

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Upper Peninsula Power Company

Project No. 2506-144--MI

NOTICE OF AVAILABILITY OF ENVIRONMENTAL ASSESSMENT

(July 30, 2008)

In accordance with the National Environmental Policy Act of 1969 and the Federal Energy Regulatory Commission's regulations, 18 CFR Part 380 (Order No. 486, 52 F.R. 47879), the Office of Energy Projects has reviewed Upper Peninsula Power Company's proposed shoreline management plan for the Escanaba Hydroelectric Project, located on the Middle Branch of the Escanaba River in Marquette County, Michigan, and has prepared an Environmental Assessment (EA).

A copy of the EA is on file with the Commission and is available for public inspection. The EA may also be viewed on the Commission's website at <http://www.ferc.gov> using the "eLibrary" link. Enter the docket number (P-2506) excluding the last three digits in the docket number field to access the document. For assistance, contact FERC Online Support at FERCOnlineSupport@ferc.gov or toll-free at 1-866-208-3676, or for TTY, (202) 502-8659.

Any comments on the EA should be filed by August 29, 2008, and should be addressed to the Secretary, Federal Energy Regulatory Commission, 888 First Street, N.E., Room 1-A, Washington, D.C. 20426. Please reference the project name and project number (P-2506) on all comments. Comments may be filed electronically via Internet in lieu of paper. The Commission strongly encourages electronic filings. See 18 CFR 385.2001(a)(1)(iii) and the instructions on the Commission's website under the "eFiling" link. For further information, contact Jon Cofrancesco at (202) 502-8951.

Kimberly D. Bose,
Secretary.

ENVIRONMENTAL ASSESSMENT

**Federal Energy Regulatory Commission
Office of Energy Projects
Division of Hydropower Administration and Compliance
Washington, DC**

**Escanaba Hydroelectric Project
FERC Project No. 2506-144**

I. APPLICATION

Application Type: Escanaba Shoreline Management Plan
Date Filed: November 29, 2007
Applicant's Name: Upper Peninsula Power Company
Water Body: Escanaba River
County and State: Delta and Marquette counties, Michigan
Federal Lands: The project does not occupy any Federal lands

II. BACKGROUND

The Federal Energy Regulatory Commission (Commission or FERC) issued a license for the 9.19-megawatt (MW) Escanaba Hydroelectric Project (FERC No. 2506) to Upper Peninsula Power Company (UPPCO or licensee) on July 13, 1995.¹ The project is located on the Escanaba River in the lower, more flat, central portion of Michigan's Upper Peninsula, near the township of Escanaba, Michigan, in Delta and Marquette counties, Michigan (figure 1). The project consists of three individual developments: (1) Dam No. 4 (Boney Falls), with a capacity of 4.74 MW, about 22 miles from the mouth of the Escanaba River at Lake Michigan; (2) Dam No. 3, with a capacity of 2.5 MW, about 5 miles from the mouth of the river; and (3) Dam No. 1, with a capacity of 1.95 MW, about 2 miles from the mouth of the river. Dam No. 2, which is not part of the project, is located about 3.5 miles from the mouth of the river.

¹72 FERC ¶61,027, Order Issuing New License, July 13, 1995.

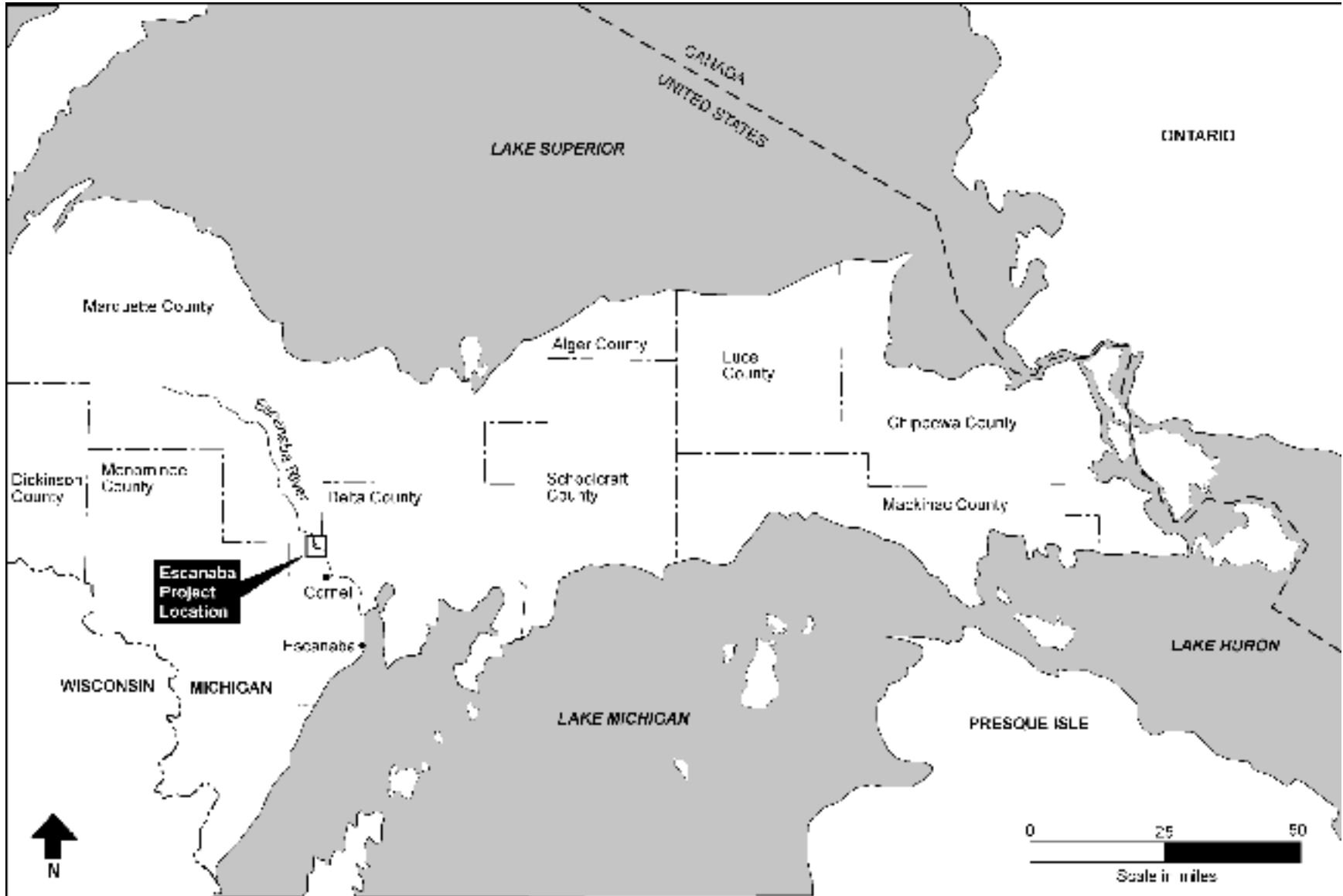


Figure 1. Location map of the Escanaba Project.

The existing Boney Falls development, the only development that is included in the proposed action, consists of (a) an earth embankment section, approximately 1,500 feet long, with a concrete core wall; (b) a non-overflow mass concrete section, approximately 93 feet long with a height of about 40 feet; (c) a gated concrete ogee spillway section, approximately 139 feet long, containing six steel Taintor gates, each 20 feet long and 14 feet high; (d) an ungated concrete ogee type spillway section, approximately 200 feet long with a maximum height of about 40 feet, topped by 1-foot-high flashboards along the crest; (e) an uncontrolled broad-crested Roller Compacted Concrete emergency spillway, 500 feet long, containing (1) an earth fill fuse plug, installed on the crest and downstream slope of the spillway, and (2) a concrete corewall; (f) an earth embankment section, about 1,600 feet long with a concrete corewall; (g) an impoundment with a surface area of 220 acres and a total storage volume of 2,300 acre-feet at the normal maximum surface elevation 906.58 feet U.S. Geological Survey datum; (h) a log sluice and fishway; (i) an existing brick and concrete powerhouse, approximately 70 feet long by 70 feet wide by 73 feet high, containing (1) three vertical Francis turbines with a combined hydraulic capacity of 1,350 cfs, manufactured by S. Morgan Smith and rated at 2,400 HP each, and (2) three vertical shaft synchronous generators, manufactured by General Electric, the first rated at 1,360 kW, the second rated at 1,700 kW, and the third rated at 1,680 kW, providing a total generator rating of 4,740 kW; (j) a 34.5 kV transmission line about 19 miles long from Boney Falls to the paper mill; and (k) appurtenant facilities.

The licensee is required, pursuant to the project license, to operate each of the project's developments in a run-of-river mode for the protection of aquatic resources in the Escanaba River. The licensee is required to minimize the fluctuations of reservoir surface elevations by maintaining a discharge from each development of the project so that, at any point in time, flows, as measured immediately downstream of each development tailrace, approximate the sum of inflows to each project reservoir. Run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of the licensee, or for short periods of time upon mutual agreement among the licensee, the Michigan Department of Natural Resources, and the U.S. Fish and Wildlife Service.

The impoundment is approximately 220 acres, has about 3.8 miles of shoreline (not including islands), and the width of the project boundary averages approximately 200 feet. The project boundary (figure 2) encloses about 307 acres consisting of 40 acres of forest, 31 acres of open space, 7 acres of agricultural use, 8 acres of recreational use, 1 acre for project works, and 220 acres is taken by the impoundment (FERC, 1995). The licensee owns the majority of lands within the project boundary; however, there is a small amount of land located south of the dam within the project boundary that is not owned by the licensee. The land is part of the 1 acre classified as project works.

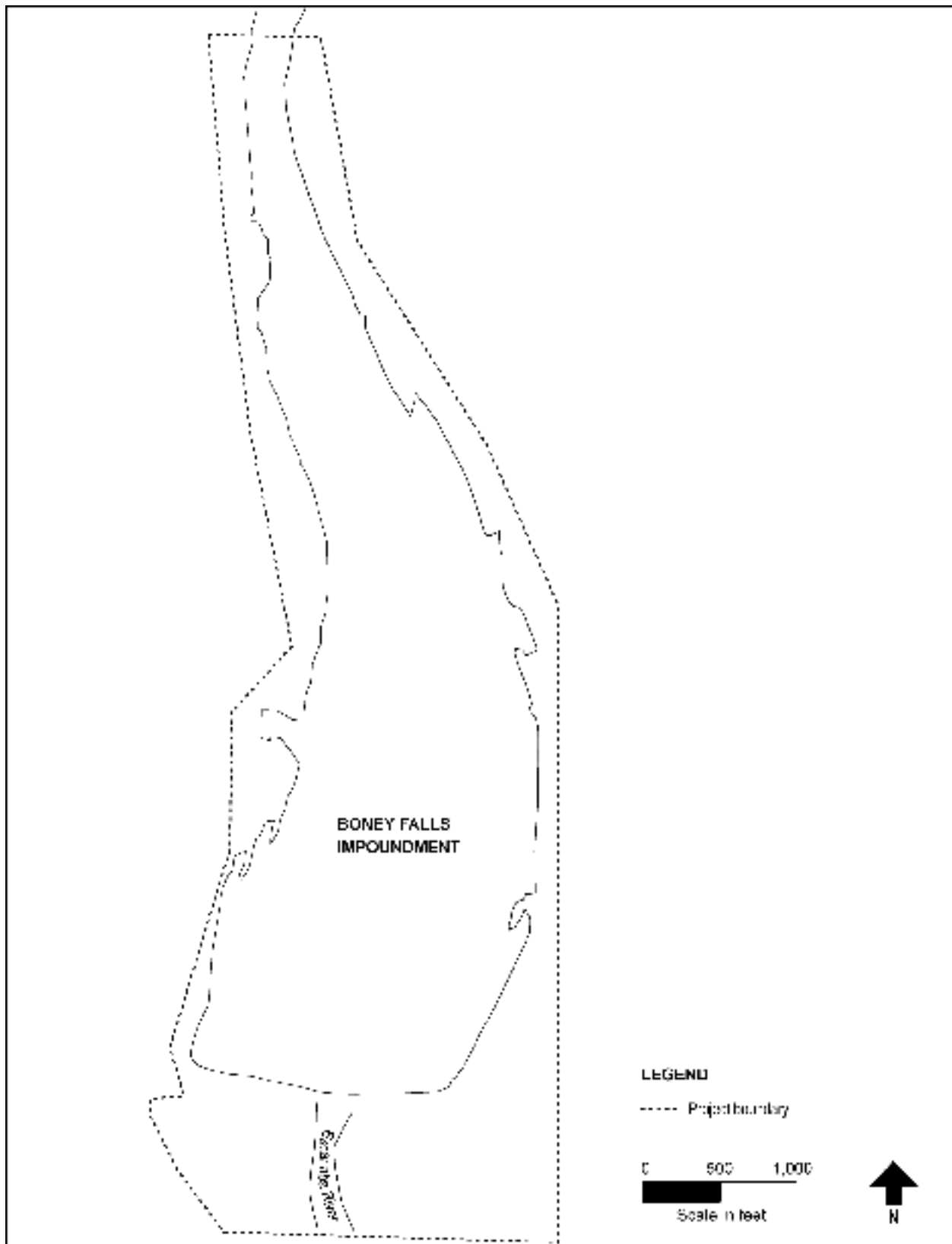


Figure 2. Escanaba Project boundary.

