate the removal or planting of vegetation in Integrated Use classification, other county and state regulatory agencies may. Anyone considering these activities should verify the proposed action is allowable under state law.

	Classified By DES Permit Regulations Under RSA 482-A[5]	Integrated Use	Resource Management	Project Works
Vegetation plantings[8]	YES (WB-13)	YES	Approved by PSNH	operations
Stairways & walkways/footpaths	See Accessory Structures	YES	Only as administered/ approved by PSNH	
Fish/wildlife support activities & devices	YES (WB-17)	YES	YES	YES
≤ 50% In kind repair or replacement of **Existing** use within existing footprint	YES (WB-12)	YES, if structure has existing permit		

5.2 Prohibited Activities

Within the Project boundary, the SMP generally prohibits the following activities:

- removal of any vegetation within the Resource Management classification not in accordance with NHDES Comprehensive Shoreland Protection Act guidelines or permit conditions. An exception to this restriction may be relevant for the removal of invasive species, which if identified, may require PSNH and NHDES to determine an appropriate plan for removal and replacement with native species as recommended by NHDES under RSA 487.
- application of any herbicides or pesticides for control or removal of vegetation,
- application of fertilizer,
- brush-hogging, scraping, or mechanical removal of vegetation, or any un-permitted ground disturbance,
- restaurants
- habitable structures (permanent or temporary, enclosed living structures over or on docks and piers, etc.)
- amusement or water parks

5.3 Shoreline Management Classification Mapping

PSNH's Geographic Information System (GIS) incorporates information from agency and PSNH resource databases as well as the local knowledge from the public and stakeholders to serve as the basis for the classification mapping. In some instances, PSNH verified this information with onsite observations to determine the most appropriate and pertinent locations to apply classifications within the Project.

In classifying the shoreline areas, a few areas were mapped as exceptions to the general definition of a classification. As an example, a specific location may have one or more characteristics that fall under the Resource Management definition; however, existing uses within that specific location preclude application of the Resource Management classification. In other areas, the shoreline may present characteristics such as an open, undeveloped shoreline that would typically be classified as Resource Management, but consideration of commercial, municipal, or residential development on private lands adjacent to the Project boundary led to classifying the area as Integrated

Use. The mapping as presented in this SMP identifies a total of shoreline miles for each classification as identified in Table 5.1-2.

Table 5.3-1. Allowable Uses by Shoreline Classification

Shoreline Management Classification	Distance (ft)	Distance (mi)	Percent
Integrated	45125	8.6	13%
Project Works	13558	2.6	4%
Resource Management	285603	54.1	83%

PSNH's GIS mapping system represents as accurately as possible the classifications of various areas; however errors of scale or detail may affect a specific area. In the event there is a question or concern about the classification applicable to a specific parcel, proponents of shoreline activities may check with PSNH staff to verify the correct classification.

In addition to classification data, PSNH also surveyed the Project impoundments to identify any existing shoreline structures including seasonal and permanent docks and retaining walls. Photo documentation and descriptive information were incorporated into the GIS to serve as a baseline inventory and basis for issuing permits for existing structures. Permitting requirements for future modification of existing structures are further discussed under Section 7.4, *Grand-fathered Improvements*.

6.0 BEST MANAGEMENT PRACTICES

Best Management Practices (BMPs) are on-site actions implemented by an individual or group to lessen potential impacts to a particular resource resulting from the direct or indirect use of that resource. For example, if a property owner chooses to cut vegetation from his/her property to improve access or to improve the view-shed, the landowner may choose to conduct selective clearings and/or to replant low-lying vegetation that will help maintain the bank stabilization; the selective clearing and/or replanting would be considered a best management practice because it is an on-site action that works to lessen the potential impacts of the specific use.