III. PURPOSE AND NEED FOR ACTION

On November 29, 2007, UPPCO filed a proposed shoreline management plan (SMP) for the Boney Falls development of the Escanaba Project to address the land use pressures and potential impacts anticipated from UPPCO's potential future sale of adjacent non-project lands to residential real estate developers.²

The proposed SMP applies only to the Boney Falls development. The licensee has also requested to amend the project's approved recreation plan and comprehensive land management plan (LMP) to include recreational enhancements specified in the SMP. The Commission must determine whether and under what conditions to approve the proposed SMP and amendment requests.

Currently, the licensee manages shoreline resources and development activities at the project through certain license conditions, including the standard land use article [Article 414] and Commission-approved plans filed pursuant to license requirements includes the operation and compliance plan [Article 405], noxious plant monitoring plan [Article 409], bald eagle management plan [Article 410], cultural resources management plan [Article 411], recreation plan [Article 412], LMP [Article 413], and wildlife management plan [Article 416].

UPPCO's approved LMP includes the delineation of a buffer zone of about 200 feet around the impoundments of the project. Under the plan, management of project lands is directed to timber production, facility development, and public access. Timber harvesting is permitted on all project lands outside the 200-foot-buffer zone. The objectives of the plan are to manage timber resources in the buffer zone using aesthetic management practices that make the resource available for consumptive and non-consumptive uses (e.g., nature photography, hiking), protect and manage for endangered and cultural resources, and use Best Management Practices (BMPs) for all ground-disturbing activities within the buffer zone. The LMP provides provisions for annual consultation efforts with MDNR and FWS, and consultation when harvesting is being considered for land outside of the buffer zone but inside of the project boundary.

A review of the record in this proceeding indicates that currently there is one courtesy dock on the impoundment that is associated with the Boney Falls Campground located on the western shore and is a formal recreation site that offers camping, boating opportunities, and bank fishing opportunities. UPPCO's filing of the proposed SMP at

² The project boundary must enclose only those lands necessary for operation and maintenance of the project and for other project purposes, such as recreation, shoreline control, or protection of environmental resources. Non-project lands are located outside of the project boundary and considered not needed for operation and maintenance and other project purposes. Non-project lands are not required to be managed under the terms and conditions of the license and are not subject to Commission jurisdiction.

this time indicates its desire to codify existing policies and to be proactive in ensuring that potential future development on adjacent non-project lands does not affect the natural resources of project lands. The proposed SMP would zone the lake according to the location of natural resources and allow or prohibit activities accordingly. This zoning system would go beyond what is already required by the approved LMP. When an applicant applies to UPPCO for permission to use certain project lands or waters, the proposed SMP would give UPPCO a convenient reference or tool to help it decide whether and under what conditions to allow the activity.

UPPCO's approved recreation plan includes, among other things, a five-car gravel parking area, accessible vault toilet, a canoe put-in, and steps to a fishing area along the western shore of the river below the dam. There is an existing signed canoe portage trail on the eastern shore of the river. There is an impoundment boat launch off Marquette County Road 523 where a barrier-free skid pier has been installed adjacent to the existing gravel boat launch and directional signs installed along the road. There is a picnic area and campground at this site.

UPPCO proposes to fund additional recreation enhancements within the Escanaba Project boundary as part of its overall SMP. The majority of these recreation enhancements are not currently required as part of the approved recreation plan. UPPCO proposes these recreational enhancements to accommodate anticipated increased general public recreation use of the impoundment that would inevitably occur and increased use that may occur as the result of anticipated development of non-project lands in the vicinity of the project and increased economic activity in the region. In addition, some enhancements are being proposed to upgrade public boat access sites to make them more user-friendly and, in some cases, barrier free, to meet public expectations for water access.

IV. PROPOSED ACTION AND ALTERNATIVES

A. Proposed SMP

UPPCO's decision to sell most of its non-project lands to residential real estate developers would likely result in increased residential development and increased use pressures on project environmental resources. The licensee states in its proposal that a maximum of 24 private boat slips would be allowed at the Boney Falls impoundment. The proposed SMP is intended to improve upon existing practices and help protect and enhance the impoundment's natural resources and the project's primary function, the production of electricity. The proposed SMP is also intended to provide public recreational enhancements and direct, manage, and mitigate the impacts of anticipated development of non-project lands so as to complement or have neutral effects on those natural resources.

The licensee's proposed plan includes a description of the project and adjacent land uses, current management policies, SMP classification and guidelines, proposed development and recreation enhancements, expected impacts of implementing the SMP on the natural resources in the area, enforcement procedures (permits, oversight), provision for continued consultation throughout the term of the license, and a description of the history and consultation process used in its development. UPPCO developed the SMP in consultation with Michigan Department of Natural Resources, U.S. Forest Service -- Hiawatha and Ottawa National Forests, FWS, National Park Service, Michigan Hydro Relicensing Coalition, and Keweenaw Bay Indian Community (Resource Agencies), local governments, and nongovernmental organizations, and conducted local public outreach sessions. The SMP provides for pedestrian paths and trails, public and private individual and cluster docks, enhanced view areas, protection of wildlife and fishery habitat, public recreational access to the lakes, and water quality.

Three key components of the proposed SMP include its shoreline management guidelines, shoreline classifications and facilities design criteria, and prohibited and permitted shoreline activities.

Shoreline Management Guidelines

The proposed SMP includes guidelines providing detailed procedures and criteria for regulating activities within the project boundary. UPPCO states the objectives of the guidelines were developed to protect UPPCO's interests in power generation; protect and enhance the public recreational, public safety, scenic, cultural, and other environmental values of the project; and comply with applicable Federal regulations. UPPCO also states the guidelines were developed to address commercial and residential marina facilities, conveyances, excavations, private facilities, shoreline stabilization, vegetation management, general lake-use policies, and miscellaneous uses.

Shoreline Classifications and Prescriptions

In consultation with governmental agencies and with input from local stakeholders, the licensee developed four shoreline classifications for the Boney Falls development and identified the shoreline areas to which these classifications would apply (see table 1). These shoreline classifications, and associated prescriptions of allowable uses and restrictions, are generally described below and shown in figure 3.

Table 1. Shoreline Classification Categories and Percent of the Shoreline³

Shoreline Classification Area	% of Shoreline
Conservation – Limited Public Trail	19
Conservation – Limited Public Paths and Limited Enhanced View	16.7
General Use/Formal Recreation	7.1
Project Operations	50

The **Conservation – Limited Public Trail Area** classification is assigned to areas within the project boundary that have been set aside for conservation purposes only. These areas typically would include identified rare, threatened, or endangered species habitat, wetlands, cultural resources, and/or other highly sensitive terrestrial or aquatic habitat. With the possible exception of a public trail, and any management deemed necessary by the Resource Agencies to preserve or enhance forest resources, these areas are not to be disturbed. The Conservation – Limited Public Trail Areas would not contain any dock structures.

The **Conservation – Limited Public Path and Limited Enhanced View Area** classification is assigned to lands within the project boundary where paths would be allowed from the adjacent non-project land owners to shoreline areas suitable for the placement of seasonal individual and cluster docks. The creation of enhanced view areas for the adjacent non-project landowners also would be permitted. To the extent possible, the SMP specifies that new path development follow existing paths, trails, or roads, and should be commonly shared by abutting land owners. The Conservation – Limited Public Path and Limited Enhanced View designation represents the total areas where the pathways or enhanced view areas could be placed; however, the actual acreages occupied by paths at a maximum width of 4 feet would be expected to be small. Enhanced view areas on project lands at the Boney Falls impoundment would generally (1) require prior written approval from UPPCO; (2) be no longer than 200 feet and no more than 40 feet wide; (3) be created by removing brush of less than 2 inches in diameter at a height of 5 feet above ground level and/or the trimming of tree limbs as approved by UPPCO; (4) include the restriction that no eastern hemlock, den cavity/nesting trees, wolf trees, and/or fruit and mast bearing trees may be removed or trimmed in the enhanced view areas; (5)

³ The percentages of shoreline contained in the SMP were measured in feet. The method used the GIS base layer with a project boundary and surface water overlay. The linear feet were calculated using the GIS system. Any location where the surface water of the reservoir came into contact with the project land was considered shoreline. The shoreline estimate includes shoreline on islands and oxbows (personal communication, J. Potvin, Louis Berger Group, and S. Puzen, UPPCO, April 14, 2008).

not allow any ground-disturbing activity in the development or maintenance of the enhanced view area; and (6) not permit stump removal.

The **General Use/Formal Recreation Area** classification is assigned to areas within the project boundary with existing and proposed formal recreation areas that are not allowed under other classifications. In these areas, the reasonable construction of recreation areas/facilities, roads, pedestrian paths, enhanced view areas, and motorized vehicle trails, as well as the placement of docks and seasonal dock storage, would be permitted. The locations of these areas were planned based upon data collected as part of the 2006 environmental studies. UPPCO would maintain these roads according to County specifications. In addition to the above-listed uses, there are two private camp leases that extend into the project boundary/buffer.

The **Project Operations Area** classification is assigned to lands that are currently occupied by hydropower generation and transmission and related structures or facilities that are necessary for the operation of the Escanaba Project. The construction of recreation areas/facilities, roads, pedestrian paths, enhanced view areas, and motorized vehicle trails, as well as the placement of dock structures, would be permitted in areas classified as Project Operations Areas.

Should additional lands be required outside of the Project Operations Areas for the continued safe operation of the Escanaba Project, UPPCO would prioritize the use of lands that are located in the General Use/Formal Recreation Area; however, any lands within any of the classifications might be required for project purposes as required by the Commission.

Shoreline Management Activities

The following sections list prohibited activities and allowable uses by the general public within UPPCO lands and waters at the Escanaba Project, as presented in the SMP. In general, the following activities would fall within the types of use and occupancy for which the licensee already has the authority to grant or deny permission under the standard land use article (Article 414). The licensee is now proposing to codify activities and policies by initiating an SMP to use as a tool to make consistent decisions.

Prohibited Activities

The following activities would be prohibited by anyone other than UPPCO on its property within the project boundary at the Boney Falls development of the Escanaba Project. The activities include, but are not limited to:

- Any use or activity conducted without prior UPPCO written permission for that use or activity.

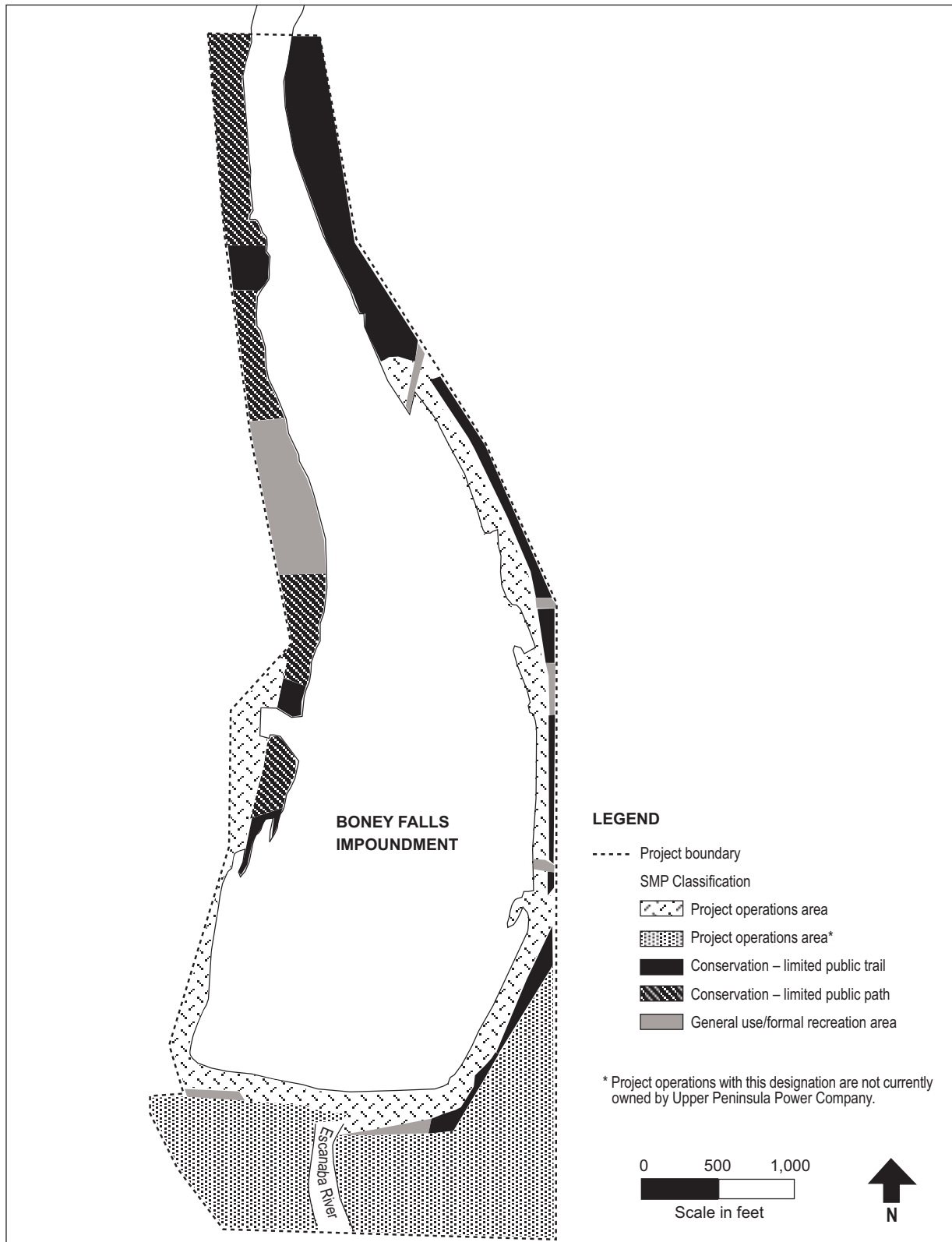


Figure 3. Shoreline classifications for the Boney Falls development from the proposed Shoreline Management Plan.

- The construction of permanent structures or improvements, except those authorized via a permit or Non-exclusive License Agreement (NLA).⁴
- The construction of paved, concrete or loose stone/gravel roads, boat ramps, or parking lots within Conservation areas.
- Storage of docks and access ramps on any project lands other than those that are so designated.
- Other than snowmobile use in the winter, the use or parking of motorized vehicles except at designated recreation areas, existing roads and project operations areas, and as necessary for the launching and removal of boats or the drop-off and pick up of boating supplies, or as needed for access by people with disabilities.
- Vegetation removal, cutting, or installation of any sort unless allowed under a permit.
- The burning or piling of brush or organic material such as compost, grass clippings or leaves.
- The raking of leaves into the impoundments, i.e., below the normal high-water mark of the impoundment.
- The construction of wastewater disposal facilities such as but not limited to septic tanks, drain fields, underground pipes, and portable toilet facilities.
- The routing of stormwater drainage onto UPPCO land or into the waters of the impoundments through open ditches or drains without UPPCO permission.
- The discharge of any septic effluent onto UPPCO land or into the waters of the impoundments from septic systems or other sources.
- The installation or use of rail launches for boats.
- The storage of gasoline, oil, propane, or other combustible materials.

⁴ Prior to undertaking any improvements or modifications on UPPCO lands within the project boundary, a completed permit application must be submitted to UPPCO. An applicant would be required to apply in writing for the permit. Information and a permit application would be furnished to the applicant concerning the necessary instructions and appropriate application fee. Activities requiring a permit would not begin until all plans and specifications have been approved in writing by UPPCO.

- The overnight placement of lawn furniture, picnic tables, playground equipment such as a swing set or slide, or flagpole placement on UPPCO property.
- The placement of floating rafts used for purposes other than docking.
- The placement and use of boat lifts.
- The installation of permanent electrical dock lighting and electric service.
- Placement of fill or structures on or in intermittent or perennial streams or wetlands on UPPCO property under a permit is strictly prohibited.
- Any use, activity, or encroachment that in UPPCO's judgment interferes with the enjoyment of UPPCO lands and the impoundment by the general public or by neighboring property owners.
- Any other use that UPPCO determines would degrade the scenic, recreational, or environmental value of the Boney Falls impoundment. Any such determination lies with the sole and uncontestable discretion of UPPCO.

Permitted construction activities must be in accordance with all applicable laws, building codes, regulations, and ordinances. In addition, such facilities would have to be installed on the UPPCO property as close as feasible to directly fronting the permittee's property. In no case would any work create conditions that would cause erosion on UPPCO lands or sediment to enter waterways or the lake. All activities on UPPCO property must be done so as to minimize the removal of live trees or brush.

Allowed Activities

Owners of residential property located immediately adjacent to UPPCO-owned land within the project boundary, and who maintain such property for non-commercial use, may request that UPPCO grant them a permit or NLA to allow additional non-exclusive uses of UPPCO project land. Allowable uses would be subject to the express written approval of UPPCO in the form of a permit and/or NLA. An UPPCO-approved permit or NLA issued to the eligible property owner may authorize the following activities on UPPCO property or the impoundment:

- The creation of a pedestrian path and associated stairs and elevated wooden walkways.
- The installation of a dock and an access ramp to the dock.
- The creation of enhanced view areas.

These standard activities would be subject to the design criteria listed in the following section.

Consistent with the Conservation – Limited Public Path and Limited Enhanced View Area, UPPCO proposes dock zones within this classification of the Boney Falls development. These dock zones were established after the resource inventory data layers from the field investigations were overlaid on digital ortho-rectified aerial photography. Zones along the shoreline where seasonal docks could be placed without directly affecting sensitive resources (e.g., known or suitable rare, threatened, or endangered species habitat, cultural resource, and/or other highly sensitive habitat such as emergent wetlands and beds of submerged aquatic vegetation) were identified.

Other SMP Components

Design Criteria

The criteria for specific allowable uses are summarized as follows.

Pedestrian Paths. Paths may be permitted to provide walking access to the high-water mark of the lake and, in some cases, may interconnect with a public trail. These paths would be available for use by the general public. Where practicable, UPPCO may direct a single path to serve multiple residential areas. Installation of a new path or maintenance of an existing path is subject to the following:

- To the extent possible, new path development should follow existing paths, trails, or roads and should be commonly shared by abutting land owners.
- Where feasible, new paths should not be laid out in a straight line; rather they should meander through the woodland to a reasonable extent taking into consideration topography, visual impact, and natural features in an effort to reduce the need for vegetation trimming, adverse aesthetic impacts and shoreline erosion.
- Paths are for pedestrian use only; no motorized vehicles are permitted on the paths except for project maintenance and enforcement action as directed by UPPCO.
- Paths would be no more than 4 feet in width.
- Paths would be developed and maintained in a manner that avoids where possible, and otherwise minimizes, the removal of vegetation; with the exception of trees that are hazardous, only brush less than 2 inches in diameter at a height of 5 feet and/or tree limbs below a height of 8 feet within the 4 foot width of the path may be removed. In addition, no eastern hemlock, den cavity/nesting trees, wolf trees, and/or fruit and mast bearing trees would be removed or trimmed.

- Only natural woodchips and/or bark may be used to improve the path. No other materials including, but not limited to, stone, brick, gravel, sand, stepping stones, flagstone, and colored stones, or any other materials, may be used on the paths.
- In limited instances where extreme topography or sensitive ecological areas warrant, steps or wooden walkways may be incorporated into a pedestrian path.
- Steps and elevated walkways would not be more than 2 feet above the contour of the ground.

Docks. A dock is a seasonal/temporary structure connected to the shoreline by a walkway/access ramp and is most often used for mooring boats. Under the SMP, a permit or NLA may grant the permittee permission to install an individual dock or a cluster dock of 10 or less slips in which no individual parcel owner could occupy more than one slip. UPPCO proposes a total of 24 private boat slips at the Boney Falls development. UPPCO states that the following is consistent with the state of Michigan guidelines for docks and defines its criteria for all residential docks:

- A dock may not obstruct the free flow of water or include any features which trap or accumulate aquatic plants or sediment.
- A dock may be floating or freestanding.
- To the greatest extent possible, docks and access ramps would be of natural tone colors so as to blend into the natural shoreline.
- Access ramps to docks must be removable and would not have railings.
- Docks would not be placed in the water prior to Memorial Day weekend of each year and docks and access ramps must be removed from the water by October 15 of each year.
- All docks would either be securely anchored with mooring cable or chain, or secured to a subsurface removable support frame. Such support frames may have wheels for ease of manual installation and removal.
- UPPCO's dock permit number must be displayed on all sections of a permitted dock. The number must be located so as to be visible from a boat on the lake.
- Permittees are responsible for maintaining docks in a safe manner.
- During the period from October 16 to just prior to Memorial Day weekend, docks and access ramps cannot be present on the project land unless they are specifically authorized by UPPCO.

- The removal of any submerged/emergent aquatic vegetation or submerged substrate or woody debris for the placement of the dock is prohibited.

In addition to the criteria listed above, individual and cluster docks would have to meet the following criteria, as specified in the permit or NLA:

Individual Docks. Individual docks would be installed to achieve a maximum depth of 10 feet (as measured at the end of the dock) at the normal summer high water elevation, but in no case would an individual dock exceed 60 feet in length (combination of access ramp and dock) measured from the shore out into the impoundment.

Individual docks would not exceed 5 feet in width. This width would be sufficient for the safe loading of gear and passengers. Individual floating dock configurations would generally conform to the schematic diagram in the SMP shown in figure 7-1, and individual non-floating dock configurations would generally conform to the schematic diagram in figure 7-4 of the proposed SMP. Only one watercraft could be stored over night at each individual dock.

Cluster Docks. Cluster docks would be installed in order to achieve a summer maximum depth of 10 feet (as measured at the end of the dock/slip) at the normal summer high water elevation, but in no case would the overall length of the cluster dock be allowed to exceed 150 feet (combination of access ramp and dock).

Dock sections could not exceed 5 feet in width. This width would be sufficient for the safe loading of gear and passengers. Cluster docks could not accommodate more than 10 boats. Cluster dock configurations would generally conform to the schematic diagrams shown in the proposed SMP (figures 7-2 or 7-3), depending on shoreline bathymetry and on-site environmental conditions. Only one watercraft could be stored over night in each individual boat slip.

Enhanced View Areas. Enhanced view areas on project lands at the Boney Falls impoundment would be developed in the following manner:

- Any enhanced view area activities require prior written approval from UPPCO.
- As measured from the outer edge of the project boundary, enhanced view areas would be no longer than 200 feet in length and no more than 40 feet in width. If the distance from the Project Boundary to the water is greater than 200 feet, UPPCO would determine the feasibility of establishing an enhanced view area.
- The enhanced view area may be created by removing brush of less than 2 inches in diameter at a height of 5 feet above ground level and/or the trimming of tree limbs as approved by UPPCO. In addition, no eastern hemlock, den cavity/nesting trees,

wolf trees, and/or fruit and mast bearing trees may be removed or trimmed in the enhanced view areas.

- No ground-disturbing activity is allowed in the development or maintenance of the enhanced view area; stump removal is not permitted.

Enhanced view areas according to the requirements of section 7.3.3.3 of the SMP also could be constructed in the pedestrian path areas.

B. Recreational Enhancements

UPPCO proposes to fund numerous recreation enhancements within the project boundary of the Escanaba Project at the Boney Falls development as part of its overall SMP. The majority of these recreation enhancements are not currently required as part of the approved recreation plan. UPPCO proposes these recreational enhancements to accommodate anticipated increased general public recreation use of the impoundment that would occur naturally and increased use that may occur as the result of anticipated development of non-project lands in the vicinity of the project and increased economic activity in the region. In addition, some of the enhancements are being proposed to upgrade public boat access sites to conditions that would be more user-friendly and, in some cases, barrier free, in order to meet public expectations for water access. UPPCO would design, fund, operate, and maintain the proposed recreation enhancements.