NHDES permitting requirements under the state Comprehensive Shoreland Protection Act (CSPA) governs activities allowed within the "protected shoreland", which is defined as all land located within 250 feet of the reference line of public waters. The first 150 feet from the reference line is classified as the “woodland buffer”. This buffer protects water quality by limiting erosion and sedimentation and preventing nutrient and chemical pollution, and preserves the natural canopy and fish and wildlife habitat, with certain activities being restricted without a permit from NHDES. The CSPA also defines allowable activities within the “waterfront buffer”, defined as protected shorelands within 50 feet of the reference line of public waters. NHDES intends this buffer to provide protection of the quality of public waters while allowing landowner some discretion with relative to water access, safety, viewscape maintenance, and lot design.

Because PSNH shoreline management goals and the objectives of the State CSPA go hand-in-hand, PSNH will generally approve proposed activities within the project boundary for which NHDES will issue a permit, within PSNH’s Integrated Use shoreline classification.

6.1 Waterfront Buffer

The CSPA stipulates prohibited activities and limitations within the 50 foot waterfront buffer, including:

- No application of chemicals, including fertilizers unless allowed by Revised Statutes Annotated (RSA) or by special permit obtained from the Division of Pesticide Control
- Rocks, stumps and associated root systems may not be removed without specific NHDES approval
- Natural ground cover may not be removed unless allowed by RSA stipulations for foot paths, no cutting of trees that have grown over 3 feet in height unless specifically approved by NHDES
- Within 50 foot by 50 foot segments of the buffer, quantities of allowable tree removal are defined by NHDES scaling system, which may include removal of dead/unsafe trees and new plantings
- Lots developed prior to April 1, 2008 may maintain but not enlarge cleared areas
- Normal trimming, pruning and thinning limited to bottom ½ of trees allowed to maintain views
- Provisions for temporary 12 foot wide paths, with replanting requirements, and permanent 6 foot wide paths to the water, configures so as not to concentrate erosion or runoff.

6.2 Natural Woodland Buffer

In addition to the waterfront buffer regulations, the CSPA stipulates the following prohibited activities and limitations within the 150 foot natural woodland buffer:

- Specific percentages of unaltered vegetation depending on lot size
- Photographic documentation the natural woodland buffer associated with any permitted activities
- Removal of dead, diseased, or unsafe vegetation removal is allowed if it poses a hazard to existing structures or risk of personal injury
- Preservation of trees or native species planting that are beneficial to wildlife is encouraged

6.3 Protected Shoreland

As identified above, NHDES requires landowners to file permit applications for any construction, excavation or filling activities. In most cases, the Project boundary, within which PSNH must regulate activities in compliance with the FERC license does not extend to the 250 foot protected shoreland zone. However, any construction,

excavation, filling, clearing, mowing, pruning, planting or landscaping with vegetation or other materials within Project boundary will require prior approval by PSNH for segments of the shoreline designated as Integrated Use. Because all these activities also require a permit and approval from NHDES, it is likely that PSNH will permit any activity if the landowner has previously obtained a permit from NHDES for areas within the Integrated Use classification. PSNH does reserve the right to deny a permit if the activity is inconsistent with FERC license requirements (*e.g.*, interferes with PSNH's ability to operate the Project) or has the potential to adversely effect specific species such as the Bald eagle.

For any activity proposed in the Resource Protection or Project Works classifications, PSNH will not likely issue a permit for a proposed activity even if permitted by NHDES. The Resource Protection classification is intended to preserve the shoreline where lands have been designated for conservation, critical habitat, or are historically significant, and the shoreline areas designated as Project Works are integral to the day-to-day operation of the project.

In cases where PSNH denies a permit, an explanation why the proposed activity cannot be permitted under the requirements of the Project FERC license will be provided. If appropriate, PSNH may recommend modifications to the proposed activity that may allow the activity to be permitted. Special circumstances such as the presence of wetlands may result in a requirement for mitigation or alternative vegetation management practices. Removal of vegetation within the Resource Management classification is not allowed unless prescribed by a resource agency for habitat enhancement.