For scheduling purposes UPPCO has selected amenities to existing formal public recreation facilities that would make them more user-friendly and accessible. In addition, UPPCO considered public requests by regular users as well as the levels of public and private recreational use associated with proposed non-project use of project lands. Table 2 shows the proposed recreation enhancements, priority, and implementation schedule.

Table 2. Proposed Recreational Enhancements

Recreational Enhancement	Facility/ Priority	Implementation Schedule
Install a historical interpretive sign for public education and viewing.	1	1-5 years after SMP approval
Develop a bathymetric map of the flowage for use by the general public.	2	1-5 years after SMP approval
Develop a recreation brochure for Boney Falls and make it available to the general public.	3	1-5 years after SMP approval
Install a public trail as part of a trail network around the impoundment.	4	1-5 years after SMP approval

The licensee states the proposed public trail referenced in the recreational enhancements above was specifically requested by the public during SMP development outreach meetings. UPPCO's proposed Conservation – Limited Public Trail Area classification would allow the placement of the public trail in consultation with the appropriate Resource Agencies to minimize impacts on sensitive environmental resources. The public trail would generally be located within 100 feet of the shoreline and would have a maximum width of 6 feet. Additionally, the trail would be developed and maintained in a manner that avoids where possible, and otherwise minimizes, the removal of vegetation. The licensee states where extreme topography or sensitive ecological areas warrant, steps or wooden walkways may need to be incorporated into the public trail.

UPPCO states it would use BMPs when constructing the public trail and would install necessary measures to prevent the erosion of soil into the water. Some portions of the public trail may not be constructed after detailed planning if trail construction and/or operation may result in significant resource impacts.

C. LMP Amendment

UPPCO proposes to classify all lands within the project boundary of the Boney Falls development in accordance with the proposed SMP and to prohibit all timber harvesting practices. UPPCO intends for the SMP to supersede the provisions of the LMP for the Boney Falls development; therefore, UPPCO proposes to amend the approved LMP to specifically exclude the Boney Falls development from the requirements of the LMP.

D. Action Alternative

No viable action alternatives have been identified for consideration.

E. No-action Alternative

Under the no-action alternative, the licensee would not implement its proposed SMP and would continue to manage the impoundment's shoreline under its existing license conditions and Commission-approved plans filed pursuant to license requirements as stated in section III, *Purpose and Need for Action*. The licensee would continue to permit activities and the placement of docks on a case-by-case basis, and therefore not benefit from an overall plan designed to protect environmental resources of the project.

V. CONSULTATION AND COMMENTS

This section discusses comments received on the proposed action as follows: (1) comments received during the preparation of the proposed SMP and (2) comments received during the Commission's public notice period for the proposed SMP.

A. Pre-Filing Consultation

In 2005, UPPCO originally worked with local governments in designing a draft plan for non-project uses of project land. After working with township and county governments, UPPCO conducted a public and agency outreach and education program. Through this process, UPPCO states it consulted with a representation of interests, including, but not limited to, some groups in opposition to the development and sale of non-project lands and any new uses of non-project and project land. This outreach resulted in agencies requesting the development of an SMP for the project.

UPPCO continued its outreach throughout the development of its SMP, involving the public and agencies by:

- Establishing a website with a comprehensive library of information on the land sale and shoreline management process as well as questions and answers about the project.
- Holding monthly stakeholder focus groups, consisting of representatives from economic development, government, hunting and fishing, and conservation groups in the Eastern and Western Upper Peninsula.
- Holding four public meetings to gather feedback.
- Providing a draft SMP for public and agency comment.
- Issuing news releases and fact sheets to media throughout the Upper Peninsula, sending informational letters to citizens in affected townships, and meeting with local media editorial boards.
- Meeting with state and Federal legislators, Resource Agencies, and hunting, fishing, ATV, and snowmobiling organizations.
- Conducting interviews with print and on-air reporters, responding to email information requests, and making presentations before township and county boards and planning commissions in and around the project.

In addition, postpaid, pre-addressed comment cards were made available at all public meetings, and the public was encouraged to contact UPPCO with their comments and suggestions.

The following Federal and state agencies worked collaboratively with the licensee during the pre-filing process: the U.S. Department of Agriculture (Forest Service-Hiawatha and Ottawa National Forests); the U.S. Department of the Interior (National Park Service and Fish and Wildlife Service); Michigan Department of Natural Resources; Michigan Department of Environmental Quality, Michigan Attorney General's Office, Michigan Hydro Relicensing Coalition; and Keweenaw Bay Indian Community.

Generally, the Federal and state agencies, private individuals, and public and private non-governmental organizations' issues concerned the potential impacts of implementing the proposed SMP on water resources, fishery resources, terrestrial resources, threatened and endangered species, aesthetic resources, cultural resources, recreation resources, and socioeconomic resources. Specifically, the Resource Agencies requested the licensee conduct 18 resource studies at the Escanaba Project. The licensee conducted 11 of the 18 studies requested, made modifications to 2 studies requested by the agencies, and did not conduct 5 studies requested by the Resource Agencies.

UPPCO did not conduct the water quality study, lake sturgeon study, and habitat surveys - Old growth, mesic conifer, and red oak-timber surveys - requested by the agencies stating that adequate data exists for these resources. The licensee also did not conduct a nuisance plants study requested by the agencies stating it is not necessary because the current project license already requires periodic nuisance plant surveys. BMPs would be implemented during ground-disturbing activity within the project boundary. The licensee also stated that homeowner restrictions on acceptable vegetation plantings were not within the purview of these studies. The agencies also requested an archaeological/geologic/cultural features study; however, the licensee states archaeological investigations were conducted during the relicensing phase of the project. Known significant archaeological/geological/cultural features would be mapped.

Common Loon Research and Conservation, the Resource Agencies (Michigan Department of Natural Resources, Forest Service-Hiawatha and Ottawa National Forests, FWS, National Park Service, Michigan Hydro Relicensing Coalition, and Keweenaw Bay Indian Community), John Novak, Merrill Horswill, and Barbara and Rick Querzi all state in comments filed with the Commission during its public notice period that the pre-filing environmental studies were inadequate because they failed to address the potential negative impacts of proposed private uses of project lands and waters. UPPAC, Tom Church, FOLK, Northwood Alliance Inc., Northwoods Wilderness Recovery and its executive director Douglas R. Cornett, Tom Wolfe, and Common Loon Research and Conservation also commented with the Commission that the licensee's pre-filing consultation process was flawed. Except as discussed in the appropriate resource sections of this document, we find that either UPPCO has adequately responded to the

agencies comments or that the issues raised are outside the scope of this environmental assessment (EA).

B. Public Notice and Commission Correspondence

On December 28, 2007, the Commission issued a public notice of the application for the proposal, which solicited comments, motions to intervene, and protests. The deadline for filing responses to the notice was January 29, 2008. Table 3 shows the entities who filed comments and/or motions; entities who filed late have been italicized:

Table 3. Entities who filed Comments and/or Motions Pursuant to the Commission Public Notice.

Entity	Filing Date	Comment and/or Motion
Upper Peninsula Public Access Coalition (UPPAC)	January 5, 2008 January 25, 2008	Intervention in protest Supplement to Intervention in protest with signatures on petition
U.S. Department of the Interior, Fish and Wildlife Service (FWS)	January 2, 2008	Correction to the Administrative Record
Lake Superior Community Partnership	January 7, 2008	Comments in support
Upper Peninsula Construction Council (UPCC)	January 9, 2008	Comments in support
Ontonagon Conservation District	January 10, 2008	Comments in support
SaveOurSchools/SaveOurShorelines (SOS)	January 17, 2008 January 25, 2008 January 29, 2008 January 30, 2008 January 30, 2008	Intervention in support Comments in support Comments in support Comments in support Comments in support
Michigan Department of Natural Resources (MDNR)	January 23, 2008	Intervention
Tom Church	January 23, 2008	Protest
John Novak	January 18, 2008	Protest
United States Department of the	January 24, 2008	Intervention

Entity	Filing Date	Comment and/or Motion
Interior		
Rachel Hovel	January 24, 2008	Requests a 30-day EOT for filing comments
William F. Delacourt	January 25, 2008	Intervention in support
Upper Peninsula Environmental Coalition (UPEC)	January 25, 2008	Intervention with comments
Friends of the Land of Keweenaw (FOLK)	January 26, 2008	Intervention in protest
Anglers of the Au Sable, Inc.; the Great Lakes Council, Inc. of the Federation of Fly Fishers, Inc.; the Michigan United Conservation Clubs; and the Michigan Council of Trout Unlimited (The Michigan Hydro Relicensing Coalition)	January 27, 2008	Intervention
Michigan Department of Natural Resources, U.S. Forest Service Hiawatha and Ottawa National Forests, FWS, National Park Service, Michigan Hydro Relicensing Coalition and Keweenaw Bay Indian Community (collectively "Resource Agencies")	January 28, 2008	Comments
Northwood Alliance, Inc.	January 28, 2008	Intervention in protest
Wells Township Board	January 28, 2008	Comments in support
County of Marquette	January 28, 2008	Comments in support
Tom Casperson, Michigan House of Representatives	January 25, 2008	Comments in support
Steven Lindberg, Michigan House of Representatives	January 25, 2008	Comments in support
Doug Welker	January 29, 2008	Comments in opposition
Common Loon Research and	January 29, 2008	Intervention not in

Entity	Filing Date	Comment and/or Motion
Conservation		support
Northwoods Wilderness Recovery and its executive director Douglas R. Cornett	January 29, 2008	Intervention in protest
Nancy Warren	January 29, 2008	Protest
Upper Peninsula Power (UPPCO)	January 28, 2008	Comments in support
Alger County Board of Commissioners	January 28, 2008	Comments in support
Western U.P. Michigan Works	January 28, 2008	Comments in support
Ontonagon County Board of Commissioners	January 28, 2008	Comments in support
<i>Merrill Horswill</i>	<i>January 30, 2008</i>	<i>Protest</i>
<i>Tom Wolfe</i>	<i>February 4, 2008</i>	<i>Protest</i>
<i>Barbara Querzi and Rick Querzi</i>	<i>February 4, 2008</i>	<i>Comments in opposition</i>
<i>Nicole Pollack</i>	<i>February 4, 2008</i>	<i>Comments and protest</i>

FWS filed a correction to the administrative record stating that UPPCO repeatedly asserts throughout the SMP that “based on our consultation with Christie Deloria (FWS), not all potential loon habitat requires protection.” FWS further states that, although Ms. Deloria has addressed loon habitats in other venues, such as with campground development and reorganization at the Bond Falls Project, she has not made statements of prioritization of habitats during SMP deliberations.

The MI Hydro Relicensing Coalition (which includes the Keweenaw Bay Indian Community, U.S. Forest Service, MI Department of Natural Resources, National Park Service, and FWS) commented that a water quality monitoring plan should be required, because of the potential for water quality impacts associated with increased recreation resulting from the SMP.

Common Loon Research and Conservation and in comments filed on January 28, 2008, the Resource Agencies state that a National Environmental Policy Act (NEPA) analysis is needed to fully analyze the direct, indirect, and cumulative effects on natural

resources of implementing the proposed SMP.⁵ The Resource Agencies further state that, although UPPCO has reduced some proposed non-project uses of project lands as compared to its draft SMP (e.g., reduced number of docks, no electricity at docks), most of the concerns raised in its May 21, 2007, comment letter remain unaddressed in the final SMP. The Resource Agencies state they remain concerned with the deficiencies in the environmental studies, the unwillingness to revise existing license plans to incorporate resource effects, and the potential adverse effects to resources. A list of concerns that have not been satisfactorily addressed in the final SMP were as follows: revision of license plans, conflict with license objectives, consistency with recreation plan and LMP, inadequate environmental data, shoreline classifications are confusing and allow non-project uses in areas that contain sensitive species or habitats, boating capacity, nuisance species, and the lack of monitoring and enforcement.