6.4 Other BMP Considerations

In order to minimize the effects of any shoreline development activities, shoreline use proponents must implement measures to control erosion and sedimentation, which can adversely affect water quality and habitat. Any proposed activity must include measures to prevent erosion and sedimentation during construction, such as use of silt fencing or temporary diversion, and measures to prevent long term erosion through preservation of existing vegetation or re-vegetation of disturbed areas. NHDES provides

guidance for these measures in their Fact Sheet titled, *Erosion Control for Construction in the Protected Shoreland Buffer Zone*, available at http://www.des.state.nh.us/sp.htm. NHDES also provides a list of native plant species acceptable for re-vegetation planting at http://www.des.state.nh.us/cspa/download.htm. Any application for permit submitted to PSNH must describe erosion and sedimentation control measures that will be implemented for the proposed activity.

7.0 SHORELINE USE EVALUATION AND PERMITTING PROCESS

7.1 PSNH's Responsibilities and Mandates as a Licensee

As the recipient of a federal license, PSNH is responsible for supervision and control of the uses and occupancies for which it grants permission. Additionally FERC requires PSNH to monitor compliance with any permits or conveyances they issue. Through the issuance of the Project licenses, FERC delegated PSNH the authority to issue permits for the non-Project use of Project lands for construction, replacement and modification of all shoreline facilities and activities within the Project boundary. Table 7.1-1 identifies uses allowed within the project boundary under Article 410 of the Project license and to what degree PSNH must seek approval from FERC before allowing such uses.

Table 7.1-1. Use and Occupancy Requirement Under FERC License Article 410

Allowable Uses Without Prior Approval by FERC	Allowable Uses Requiring Approval by FERC[11]
Landscape Plantings	Construction of new bridges and roads (with state and federal agency approval)
Single family, non-commercial piers, landings, docks or similar structures that can accommodate no more than 10 watercraft at a time	Sewer or effluent lines that discharge into Project waters (with state and federal agency approval)
Embankments, bulkheads, retaining walls or similar structures for to protect against shoreline erosion[12]	Other pipelines that cross Project lands and waters but do not discharge into Project waters
Food plots and wildlife enhancements	Non-project overhead transmission lines that require construction of support structures within the Project boundary (with state and federal agency approval)
Replacement, expansion, realignment, or maintenance of bridges and roads (with state and federal agency approval)	Private or public marinas that can accommodate no more than 10 water craft at a time and are located a minimum of ½ mile from other public or private marinas
Storm drains and water mains	Construction of new recreation facilities, consistent with recreational resources identified in the approved Exhibit E for relicensing
Sewers that do not discharge into Project waters	Other uses if 1) the land conveyed is five acres or less, 2) all land conveyed is at least 75 horizontal feet from Project waters at normal surface elevation and 3) no more than 50 total acres of Project lands are conveyed requiring FERC approval in a given calendar year
Minor access roads	
Telephone, gas, and electric utility distribution lines	
Non-project overhead transmission lines that do not require construction of support structures within the Project boundary	
Submarine, overhead or underground telephone distribution cables or electrical transmission lines of 69 KV or less	
Water intake or pumping facilities that do not extract more than 1 MGD from a project impoundment	

[11] PSNH must submit notification for FERC approval no less than 60 days prior to conveyance. Unless FERC, within 45 days from filing the notification, requires an application be filed for the conveyance, PSNH may convey the intended interest at the end of the 60 day period.

[12] Prior to approving proposed construction of bulkheads or retaining walls, PSNH must inspect the site, consider whether vegetative plantings or riprap would be adequate erosion control alternatives, and determine that the proposed construction is necessary and would not change the basic contour of the shoreline.

7.2 Pre-Application Screening

Through the use of the Shoreline Management Classification (SMC) maps provided in Appendix A and review of the allowable use matrix included in Section 5.0, adjacent property owners and developers will be able to locate their property and determine which management classifications occur within the Project boundary at that location. They then may review the allowable uses that pertain to this management classification, general development standards which are applicable to the site of their proposed project, reference applicable permit applications and identify supporting documentation necessary for their permit applications.