UPPAC, Tom Church, UPEC, Folk, Northwood Alliance, Inc., Doug Welker, Northwoods Wilderness Recovery and its executive director Douglas R. Cornett, Nancy Warren, Merrill Horswill, Barbara and Rick Querzi, and Nicole Pollack state the SMP would allow extensive shoreline development that is directly in conflict with the project license. UPPAC, Tom Church, FOLK, Northwood Alliance, Inc., Northwoods Wilderness Recovery and its executive director Douglas R. Cornett, Tom Wolfe and Common Loon Research and Conservation also state that the licensee's pre-filing public consultation process was flawed. UPPAC, FOLK, Northwoods Wilderness Recovery and its executive director Douglas R. Cornett, Merrill Horswill, Barbara and Rick Querzi, and Nicole Pollack state an environmental impact statement (EIS) should be completed prior to FERC approval of any conveyance of project lands because the pre-filing environmental studies were inadequate.⁶ Common Loon Research and Conservation also felt the pre-filing environmental studies were inadequate. In UPPAC's filing dated March 19, 2008, it comments on an ongoing Federal law suit between Naterra and UPPCO.⁷ Tom Church, and to some extent Nancy Warren and Merrill Horswill, further state the proposed exclusive use by the owners of the Non-Project Lands was intended to increase UPPCO and real estate developers' profit at the expense of natural resources and the other interested parties.

⁵NEPA requires Federal agencies to integrate environmental values into their decision-making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. This document initiates the NEPA process.

⁶NEPA requires federal agencies to integrate environmental values into their decision-making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. If the EA determines that the environmental consequences of a proposed federal undertaking may be significant, an EIS is prepared.

⁷Ongoing judicial procedures are outside the scope of this document.

Doug Welker and John Novak state concerns with the potential impacts on aesthetic resources if the proposed SMP is implemented. John Novak, Merrill Horswill, and Barbara and Rick Querzi further state the pre-filing environmental studies were inadequate because they failed to address the potential negative impacts of the proposed private uses of project lands and waters and potential negative impact on the segments of river designated under the Wild and Scenic Rivers Act.

UPEC and, to some extent, Northwoods Wilderness Recovery and its executive director Douglas R. Cornett, and Tom Wolfe, state the installation of private boat docks, pedestrian pathways, wooden walkways and stairs, clearing of view corridors, development of public trails systems, and the motorized use of project lands are inconsistent with the intent of the original license and further environmental analysis is needed. UPEC states concerns about the tourist industry and individual residents and further states the long-term economic health would be best served by keeping some of the forests, stream, and lakes in a wild natural condition. UPEC also stated the development of the project basin to increase the local tax base is not justified.

Merrill Horswill states a concern with the implementation of the proposed SMP with potential impacts on nesting waterfowl. Common Loon Research and Conservation stated UPPCO selectively used information and that the SMP fails to include comprehensive management and protection measures to ensure the suitability of the impoundments to support loons.

VI. ENVIRONMENTAL ANALYSIS

A. General Setting

The Escanaba River Basin has a drainage area of about 930 square miles. The basin comprises parts of Dickenson, Marquette, and Delta counties. With headwaters in western Marquette County, the Escanaba River flows southeasterly to its mouth at Little Bay De Noc, in Lake Michigan. The basin is elongated and irregular in shape, measuring about 67 miles long and about 26 miles wide at the longest and widest points, respectively. The Escanaba River Basin is bound on the north and northeast by land adjacent to Lake Superior; on the east by the Rapid River Basin and the Whitefish River Basin; and on the west by the Michigamme River Basin (a part of the Menominee River Basin). The three major tributaries, the West Branch, the Middle Branch, and the East Branch, all join the main stem from the northwest within a short distance of each other.

In Delta County, 638,000 of its 755,000 acres are forested lands. A total of 67,000 forested acres in Delta County are under industrial ownership. Agricultural lands in Delta County have been declining due to economic and socioeconomic trends in the region.

The Escanaba Project is located in the central portion of Michigan's Upper Peninsula. The project consists of three developments: (a) Boney Falls development, located approximately 22 miles northwest from the mouth of the Escanaba River at Lake Michigan; Dam No. 3, located about 5 miles from the mouth of the river; and (c) Dam No.1, located about 2 miles from the mouth of the river. The Boney Falls development is located approximately 7 miles north of the town of Cornell, Michigan, and 20 miles northwest of the town of Escanaba, Michigan.

The Escanaba Project is located in a rural region and the Escanaba River State Forest borders sections of Boney Falls. The State Forest contains 416,000 acres in the central Upper Peninsula. With the exception of one formal recreation facility, one informal recreation facility, a few homes at the south end, and gas and transmission line crossings just north of the Boney Falls development, the development's shoreline is undeveloped. In general, the Boney Falls impoundment has a narrow 200-foot strip of shoreline property within the project's boundary, which is managed as a buffer zone.

B. Scope of the Analysis

1. Geographic Scope

The geographic scope of this environmental analysis is focused on the immediate area of the shoreline and the 200-foot buffer zone within the project boundary. As appropriate, discussions of cumulative environmental effects are incorporated into the resource analyses in this document.

2. Temporal Scope

The temporal scope of this environmental analysis focuses on the period from now until the current project license expires in June 2035. The environmental effects of the entire project will be analyzed extensively during the license application process.

C. Environmental Analysis and Recommendations

UPPCO filed a proposed SMP for the Boney Falls impoundment at the Escanaba Project to address the land use pressures and potential impacts anticipated from the sale of adjacent non-project lands to residential real estate developers.

This section describes the affected environment of the Escanaba River and the general environmental effects of implementing the proposed SMP. Also, it provides FERC staff recommendations for reducing or avoiding any adverse impacts.

1. Geology and Soils

a. Affected Environment.

The topography of the area is dominated by large glacial outwash plains and low rolling hills or ridges with numerous scattered wet depressions. The project area is underlain by sandstone and limestone bedrock (FERC, 1994).

The soils along the shoreline of the Boney Falls impoundment and within the 200-foot-wide buffer zone are predominately composed of Sundell loam, Summerville and Cunard fine sandy loam, and Ensley muck (NRCS, 2008a; 2008b).

Shoreline erosion was not raised as an issue during the relicensing of the project in 1994 and 1995 (FERC, 1995b) and no erosion sites were identified on the SMP mapping.

Half (50 percent) of the shoreline is designated as lands associated with Project Operations and another 7.1 percent is designated as General Use/Formal Recreation Area. Both of these land designations allow development that could include, and/or encroach on, the shoreline. The soils in these areas include Reade silt loam, Nahma muck, Duel loamy sand, Trenary fine sandy loam, Charlevois sandy loam, and Ensley muck.

Four shoreline areas are identified as acceptable dock zones, and are all located along the western shore of the impoundment. The dock zones are located along the shoreline of lands designated as Conservation – Limited Public Paths and Limited Enhanced View Areas. Three of these areas are associated with Summerville and Cunard fine sandy loam and the most downstream area consists of Ensley muck. The dock zones apply to 16.7 percent of the shoreline.

Lands along the shoreline designated as Conservation- Limited Public Trails comprise 19.4 percent of the shoreline and are located in Sundell loam.

Despite the wide variety of soils along the periphery of the impoundment, few of the soil classifications are notably susceptible to erosion (NRCS, 2008c).

b. Environmental Impacts and Recommendations.

There are no indications that erosion is currently an issue anywhere along the impoundment. The proposed land use classifications allow development on a large percentage of the shoreline.

The proposed development of access trails across and along the buffer zone would increase potential erosion from runoff, although the proposed measures requiring trails to meander from the water's edge to the outer limit of the buffer and use of wood chips on the trails may reduce erosion potential somewhat. The construction, installation,

removal, and storage of temporary boat docks on the shoreline would increase the potential for erosion on the shoreline embankments. The development of view areas across the buffer zone by removing small trees would allow for thinning of the forest understory, which would produce some temporary erosion potential due to runoff if the roots of the trees are removed.

Potential upland development outside of the 200-foot buffer zone associated with future shoreline uses would reduce vegetative cover in the watershed and ultimately result in increased sedimentation and erosion in the impoundment. Upland development outside of the project boundary, however, is outside of FERC's jurisdiction and would not be managed under the proposed SMP.

The extent of the potential erosion is difficult to assess because there are no established plans for development of the lands adjacent to the buffer zone. The licensee states in its proposal that a maximum of 24 private boat slips are proposed at the Boney Falls impoundment. The SMP includes provisions for the protection of the impoundment shoreline by allowing minimal activity by following specific design criteria. This would prevent erosion and runoff from construction along the shoreline. Approval of the SMP with the proposed use of the design criteria and BMPs would likely protect the project's resources from short-term erosion potential that could be caused by future construction of pathways and docks and related facilities in the water. Activities allowed under the SMP would allow for more compact surfaces that would result in greater run-off which would have a minor long-term erosion potential.

Implementation of the proposed SMP would result in some unavoidable sedimentation and erosion as the development allowed by the SMP is realized. However, if the anticipated development occurs gradually, and if the licensee continues to adequately implement the proposed plan's shoreline management guidelines and associated programs, including the stabilization technique selection process and use of BMPs, the unavoidable impacts on soils are not expected to be significant.

2. Water Resources

a. Affected Environment.

The Boney Falls development of the Escanaba Project has a 220-acre impoundment with a total storage volume of 2,300 acre-feet at the normal maximum surface elevation 906.58 feet USGS datum. The impoundment is about 1.3 miles long with a maximum width of about 2,000 feet at its downstream end, but is only about 250 feet wide at its upstream end. The median flow at the Boney Falls development is 452 cfs, and the development operates in a run-of-river mode with a constant reservoir target elevation of 906.58 feet.

The state of Michigan has classified the Boney Falls reach of the Escanaba River as a coldwater fishery, which has a maximum monthly temperature standard ranging from 38 degrees Fahrenheit (°F) in January to 68°F in June, July, and August, with a minimum dissolved oxygen (DO) standard of 7.0 mg/l. FERC (1994) reported that the coldwater fishery standard for DO levels is generally met at Boney Falls, but that the temperature standard is occasionally exceeded downstream of the Boney Falls development. FERC (1994) stated, however, that the waters in the Boney Falls impoundment normally remain cool, and flow augmentation releases are made to help protect the put-grow-and-take brown trout fishery in the river below the dam.

b. Environmental Impacts and Recommendations.

Approval of the SMP with the shoreline protection measures would likely protect water quality in the impoundment from the effects of future construction of docks and related facilities in the water. The SMP includes provisions for protection of 35.7 percent of the reservoir shoreline, so that development would not be allowed or only allowed following specific design criteria. An additional 7 percent of the shoreline would allow general/recreation, while 50 percent of the shoreline would be maintained for project operations, which would also preclude shoreline development. This would prevent effects on water quality associated with erosion and runoff from construction along the shoreline. The licensee does not propose any changes in reservoir operations from the current license conditions.

The MI Hydro Relicensing Coalition (which includes the Keweenaw Bay Indian Community, U.S. Forest Service, MDNR, National Park Service, and FWS) commented that a water quality monitoring plan should be required, because of the potential for water quality impacts associated with increased recreation resulting from the SMP. In particular, the potential addition of 24 private boat slips on the reservoir would lead to an increase in motorized boating on the reservoir and associated pollution. UPPCO stated that a water quality monitoring plan is not required because the potential for effects on water quality is low, and it is unaware of any other lakes in the area that were required to implement a monitoring plan with an increase in recreational usage.

The addition of the boat slips/docks is the only component of the SMP that would have the potential to affect water quality. The installation and removal of the boat slips would have the potential to disturb the reservoir bottom, whether the boat slips are floating (with anchors) or free-standing (with roller supports). Although the effects would be short-term and generally restricted to the immediate dock area, there would be the potential for some disturbance of bottom sediments and an increase in turbidity during installation and removal. The total number of docks that would actually be placed in the reservoir is unknown at this time. Although the licensee states there is the potential for a total of 24 private boat slips, the schedule for development may be spread over many years, depending on the demand for boating in the reservoir, so any impacts related

to dock installation would similarly be spread over many years. Increased motorized boating in the reservoir would increase the potential for water quality effects, associated with oil and gas leakage from outboard motors, and the release of sewage from the boats. Although sewage discharge from boats would be prohibited, some leakage or illegal discharge of sewage may occur in small quantities. The overall effects of motorized boating, however, may not be substantial in that this boating may take some years to become fully established on the reservoir. In addition, motorized boating is generally not considered a major water quality issue – motorized boating is allowed and encouraged on lakes and reservoirs throughout the United States. Motorized boating would have no effect on water temperatures or DO concentrations in the reservoir, so the existing coldwater fishery criteria would not be violated as a result of any increased boating. For these reasons, we conclude that water quality would not be significantly affected and a water quality monitoring plan would not be required.

3. Fishery Resources

a. Affected Environment.