In order to avoid having a shoreline use proponent undertake local, state, and federal permitting for proposed activities that PSNH cannot allow under its Project license or the SMP, PSNH strongly recommends anyone considering shoreline development within the Project boundary meet with PSNH staff. After applicants familiarize themselves with the SMP, they should contact PSNH and request a Pre-application Screening. At the ensuing meeting, PSNH will review proposed shoreline uses to determine if, as proposed, the activity or facility is allowable and permittable by PSNH. Staff will also answer questions about the application process and assist applicants in identifying permits that they must obtain from NHDES, the ACOE, other state agencies and/or municipalities.

PSNH will issue conditional permits for proposed shoreline development contingent upon an applicant acquiring necessary permits from applicable agencies and municipalities. Because the geographic scope of the SMP (generally the immediate shoreline within the Project boundary) falls primarily within the zone regulated by the NHDES Wetland Bureau under RSA 482-A (from “bank full” to the water), all activities within the scope of the SMP are likely to require a permit from NHDES. Generally PSNH will permit shoreline development within the Project boundary if NHDES has issued a permit for the activity in areas designated as Integrated Use, although PSNH does reserve the right to deny a permit if the activity is inconsistent with the Project FERC license as describe in Section 5.0 (See Table 5.1-1).

PSNH generally will not issue a permit for proposed activities within the project boundary Resource Management classification. The purpose of this classification is to preserve and protect critical habitat and known populations of RTE and Heritage Bureau species, and preserve conservation lands and historically significant areas. The pre-screening consultation with PSNH will allow landowners to determine the potential for obtaining a permit prior to undertaking the state and federal permitting process.

PSNH will generally not allow any proposed activities within the Project Works classification due to the need for those project lands for operations and maintenance of the Project.

7.3 Permitting Process

As Section 7.2 discusses, PSNH encourages potential permit applicants to contact it to schedule a pre-screening meeting. PSNH will provide written pre-screening results to applicants that should be included in any application filed with NHDES so the agency knows that PSNH has been consulted. The written results will identify whether an application must formally apply for a permit/license from PSNH upon issuance of a permit from NHDES. Should the applicant pursue a permit from PSNH, applicants must submit a written permit application to PSNH identifying the entity requesting a permit, a primary contact and whether they represent a residential, commercial/industrial or municipal applicant. The application must include drawings providing location, description of the activity including design and dimensions, and a description of materials and type of construction. The request must include discussion and method/design of erosion and sedimentation control measures for both during and post-construction. Documentation verifying that all state, federal, and municipal permits have been obtained also must be provided. Approved applications will result in PSNH issuing conditional permits contingent upon Applicants obtaining all necessary state, federal, and municipal permits.

7.3.1 Evaluation of Proposed Shoreline Uses

PSNH will evaluate proposed modifications to existing structures/facilities or proposed new activities based on:

- Consistency with existing governmental jurisdictional regulations and classification designation
- The relative extent of the public and/or private need for the proposed facility and activity
- The practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed facility or activity
- The extent and permanence of the beneficial and/or detrimental effects which the proposed facility or activity is likely to have on the uses which the area is suited

The decision whether to grant or deny a permit is based on review of the probable impact of the proposed activity and its intended use. Benefits and detriments are balanced by considering effects on items such as:

- navigation
- safety
- conservation
- aesthetics
- economics
- general environmental concerns
- wetlands
- fish and wildlife values
- flood hazards
- shore erosion and accretion
- recreation
- water supply and conservation
- water quality
- energy needs
- needs and welfare of the people
- consideration of private ownership

7.4 Grand-fathered Shoreline Uses

As part of implementing the SMP, PSNH undertook a reservoir impoundment survey to identify all existing shoreline uses. PSNH used this survey to establish the basis for the allowed uses identified in the SMP. Some uses, constructed or placed during the term of the previous Project license have not been permitted by PSNH and/or do not meet the standards and requirements include in this SMP. PSNH recognizes that the owners of these uses could not have anticipated a change in policies regarding shoreline uses and acknowledges that its permitting system was not clearly communicated during the term of the previous license. Accordingly, PSNH will consider these structures and uses as "grandfathered" and does not intend to require current uses be removed or brought up to the standards established within the SMP immediately. Using the results of the survey of existing uses discussed in Section 5.1.1.2, PSNH will issue permits for the existing facilities found during the survey.

Triggers that will require uses be brought into compliance with current policies include when owners/users of grandfathered structures propose major repairs involving more than 50 percent of the structure, as determined by PSNH. In the future, new uses must meet PSNH's permitting standards and requirements. If fire, natural disasters or other means destroy or damage a previously permitted structure, the replacement structure must comply with the most current requirements and guidelines as established by this SMP.

7.5 Appeal/Waiver Process

Any new shoreline use or activity proposed by adjacent property owners or other entities that are not consistent with the classification or do not meet the allowed use criteria for that classification may apply to PSNH for a waiver from the established criteria. In some instances an adjacent property owner may believe PSNH applied a shoreline management classification in error. If this is the case, the adjacent property owner or use proponent may request PSNH review the mapping and site specific conditions to determine if the classification is appropriate. In considering waiver requests PSNH considers positive and negative impacts to the following:

- Characteristics, zoning and prevailing permitted uses within a half-mile radius of the proposed activity.
- Shoreline topography and geometry.
- Environmental impacts
- Safety, navigation and flood control requirements.
- Potential economic development and tourism benefits.
- Recreational use impacts
- Potential for proposed use to minimize or mitigate adverse resource impacts
- Applicable State and Federal regulations

If a proponent of an inconsistent use wishes to petition PSNH for a waiver they must:

- justify the shoreline management classification at their proposed use location is incorrect, or
- justify the proposed use,
- provide compelling evidence of hardship,
- justify the project location as the only feasible alternative, and
- provide specific protection, mitigation and/or environmental enhancements (PM&E measures) as may be prescribed by PSNH or through any consultation with jurisdictional agencies or the appropriate coordinating committee.

PSNH reserves final authority in determining whether or not to approve an inconsistent use or amend shoreline management classifications. Once a waiver application is reviewed and a final determination made, absent an appeal to the FERC there is no further option for the use proponent other than modifying the proposed use.

7.6 General Property Inspections

PSNH reserves the right to inspect facilities and uses within the Project boundaries and/or on PSNH property periodically both during and after construction or implementation. Should inspection of particular facilities and uses reveal inconsistencies or violations of established management policies and/or permitting standards, PSNH will notify facility owners/users in writing of such violation and advise them of the violation,

suggested means to correct the violation, and actions to be taken by PSNH should the violation persist.

7.7 Other Agency Regulatory Review and Permitting

All uses within the FERC project boundaries require review and approval by PSNH as specified herein. Additionally, most uses adjacent to or within the Merrimack river, associated wetlands and/or the floodplain will likely require review and approval by the local municipality, and the Shoreland Protection and Wetlands Bureau of the New Hampshire Department of Environmental Services. Other federal agencies also may exercise jurisdiction over some activities such as the Army Corps of Engineers and FERC (as defined by the Merrimack Projects standard license articles). As indicated in Section 7.2, PSNH will issue conditional permits for any shoreline use contingent upon Applicant's receipt of all other relevant permits.

7.7.1 Army Corps of Engineers

Under Section 404 of the Clean Water Act, Congress directs the Army Corps of Engineers (ACOE) to regulate the discharge of dredged and fill material into all waters of the United States, including their adjacent wetlands. The intent of this law is to protect the nation's waters from the indiscriminate discharge of material capable of causing pollution and to restore and maintain their chemical, physical and biological integrity. Typical activities requiring permits include, but are not limited to, boat ramps, docks, bulkheads/retaining walls, ditches, dams, dikes, weirs, dredging, filling, intake structures, outfall structures, riprap, and similar activities. Penalties for violations can range from being required to remove the structures and material to substantial fines or even imprisonment.