The Boney Falls impoundment is a relatively small water body of only 220 acres, with storage capacity of about 2,300 acre-feet. The impoundment supports a mixed warmwater/coldwater fishery for smallmouth bass, walleye, rock bass, brown bullhead, white sucker, brown trout, and brook trout. The river downstream of the dam supports an important put-grow-and-take brown trout fishery.

b. Environmental Impacts and Recommendations.

Implementation of the proposed SMP would not change project operations. Generally, there would be no effects on the fishery resources in the reservoir. None of the commenting parties made any specific recommendations regarding fishery resources, in response to the Commission notice of the SMP, and implementation of the SMP would not require any specific mitigation for resident fishes. During pre-filing consultations on the SMP, agencies requested a lake sturgeon study. UPPCO did not conduct this study, stating that information on lake sturgeon spawning habitat was already available. We agree that another lake sturgeon study would not be required, related to the SMP, because implementation of the SMP would not adversely affect fishery resources.

Shoreline protection measures to be implemented as part of the SMP would act to protect near-shore shallow-water habitat that is important for fish spawning and juvenile rearing. Protection of shoreline vegetation along 35.7 percent of the reservoir shoreline that would be classified as conservation lands, plus the additional 50 percent of the shoreline reserved for project operations, would prevent erosion and sedimentation (associated with any shoreline construction activities) from reaching this important shoreline habitat.

As discussed in section VI.C.2, *Water Resources*, the installation and removal of the proposed docks/boat slips would disturb some of the shallow-water near-shore habitat. Installation and removal of anchors and “launching” and removal of docks with wheeled supports would disturb bottom sediments and affect submerged aquatic vegetation in the immediate area, resulting in the loss of some fish habitat. This habitat, however, would reestablish once the disturbance related to installation and removal subsides. The SMP would also prohibit installation of docks before Memorial Day in late-May, so the spring-spawning species, which would typically spawn before Memorial Day, would be protected. During boat operations near the docks in the summer months, there also would be the potential for disturbance of the reservoir bottom associated with propeller strikes or boats running aground, but the overall area of aquatic habitat likely affected would be small. A potential benefit of the docks would be to provide shade and cover for reservoir fishes.

4. Terrestrial Resources

a. Affected Environment.

The Boney Falls impoundment shoreline is generally undeveloped and surrounded by northern hardwood communities dominated by American beech, sugar maple, red maple, black cherry, aspen, white birch, yellow birch, and basswood. Conifer species including red pine, white pine, balsam fir, white spruce, and eastern hemlock also occur in these communities. Few remnant old growth individuals taller than the surrounding hardwood canopy remain in the area following a history of fires and logging. Balsam fir, northern white cedar, and dogwood saplings dominate the mid-story. Groundcover species include raspberry, red elderberry, gooseberry, bracken fern, lady fern, wild sarsaparilla, meadow rue, trillium, and violet. Other land cover types in the Boney Falls basin include agriculture and developed/industrial.

In June 2006, UPPCO surveyed the Boney Falls shoreline for rare, threatened, or endangered species habitat, and nuisance plants (E-PRO, 2006). UPPCO did not observe any federal- or state-listed rare, threatened, or endangered plant species. However, state-listed threatened wild chive (*Allium schoenoprasum*) and New England blue violet (*Viola novae-angliae*), and state species of special concern wild oat grass (*Danthonia intermedia*) were observed on the east bank of the reservoir during the licensing process. Additionally, the Escanaba LMP reports state species of special concern meadow-rue (*Thalictrum venulosum* var. *confine*) and slender cliff-brake (*Cryptogramma stelleri*) are reported to be in the Boney Falls area. E-PRO surveyors observed reed canary grass, an invasive grass that occurs in wet areas. Reed canary grass is not on the state of Michigan or federal noxious weed lists.

In June 2006, UPPCO conducted wetland surveys along the Boney Falls impoundment shoreline, and results showed two vegetated wetland types. These were classified in accordance with Cowardin et al. (1979) and consisted of the palustrine

emergent persistent (PEM1), combination Palustrine Emergent Persistent/Scrub-shrub Broadleaved Deciduous (PEM1/PSS1) cover types. These occurred in coves and other areas along the western and eastern shorelines that are not subjected to excessive wind, waves, or flow. Dominant plant species observed within the emergent wetland cover types reed canary grass, tussock sedge, broad-leaved cattail, burreed, lake sedge, and soft stemmed bulrush, sensitive fern, and blue flag iris. Plant species that were common to the combination emergent/shrub wetland cover types included reed canary grass, tussock sedge, soft stemmed bulrush, sensitive fern, blue flag iris, broad-leaved cattail, sandbar willow, tag alder, silky dogwood, and sweet gale. This wetland cover type commonly had a small forested wetland fringe with a tree overstory primarily composed northern white cedar, silver maple, black ash, black spruce, tamarack, and balsam fir.

The Boney Falls basin provides a variety of wildlife habitat, and most of the animal species that are common within the Upper Peninsula of Michigan also occur within the project. Typical game species include black bear, white-tailed deer, and beaver. Common non-game mammals include red, grey, and fox squirrels; eastern cottontail and snowshoe hare; mink; weasel; raccoon; otter; bobcat; and coyote. Wetland habitats within the project provide habitat for a variety of reptiles and amphibian species including green frog and garter snake. Throughout the year, the project also supports a diverse bird community that includes year-round residents, breeders, and transients that stop to rest and feed during migrations. Common upland species include Blackburnian warbler, chickadee, ruffed grouse, evening grosbeak, tree swallow, and eastern wood-pewee. Waterfowl species include mallard, green-winged teal, bufflehead, Canada goose, common merganser, pied-billed grebe, ruddy duck, ring necked duck, wood duck, and American black duck. Several raptors and other predatory species are also prevalent and include red-tailed hawk, broad-winged hawk, and belted king fisher.

In addition to those listed above, two state-listed threatened species, osprey (*Pandion haliaetus*) and bald eagle (*Haliaeetus leucocephalus*), are reported to occur within the project. Surveyors did not observe any nests for either species, but suitable nesting trees may occur within the project area (E-PRO, 2006). Federally listed species are discussed in section V.C.5, *Threatened and Endangered Species*.

Wildlife within the project area are currently managed in accordance with the project's wildlife management plan (WMP), which includes measures to protect and enhance wildlife habitat and promote wildlife use of the project area. Specific measures in the plan related to wildlife at Boney Falls include (1) minimize human activity to reduce disturbance to nesting raptors; (2) monitor purple loosestrife and Eurasian milfoil to protect wetland habitat; and (3) construct and install wood duck boxes, osprey nest platforms, mallard nesting platforms, a purple martin house, bluebird houses, and bat houses.

b. Environmental Impacts and Recommendations.

To promote the protection of environmental resources, UPPCO's SMP classifies non-project operations areas within the 200-foot buffer surrounding the Boney Falls impoundment into three categories: Conservation – Limited Public Path and Limited Enhanced View Area, and General Use/Formal Recreation Area (see section IV.1 for complete descriptions of these classifications). Activities permitted by or resulting from implementation of the SMP that could affect vegetation and wildlife in the project boundary include (1) removal of forest undergrowth and tree limbs to create pedestrian access paths and enhance lake views from adjacent properties; (2) installation of seasonal docks and access ramps; (3) creation of a public recreational trail around the perimeter of the reservoir; and (4) increased human activity.

Vegetation

Under the proposed SMP, UPPCO would permit some limited vegetation removal in all non-project operations zones. To minimize environmental effects, landowners could remove only shrubs less than 2 inches in diameter at a height of 5 feet, and tree limbs below a height of 8 feet above paths and trails. Landowners could remove such vegetation only within the 4-foot width of paths and the 6-foot width of the public trail. UPPCO would limit path construction by requiring abutting parcel owners share a common path and requiring new paths to follow existing paths wherever possible. UPPCO could allow additional limb removal in the 40-foot width of enhanced view, subject to approval by UPPCO. UPPCO would also permit the removal of shrubs meeting the above size restrictions within enhanced view areas. The SMP would not allow removal or trimming of eastern hemlock, den cavity/nesting trees, wolf trees, or fruit or mast bearing trees. Additionally, the SMP would not permit ground disturbance or stump removal within enhanced view areas. In all areas not permitted for trail, path, or enhanced view clearing, the SMP would prohibit non-project related activities and vegetation disturbance. UPPCO also proposes to remove all lands within the project boundary at the Boney Falls development from the Escanaba Project LMP because timber harvesting would no longer be permitted on project lands.

The Resource Agencies expressed concern that the removal of vegetation as permitted by UPPCO's SMP would not promote the development of a diverse forest and would result in the reduction of the forest understory canopy. The Resource Agencies also commented that the LMP contains objectives that would still be valuable at the Boney Falls impoundment, even though timber harvesting would not occur. The Resource Agencies oppose the removal of the Boney Falls impoundment from the LMP.

Removal of shrubs and tree limbs for the construction of trails, paths, and enhanced view areas would have an unavoidable negative effect on wildlife habitat. Wildlife species including a variety of perching birds, ground nesting birds, and small mammals utilize the shrubby mid-story canopy and cover provided by shrubby vegetation

for nesting, foraging, and protection from predation. As proposed, 16.7 percent of the shoreline perimeter is within conservation zones where the SMP would permit clearing for enhanced view areas and pedestrian paths. The creation of enhanced view areas and paths would result in some reduction of mid-forest canopy and shrub cover and decrease habitat connectivity within this layer. These effects would reduce nesting and perching habitat for some bird species, and reduce protective shrub cover for ground nesting birds and small mammals. The reduction in habitat connectivity would limit the ability of wildlife to move throughout the area while remaining within preferred habitat. Reduced connectivity also creates increases in edge habitat and could reduce the size of intact, non-effected forest patches to the point that they are not suitable for some species. The permitting process would limit disturbance in these areas because it requires landowners adjacent to UPPCO lands to receive UPPCO approval prior to removing vegetation.

A clear benchmark for unacceptable reductions in habitat connectivity does not exist. The degree that habitat fragmentation affects wildlife varies by species, with some species preferring edge habitat and others preferring intact forest patches. However, theories of landscape ecology suggest that as patches of suitable habitat are removed, there is a non-linear relationship between the proportions of original habitat remaining and mean patch size and isolation (Turner, 1989; Gardner and O'Neill, 1991; Gustavson and Parker, 1992). For example, once 60 percent of suitable habitat is removed in a random pattern, patches of remaining habitat become isolated, or surrounded by non-suitable habitat. With less than 60 percent removal of suitable habitat, habitat patches remain connected with isolated areas of non-suitable habitat (Gardner and O'Neill, 1991). As patch size declines, the proportion of the patch area that functions as edge habitat increases. In northeastern deciduous forests, edge associated gradients in microclimate components like light availability, temperature, and soil moisture were detected up to 50 meters (150 feet) into the forest (Matlack, 1993). As such, a forest patch would need to be at least 300 feet in diameter to contain interior forest.

In the case of the proposed SMP, habitat removal would not occur randomly but would consist of bands of view enhancement areas that run the length of the 200 foot buffer zone. As the density of these bands increases with increases in parcel density, the width of the un-cleared area between them decreases. The potential for an intact forest patch to function as interior forest and not forest edge would be dependent on the patch width, or the distance from the center of the intact patch to view enhancement clearings on either side. The width of forest edge area created by view enhancement clearing is not expected to be as great as the 150 feet cited above because not all of the vegetation would be removed. Shrubs and trees that are too large (greater than 2 inches at a height of 5 feet) to be cleared would continue to provide cover. Additionally, because the proposed SMP would prohibit vegetation clearing in the majority of the project area, much of the existing interior forest would remain functional.

The selective removal of tree limbs would have a similar effect on the canopy layer in the forest, decreasing habitat and connectivity. The removal of limbs would also reduce canopy cover, allowing more sunlight to reach the forest floor and changing microhabitat conditions like temperature and humidity. However, because UPPCO would evaluate limb removal on a case-by-case basis, and limit the types of trees that would be pruned, effects would not be as great in this layer of the forest. The effects of the SMP would depend on the proportion of vegetation within the 200-foot buffer that would be removed for the construction of trail, path, and enhanced view areas. Low levels of removal, relative to existing conditions, would have minimal effect. However, if permitted removal quantities result in a reduction of most of the existing vegetation, effects would include changes in wildlife communities, shifting towards species adapted to open forests.

Although UPPCO has developed design criteria for enhanced view areas and paths, states that site visits may be required, and states that violations may lead to cancellation of permits, removal of encroachments, and/or remediation of damages, the proposed SMP does not adequately address UPPCO's monitoring of such activities. Without proper guidance, the potential for landowners to accidentally remove vegetation restricted by the SMP is high. Additionally, without visiting a site prior to vegetation removal, it would be difficult to determine whether violations occurred. Remediation of such violations would be difficult, and may not be possible. Pre-clearing site visits could flag the boundary of the area to be cleared, flag stems that are restricted from cutting due to size and/or species, identify tree limbs where trimming would be allowed, and ensure that no sensitive plant species would be effected. Thereby assuring that the landowner would be in compliance with the design criteria. A pre-clearing visit would also provide UPPCO a baseline condition of the area, and enable the accurate identification of violations during a post-clearing site visit. If UPPCO would commit to pre- and post-clearing site visits, the potential for accidental violations to the design criteria, and the resulting effects on vegetation would be minimized.

UPPCO's proposed SMP would supersede the LMP and effectively exclude the Boney Falls impoundment from the existing plan. The objectives of the existing plan are to (1) protect the natural character of the project shoreline; (2) identify specific areas designated for recreational development; (3) protect identified sensitive wildlife habitat and threatened and endangered species; (4) establish timber production guidelines on project lands; and (5) describe appropriate measures for protecting the existing scenic character of the shorelines by screening clearcut harvest activities adjacent to project lands. Objectives 1, 2, and 5 are discussed in the Recreation and Visual resource sections, and objective 4 is no longer relevant because UPPCO would no longer permit timber harvesting. Objective 3 is duplicated in the WMP, which UPPCO would continue to adhere to. As such, it would not be necessary to continue to include the Boney Falls development in the LMP to protect terrestrial resources.

Wetlands

In the proposed SMP, UPPCO states that potential effects on wetlands would be limited to the creation of paths, the public recreational trail, and seasonal access ramps to docks. While siting and constructing the public recreation trail, UPPCO would consult with resource agencies and work to avoid effects on wetlands wherever possible. In instances where wetland crossings are unavoidable, UPPCO may incorporate steps or wooden walkways. According to the SMP, if construction or maintenance activities would result in unacceptable effects, UPPCO may not construct some portions of the trail. UPPCO would determine the location of docks based on bathymetric, topographic, and on-site environmental data so as to minimize wetland effects. UPPCO also notes the prevalent occurrence of wetlands throughout the project area and states that any potential effects would not affect the overall function of this habitat.

The Resource Agencies expressed concern that UPPCO's SMP does not adequately protect wetlands. They assert that wetlands are important to overall ecological health, and UPPCO should make every effort to protect and enhance these areas. The Resource Agencies do not support the use of these areas for any non-project use.

Wetlands are a prevalent component of the shoreline surrounding the Boney Falls impoundment and the importance of this habitat type to ecological health includes improvements to water quality, providing habitat for wildlife, and preventing shoreline erosion. In many cases, identified wetlands within the project area are surrounded by the Conservation – Limited Public Trail classification. However, there are also many instances where wetlands are abutted by Conservation – Limited Public Path and Limited Enhanced View Area and General Use/Formal Recreation Area. Wetland effects would occur if paths, trails, or docks were constructed in any wetland habitat. Of particular note are instances where PEM/PSS1 wetlands are adjacent to Conservation – Limited Public Path and Limited Enhanced View Areas. If UPPCO allows the removal of wetland shrubs in these areas, following the guidelines set forth under the Enhanced View clearing protocol, PEM wetlands would replace the PSS1 wetlands, reducing habitat for birds and other wildlife species that prefer the scrub-shrub wetlands. Increased human presence both on shore and in boats would also affect wetlands, which would result in the displacement of some wildlife. If the proposed SMP included language prohibiting the removal of vegetation in PSS1 wetlands, and stipulated that the U.S. Army Corps of Engineers were to be consulted on any unavoidable effects under Section 404 of the Clean Water Act, effects on wetlands would be further minimized.

Noxious Plant Species

Vegetation removal and increased human presence in the project area could result in an increased potential for nuisance species establishment. To mitigate these effects, UPPCO proposes to conduct a public awareness program using materials previously

prepared by resource agencies and continue following the existing approved Noxious Plant Control Plan targeted at purple loosestrife and Eurasian water milfoil. UPPCO also proposes to monitor and control additional nuisance species identified by the resource agencies, provided the agencies have effective, economical, and reasonable control techniques to extirpate species from the reservoirs as demonstrated through the agencies' own control programs.

The Resource Agencies assert that monitoring of nuisance species should not be restricted to those that may be extirpated, but that a more realistic goal would be to control introduced populations. Furthermore, the Resource Agencies suggest that monitoring and control would be warranted for any species that is known to have negative environmental effects, not just species for which successful control measures have been developed. The Resource Agencies request that the noxious plant monitoring plan (NPMP) be rewritten to address new threats and expand monitoring and control efforts.

The removal of woody forest vegetation would allow additional sunlight to reach the forest floor. Additional sunlight and increased temperature would change microhabitat conditions and potentially alter the composition of forest floor vegetation. This change in microhabitat combined with soil disturbance associated with path and trail construction would increase the potential for invasive terrestrial weeds to colonize that area. UPPCO's proposed community education plan and additional monitoring for species not already identified in the approved NPMP would partially mitigate the potential for nuisance species to have negative ecological effects. However, because the degree to which the SMP would result in disturbance to forest vegetation (i.e., acreage of enhanced view areas or feet of trails permitted) is currently unknown, it is not possible at this time to adequately evaluate the threat of noxious weed introduction. As currently written, the NPMP only includes monitoring of aquatic and wetland areas. The plan does not evaluate the potential introduction of terrestrial invasive species. If UPPCO would evaluate the expected effects on vegetation in a quantitative manner and work with resource agencies to develop an appropriate monitoring and control plan, the risk of a negative effect resulting from noxious weeds would be minimized.

Wildlife

To minimize potential effects on wildlife, UPPCO's proposed SMP would place limits on the types and quantities of vegetation that landowners could remove to create trails, paths, and enhanced view areas; thereby limiting effects on wildlife habitat. The SMP specifies that all other areas be left in a natural state and any non-project activities are prohibited. Additionally, UPPCO would continue to adhere to the approved WMP.

The Resource Agencies state that vegetation removal permitted by the SMP would result in the reduction of wildlife habitat in the forest understory. The Resource Agencies also state that increases in human presence may result in disturbance to local wildlife and

that the proposed SMP conflicts with Article 416 of the project license. The agencies point out that the proposed enhanced view clearing areas overlap with existing wood duck boxes that were installed in compliance with Article 416.

In comments filed with the Commission, numerous individuals and organizations, including the Upper Peninsula Public Access Coalition, the Upper Peninsula Environmental Coalition, Friends of the Land of Keweenaw, the Michigan Hydro Relicensing Coalition, Northwood Alliance, Common Coast Research and Conservation, and Northwoods Wilderness Recovery, wrote that the proposed SMP would result in the reduction of wildlife habitat and increased human disturbance to wildlife. Comments also included concerns about increases in habitat fragmentation and that the study of existing natural resources was inadequate. Numerous other individuals and organizations, including state representatives, the Alger County Board of Commissioners, the Lake Superior Community Partnership, and Save Our Schools/Share Our Shorelines, wrote that UPPCO has sufficiently incorporated protection to wildlife within the SMP.

The proposed SMP's effects on wildlife would depend on the quantity of overall reductions in vegetation permitted by UPPCO and increases in human activity. The potential exists for reductions in understory canopy as shrubs and tree limbs are cleared around trails, paths, and enhanced view areas. This structure provides perching and foraging habitat for a variety of birds present in the project area including wood thrush, chickadee, and eastern wood pewee. Increases in human presence within the 200-foot buffer area and on the lake would likely result in some wildlife avoiding areas of expanded human disturbance. The proposed limits on vegetation removal should preserve most wildlife habitat in the project area. However, over the long term, it is anticipated that the dominant wildlife species would be those most accustomed to living in proximity to humans.

Management objectives presented in the existing Escanaba WMP include minimizing human activity at Boney Falls. These measures were incorporated into the WMP to prevent disturbance to wildlife. The proposed SMP would increase human activity with the construction of boat docks, paths, and trails. As proposed, the SMP would conflict with the Article 416 objective of minimizing human activities at Boney Falls. If UPPCO would implement a revised WMP that mitigates for the effects of increased human activity, including the relocation of nesting structures from within areas proposed for enhanced view areas, trails, paths, or recreation to areas where less human activity would occur, effects on wildlife could be reduced.

Bald Eagle

To minimize potential impacts on bald eagles, the proposed SMP would not permit any removal or trimming of eastern hemlock, wolf trees, fruit or mast bearing trees, or den cavity/nesting trees. UPPCO would designate lands surrounding existing nests as Conservation – Limited Public Trail. UPPCO would also identify 330-foot

buffers around future nests and route public paths and recreational trails to avoid these areas. UPPCO would place signs in aquatic areas marking the buffer and requesting that boaters avoid the area during the breeding season. Additionally, UPPCO would continue to follow protocols approved within its threatened and endangered species plan, which includes restricting human activity near nesting areas and limiting tree removal in the 200-foot buffer area.

The Resource Agencies state that increases in human activity and the removal of vegetation resulting from the proposed SMP would have impacts on the bald eagle.

Implementation of the proposed plan has the potential to impact bald eagles through increased human presence within the project area and the removal of vegetation suitable for bald eagle roosting and nesting. The construction of docks and resulting increases in boat traffic would increase disturbance to foraging eagles that are sensitive to noise. It is not possible at this time to determine if such disturbance would be detrimental to the local eagle population because eagles vary in their sensitivity to human presence, and the future level of boat activity is unknown. However, UPPCO's proposed protection measures, along with its continued implementation of the bald eagle management/monitoring provisions of the threatened and endangered species plan would address potential impacts of the SMP on bald eagles. In addition, effects on bald eagles would be further minimized if UPPCO broadens its protection of super canopy trees and periodically updates the SMP in coordination with Resource Agencies (see Section VI.C. 8. of this EA). Regarding the protection of super canopy trees, UPPCO stipulates that no eastern hemlock trees would be removed or limbed, however no similar restriction is placed on red pine or white pine, both of which occur in the area and may provide habitat for eagles. Broadening the restriction to all super canopy trees would minimize the potential for reducing bald eagle roosting and/or nesting areas.

5. Threatened and Endangered Species

a. Affected Environment.

During the consultation process, the only species identified by FWS potentially requiring Section 7 consultation was the Canada lynx (*Lynx canadensis*). The Canada lynx is listed as threatened under Section 7 of the Endangered Species Act. Lynx prefer dense, mature stands of conifer or mixed conifer forests and are highly sensitive to the presence of humans (Michigan Natural Features Inventory, 2007). Common prey items include small mammals, beaver, deer, and birds, although the snowshoe hare is their primary prey. In Michigan, recorded observations of Canada lynx exist in Keweenaw and Mackinac counties. There is no record of the species within Delta or Marquette counties. Forest within the project area may be suitable for lynx; however, due to the narrow buffer of land managed by UPPCO, there would not be sufficient habitat area to

support this species. If lynx are present in areas adjacent to the project, they could use project lands for dispersal, or as a component of their range.

b. Environmental Impacts and Recommendations.

Implementation of the proposed SMP would result in the removal of some mid-story and some upper story forest vegetation. Additionally, human presence within and adjacent to the impoundment is expected to increase in conjunction with increased development. However, UPPCO would continue to manage those lands within the 200-foot buffer not subject to Enhanced View treatments, paths, or public trail as mature mixed forest. In their January 28, 2008, letter Resource Agencies did not make any comments directly related to the Canada lynx.

Canada lynx are secretive and sensitive to human presence. If development and human activity within and adjacent to the Boney Falls impoundment occur, it is unlikely that lynx would use this habitat. However, because there is no evidence that lynx have used this habitat in the past, the proposed project would have no effect on the Canada lynx.

6. Aesthetic Resources

a. Affected Environment.

The Boney Falls impoundment is located within the lower, flatter portion of the central Upper Peninsula. The overall character has been altered by a long linear dam and flanking dikes creating an unnatural linear edge along portions of the east and west shores; a few homes at the south end, and gas and transmission line crossings just north of the project boundary. The northern section narrows, creating a more intimate setting which feels more natural in character, except for the transmission and gas line crossings. The water of the impoundment is colored as a result of high tannin concentrations that occur naturally. The Boney Falls development is operated in a run-of-river mode; therefore, there are no marked changes in water levels (E-PRO, 2006).

b. Environmental Impacts and Recommendations.