Typically NHDES reviews all application submitted to them and makes a determination on whether the proposed use triggers the need for additional review by the ACOE. The Merrimack River is considered Essential Fish Habitat (EFH) for Atlantic salmon, therefore any application submitted to NHDES may require further review and approval by the ACOE through their coordinated permit

procedure. In 2007, the New England District of the ACOE issued a this Programmatic General Permit (PGP) that expedites review of minimal impact work in coastal and inland waters and wetlands within the State of New Hampshire and to limit duplication between NHDES management of such activities and ACOE's Regulatory program. Under certain conditions, the PGP eliminates the need to apply for separate approval from the ACOE for most minor, non-controversial work if it has been authorized by the NHDES Wetlands Bureau. Specific details regarding this joint permitting process are available at www.nae.usace.army.mil/reg/NHPGPpermit.PDF.

7.7.2 New Hampshire Department of Environmental Services

The New Hampshire Department of Environmental Services (NHDES) exercises jurisdiction under several state and federal authorities. NHDES is responsible for certifying that construction activities meet Section 401 of the Clean Water Act. This "water quality certification" is needed when a federal approval (ACOE, FERC, etc.) is required for a project. NHDES also exercises jurisdiction for shoreline development through the DES Shoreland Program (RSA 483-B), and development in wetlands (including docks) through the Wetlands Bureau (RSA 482-A).

For further information, shoreline use proponents may contact the NHDES at:

New Hampshire Department of Environmental Services
Wetlands Bureau
PO Box 95
Concord NH 03302
(603) 271-2147
wetmail@des.state.nh.us

7.7.3 Local Government

Municipal zoning may regulate development within a specific distance from the ordinary high water mark, or within the 100-year floodplain of designated shorelines. Most development within the Project boundaries will fall

under the local and State jurisdiction. Accordingly any new proposed uses require review and approval by local planning boards (potentially including advisory review from conservation commissions) with subsequent review by the NHDES.

Local government also reviews shoreline uses in frequently flooded areas and may require application for Floodplain Management Permits and/or compliance with local critical areas ordinances. For further information shoreline use proponents should contact their local municipal Code Enforcement Officer.

The Upper Merrimack River (from Garvins Falls and north) is part of the state's designated rivers program under RSA 483, the Rivers Management & Protection Act. In association with this designation the UMRLAC actively participates in resource protection activities for this section of the Merrimack River including the NHDES Wetland Bureau permitting process.

7.7.4 State Historic Preservation Office (SHPO)

Generally major shoreline ground disturbance activities require review and comment from the State Historic Preservation Officer (SHPO). NHDES requires this information be provided at the time of application for relevant wetland or shoreland permits. PSNH staff will review all proposed new uses regardless of the shoreline management classification in which they occur to identify potential impacts to known or potentially sensitive archaeological and historical properties. Early identification of proposed activities, as well as identification of activities requiring authorization and those that do not, will be key to minimizing problems for project proponents. PSNH will review the permit application and supporting information to ensure that the adjacent property owner or new user provide the appropriate information. PSNH will assist use proponents in determining whether the proposed action requires consultation with the SHPO. PSNH, as a requirement or condition permit issuance, requires any entity that is proposing ground-disturbing activities within the Project boundary to undertake the appropriate level of investigation, monitoring, and any subsequent mitigation

found to be required for reasonable protection of Historic Properties within the Project boundary.

8.0 ENFORCEMENT OF THE SHORELINE MANAGEMENT PLAN

The Project license, and more specifically the Standard land use article, within the license, directs PSNH to oversee shoreline activities and take action to prevent unauthorized uses of Project shorelines. FERC has historically required some form of oversight of Project lands by licensees. In 1980 FERC formalized the use of a Standard Land Use Article (Order Amending License for the Brazos River Authority's Morris Sheppard Project 11 FERC ¶61,162) which gives licensees broader and more inclusive oversight of uses and occupancies on Project lands. This article is also included as Article 410 in the 2007 FERC license order. As referenced in other portions of this document, all proposed shoreline uses, which affect Project land and waters, are subject to approval of PSNH. PSNH retains the authority, pursuant to the land use article, to review all uses and occupancies through its permitting criteria and standards to ensure they are consistent.

PSNH designed the SMP to compliment and support these criteria and standards, as set forth in its permitting guidelines. All shoreline uses allowed by PSNH as described herein are subject to inspection by PSNH staff. Should an inspection reveal that these uses deviate from the approved plans, PSNH will require that the property owner or project proponent correct the discrepancy or remove the encroachment from the Project boundary. In the event that a use is undertaken without prior PSNH approval, the same restrictions and requirements will apply. Any alterations, additions, relocation or other physical changes to existing use must be approved by PSNH prior to such changes. In an effort to ensure the goals and objectives of the SMP as well as all license requirements are adhered to, PSNH reserves the right to revoke any permits. In extreme cases of non-conformance of established rules and requirements, PSNH will take all legal measures necessary to require removal of the use, as well as restoration of the property to its original condition if these conditions are not followed.

9.0 MONITORING/AMENDMENT PROCESS

In developing this SMP, PSNH has committed to the long-term stewardship of the Project's lands, water and environmental, recreational and socioeconomic values. PSNH formulated this SMP in anticipation of potential growth and new uses within and adjacent to the Project boundaries. PSNH recognizes that that non-project uses change over time. While theses changes in use may occur slowly, they may result in patterns that necessitate reassessment of the SMP. It should be noted that changes to the SMP in the future will be limited and will be evaluated thoroughly to ensure that the purpose of the SMP, to manage shoreline development to protect resources within the project boundary, is not compromised.

To assure the SMP continues to remain relevant, PSNH intends to review and, if necessary, to amend the SMP periodically, with continued input from interested parties. Due to the anticipated moderate to slow pace at which conditions around the reservoirs will change over the foreseeable future, PSNH coordinates review of the SMP with submittal of recreation reports to FERC, which occur every six years from the date of license issuances. The six year time frame allows PSNH to assess new issues that may arise as a result of development around the reservoirs as well as assess the need for any changes to the plan as it relates to public access and recreational use. A shorter time frame would not let any meaningful cumulative affects be analyzed; however, PSNH is always willing to listen to concerned stakeholders if unforeseeable circumstances warrant a review of particular sections of the SMP. This review process will provide the means for the permitting program to change, if necessary, or for PSNH to adopt or replace additional BMPs as their effectiveness is tested. Sections 9.2 and 9.3 discuss the distinction between, minor modification to the SMP which PSNH will undertake internally and major modification which may require reopening the SMP through amendment process. Any components of the SMP, include appendices, can be updated as necessary by filing with FERC and posting on PSNH SMP web site.

9.1 Overall Land Use Monitoring

PSNH's primary means of tracking and monitoring shoreline uses is through its shoreline permitting programs. As a result of the assignment of land classification system and associated mapping, and PSNH's requirement that any owners of existing, uses be issued a fact permit, PSNH will monitor new applications (and existing permits)

through a GIS. With the data already in place for the land classifications, PSNH will use the global positioning satellite (GPS) coordinates of any new permit applications to analyze the exact location on a particular reservoir and any permit stipulations that may be required as a result of the land classification. PSNH will review the number of permits it has processed on each land classification type on each reservoir annually to asses overall shoreline use and the effectiveness of the SMP in managing these uses.

PSNH will contact local and regional planning staff periodically for updates on regional development adjacent to the reservoirs that may be relevant to the SMP.

9.2 Triggers for Minor Modification

If the annual review of issued permits, discussions with the local and regional planning staff or other information reveals increased demand for shoreline use in a particular location, changes in development patterns, or other land use issues that may be relevant to the SMP, PSNH will note the location as an area of concern and monitor developments more closely. As long as resource and use criteria established by this SMP do not change, PSNH will not seek additional review by stakeholders or FERC.

PSNH also anticipates the potential need to make site specific changes in the location of shoreline management classifications to reflect on the ground conditions that were not anticipated or observed when it developed the classification mapping. This will most likely involve minor relocation of classification boundaries or site specific waivers dependent on field observations. Unless a shoreline management classification is entirely removed or modified to an extent that requires remapping the entire shoreline at a particular location, PSNH does not intend to amend the SMP. During the review of Project mapping minor changes such as new development within existing subdivision adjacent to the Lakes, or changes in recreational uses will be noted in the PSNH land use database and on the Project maps but are not anticipated to warrant amendments to the SMP. These changes will be captured in PSNH's GIS system. New maps will be posted to the PSNH SMP web page every six years.

9.3 Triggers for SMP Amendment

Major changes within the Project boundary may change goals and assumptions presented in this plan. PSNH established the following criteria that may indicate the need to address amendment of the plan. While such changes may not result in changes to the plan, they are reasonable triggers to facilitate review.

New Residential Uses or Pressure: These may include large, new housing developments, infrastructure improvements that could lead to new development, or socioeconomic changes affecting the influx, and out-migration of populations.

Major Commercial Upgrades or New Uses: The Project reservoirs are currently not experiencing ongoing commercial growth. This could possibly change over the lifetime of the SMP and would likely necessitate reconsideration of PSNH's management policies. PSNH will continue to monitor this type of shoreline use and compile data that may be useful in the event an SMP amendment becomes necessary during the review period.

Large Parcel Land Sales/Major Changes in Land Ownership: In the event that major parcels of previously undeveloped land change ownership, with an identifiable purchaser and new intent for use, PSNH may review both the shoreline management classification designation as well as the allowed uses within the area to determine if amendments to the SMP are warranted.

Changes within the Management Classifications: The shoreline management classifications identified in this SMP are based on environmental and aesthetic resources Some of these classifications are dynamic by nature. It is possible that within the review period new concerns such as nuisance aquatic vegetation or wetland habitat may change, therefore necessitating the re-evaluation and possible amendment of both management classification as well as the allowed uses within them. PSNH also acknowledges the possibility that mapping of the classifications may require site specific modification. It will, during its six year review of the SMP compare the original mapping with corrected mapping which has occurred in the interim between SMP implementation and review

period to assess any changes in classification locations over time. If this change has resulted in modification of at least 50% reclassification of a particular shoreline classification area, PSNH will consider the need to amend the SMP.

9.4 Amendment Process

As the previous sections detailed, Project and resource drawings will be updated on an ongoing basis by PSNH to assure they are reflective of field conditions. As long as resource and use criteria as established by the SMP do not change, PSNH will not seek additional review by FERC. If it appears there may be major impacts on the SMP's effectiveness, PSNH will initiate agency and stakeholder review of SMP language and/or assessment of the overall document. PSNH will invite a group of reviewers to include personnel from various state and federal agencies, and other interested stakeholders to assess what changes, if any, need to be made to the SMP. Specifically, at a minimum, USFWS, NHFG, and NHDES (both Wetlands Bureau and River Management and Protection sections) If it is determined that an amendment to the plan is necessary, PSNH will notify FERC of its intentions, provide draft language for review by the Commission, and implement such changes as approved. These changes may include revised shoreline management classification definitions, permitting process changes or establishing other allowed uses not currently in the SMP. PSNH will continue to coordinate and consult with resource agencies, coordinating committee members, and county planning staff throughout the SMP revision or redrafting process and will supply a consultation records to FERC with any SMP amendment application.