Over the long-term, additional shoreline development at the Boney Falls development would likely occur under the proposed SMP. If developed to the fullest extent, this development would alter the existing landscape at the reservoir. The licensee states that a maximum of 24 private boat slips are proposed at the Boney Falls development. Over time, the scenic character of the reservoir would change from a rural, wilderness nature to a more developed landscape, consisting primarily of residential boating facilities that serve single- and multi-family dwellings.

Doug Welker and John Novak filed comments with the Commission stating concerns with the potential impact on aesthetic resources. The licensee's proposed SMP for the Boney Falls impoundment includes approved dock zones that were selected to minimize visual impacts. To further minimize visual impacts at the Boney Falls impoundment, UPPCO would require the docks be low profile and utilize natural (muted) colors that do not stand out against the background landscape. Additionally, the installation of boat lifts and associated permanent dock lighting and electric service would be prohibited. The physical presence of the proposed boat docks would have a minor, long-term visual impact on the shoreline. Increased boating use on the reservoir would create long-term, intermittent noise impacts in the immediate vicinity.

7. Cultural Resources

a. Affected Environment.

The area of potential effects (APE) for this undertaking includes all lands within the project boundary around the Boney Falls impoundment. Review of the *National Register of Historic Places* does not indicate the presence of any historic properties within the APE for the project (NPS, 2008).

Historic properties eligible or potentially eligible to be listed in the National Register of Historic Places include the dam and powerhouse complex of the Boney Falls development. Archaeological site potentially historic includes 20DE331. Archaeological sites that might have archaeological importance include 20DE281, 20DE282, 20DE283, and 20DE332.

As a result of the data collection effort for the proposed SMP, UPPCO has retained a qualified archaeologist to survey all previously unsurveyed upland areas within the project boundaries. Copies of the reports of these studies have been forwarded to the Michigan State Historic Preservation Office as part of UPPCO's annual FERC submittal in 2005 and 2006 of all activities regarding historic resource compliance at the project.

A Programmatic Agreement (PA) was executed on February 25, 1994.⁸ Article 411 requires the licensee to implement the PA. The PA required the licensee to develop a cultural resources management plan (CRMP) which was filed for Commission approval on January 10, 1997. The CRMP was found by Commission staff to have met the requirements of the PA and was approved on May 20, 1997. The CRMP identifies the project's operation and maintenance actions which will require consultation with the State Historic Preservation Officer (SHPO) and also categorical exclusions that do not require

⁸Signatories to the PA include the Federal Energy Regulatory Commission, State Historic Preservation Officer, and the Advisory Council on historic Preservation. Concurring parties included the licensee.

notification or consultation. The CRMP also addresses the evaluation of historic sites not currently identified, the biennial monitoring of the shoreline for excessive erosion, future surveys, data recovery plans, and disposition of cultural and human remains.

b. Environmental Impacts and Recommendations.

In the future, we expect that shoreline development would occur on the Boney Falls impoundment under the proposed SMP. As a result, there is the possibility of disturbing cultural resources at locations of ground-disturbing activity where shoreline facilities, such as boat launches, ramps, piers, barrier-free shoreline fishing areas, and ancillary facilities, would be constructed.

No activities are proposed in areas with known historical resources. All known cultural resources have been mapped and included in the SMP classification as "Conservation." Unearthing archaeological artifacts or disturbing historically significant areas during any construction is a possibility and is considered a potential adverse impact of future development, including that which could occur under the proposed SMP. Disturbing currently unidentified archaeological sites could result in a loss of the sites' integrity and information that the site may offer. If sites are discovered during the implementation of an activity at the project, the licensee is required to follow the procedures outlined in the CRMP and the PA. Given this information, we find that implementation of the executed PA and CRMP would provide for adequate protection of historic properties, as it relates to the implementation of the proposed SMP.

8. Recreation and Land Use

a. Affected Environment.

The Upper Peninsula of Michigan is known for its remote, rural features, and outdoor recreation opportunities are abundant. Historically, recreation in the Upper Peninsula centered around outdoor-oriented activities, primarily hunting and fishing. The fishery resources in the Escanaba River, in the reach between the Boney Falls development and the Dam No. 3 impoundment, began as a put-and-take trout stream in the late 1940s when the Michigan DNR introduced rainbow and brown trout (FERC, 1995).

The Escanaba River Project is located on the Escanaba River in Marquette and Delta counties. Current recreational use in this region includes a variety of activities: boating, swimming, fishing, camping, skiing, snowmobiling, ice-fishing, hunting, and viewing the fall colors. Delta County is bordered by 211 miles of Lake Michigan shoreline, and has 148 inland lakes and approximately 514 miles of rivers and streams. Winter recreation is popular in this region. Many of the recreation sites associated with these resources are owned and operated by the Delta County Parks Department (UPPCO, 2007).

Delta County has 71,568 acres of public lands that are available for use by the general public. There are 5 pathways totaling 25 miles for various recreation activities. There are 2 parks and campgrounds with 156 acres available for public use. Two other day-use facilities can be found within Delta County (UPPCO, 2007).

The Escanaba River State Forest borders sections of Boney Falls. The State Forest contains 416,000 acres in the central Upper Peninsula. It also provides more than 49 miles of trails that create access for various recreational opportunities (UPPCO, 2007).

The primary recreational uses of the project are fishing (especially in the tailwaters), boating, picnicking, and camping. The Boney Falls development is the uppermost development on the Escanaba River. There are three formal recreational facilities located at the Boney Falls development for which the licensee is responsible for operations and maintenance. The licensee is responsible for the existing parking area and impoundment boat launch off Marquette County Road 523 on the western shore of the development. A barrier-free skid pier was installed adjacent to the existing gravel boat launch and directional signs installed along the road. There are eight campsites each containing a picnic table and fire ring; however, at the time the project was licensed it was determined the campground would be allowed to revert back to its natural state and the licensee is not responsible for the operations and maintenance of these facilities. There are two foot trails and an ATV trail that are accessible from the site; however, these are not required by the license and UPPCO is responsible for the maintenance. There is potable water, a boat ramp and dock, two parking spaces for vehicles with trailers, and a men's and women's pit toilet available at the site (E-PRO, 2006).

Formal project recreation facilities at the dam for which the licensee has operations and maintenance responsibilities include a canoe portage and tailwater fishing access area. An informal camping site for which UPPCO has no operations and maintenance responsibilities is also located on the eastern shore of the impoundment, and it is used for camping and boat launching. There is a trail that leads from the site to a private camp. Individuals can access the site by boat or they may be able to access the site via an old logging road. There is a fire ring evident at the site (E-PRO, 2006). Because these facilities are located in a remote portion of Marquette County, vandalism is a problem.

UPPCO manages project lands for timber production, facility development, and public access. A buffer zone was also delineated on project lands within 200 feet of the project impoundments. Timber harvesting is permitted on all project lands outside the 200-foot-buffer zone.

FERC's Licensed Hydropower Development Recreation Report (Form 80 report)⁹ includes recreational data for all recreational activity occurring within the project

⁹To evaluate recreational resources at the project, the Commission requires the licensee to prepare and submit a FERC Form 80 (Licensed Hydropower Development

boundary, collectively accounting for UPPCO facilities and those facilities provided by other recreation providers. Based on the Form 80 report, the Boney Falls development had a total of about 585 visitors during the 2002 calendar year. Table 4 summarizes important findings of the Form 80 report.

Table 4. Summary of the Form 80 report for the Boney Falls development in 2002.

Type of Recreation Resource	Number of Recreation Resources	Total Acres	Level of Use^a
Access Areas	2	N/A	Low
Boat Ramps	1	N/A	Low
Boat Launching Lanes	1	N/A	Low
Canoe Portages	1	0.25 mile	Low
Tailwater Fishing Facilities	1	N/A	Low
Fishing Piers	2	N/A	Low
Trails	1	0.25	Low
Camping Areas	1	4	Low
Tent/Trailer/RV Sites	8	4	Low
Winter Sports	1	N/A	Low

^a The level of use is the annual average percentage of actual use of a particular facility compared to its use at full capacity. Low use of the facility is equal or less than 40 percent of its full capacity, medium use is between 40 and 60 percent of its full capacity, and high use is 60 percent or more of its full capacity.

UPPCO's approved recreation plan includes, among other things, a five-car gravel parking area, accessible vault toilet, a canoe put-in, and steps to a fishing area along the western shore of the river below the dam. There is an existing signed canoe portage trail on the eastern shore of the river. There is an impoundment boat launch off Marquette County Road 523. A barrier-free skid pier has been installed adjacent to the existing gravel boat launch and directional signs installed along the road. There is a picnic area and campground at this site.

Recreation Report). See 18 CFR § 8.11. Project owners must submit a Form 80 report every 6 years. Each Form 80 must describe a project's recreation facilities and the level of public use of these facilities.

UPPCO's approved land use management plan establishes a 200-foot undeveloped buffer zone (measured horizontally from the high water line) around the project impoundments. The Boney Falls impoundment is approximately 220 acres in size and has about 3.8 miles of shoreline (not including islands). The buffer zones are intended to protect the natural and scenic character of the project shoreline by limiting development and minimizing the views to timber harvest areas. The licensee has developed specific management guidelines to address the principal land use activities occurring within the buffer zones areas. These principal land uses are timber production, facility development, and public access. The LMP provided provisions for annual consultation efforts with MDNR and FWS.

b. Environmental Impacts and Recommendations.

The proposed SMP, via its classification system, allows for both public and private recreational development along the shoreline. Private recreational development would include facilities such as docks that serve residential communities adjoining the impoundment. Proposed public recreational development would include construction of a new park pavilion, improvements to existing formal recreation facilities, construction of new recreational facilities, a historical interpretive sign, public trail system, and production of recreation brochures and bathymetric map.

The Resource Agencies commented that the shoreline classifications are confusing because they do not designate shoreline areas for conservation-only purposes. The classification system identifies five categories along the project shoreline (see figure 3 in section IV.1) that would be available for different levels of development depending on the natural resources present. Areas with higher natural resource values such as areas containing sensitive species or habitats would allow minimal development. Areas that would be considered for more intensive development would be areas where the licensee would be required to maintain roads to county standards or project operation areas that could include the construction of recreational areas/facilities, roads, pedestrian paths, enhanced view areas, and motorized vehicle trails (snowmobiles) as well as the placement of dock structures.

The Conservation – Limited Public Trail Area classification is assigned to areas within the project boundary that have been set aside for conservation purposes only. These areas typically would include identified rare, threatened, or endangered species habitat, wetlands, cultural resources, and/or other highly sensitive terrestrial or aquatic habitat. With the possible exception of a public trail, and any management deemed necessary by the Resource Agencies to preserve or enhance forest resources, these areas would not be disturbed. Other than snowmobile use in the winter, the use or parking of motorized vehicles within this classification, except in specific designated areas, would be prohibited.

The SMP's shoreline classifications, as described in section IV.1 of this EA, were developed with extensive input by the interested Federal and state Resource Agencies and others with the intention of protecting the environmental resource values of the project's shoreline. These classifications have also been publicly noticed for the purpose of obtaining further public consideration. If, in the future, UPPCO proposes any changes to these classifications or proposes to authorize a proposed development that is inconsistent with the SMP, such changes or proposals would need to be filed for Commission review and possible approval in advance of any inconsistent activities. The licensee would need to prepare such proposals in consultation with appropriate agencies.

The Resource Agencies also commented that without defining a desired character for project water bodies such as the Boney Falls impoundment, any assumptions made or conclusions reached regarding watercraft capacity, type of watercraft, or other appropriate recreation are premature and without context. As noted above, 7.1 percent of the project shoreline would be classified as General Use/Formal Recreation. Implementation of the proposed SMP and recreational enhancements would result in additional public access and use of the project shoreline. The licensee conducted a literature review/desk-top analysis of boating carrying capacity and looked at impoundment configuration, width of buffer zone, types of watercraft and their associated activities, and the expectations related to the water body. These are all factors that help determine the boat carrying capacity for a particular water body. For the Boney Falls impoundment, a boating carrying capacity range of as few as four (200-foot buffer, combined use), to as many as 34 watercraft (100-foot buffer with only non-motorized watercraft) was found to be appropriate based on the assumptions made in its determination (E-PRO, 2006).¹⁰

Amendments to Recreation Plan and LMP

The licensee has requested to amend its approved recreation plan and LMP to include the recreational enhancements specified in the SMP. UPPCO also proposes to amend the recreation plan to clarify those recreation enhancements, policies, and development guidelines specified in the SMP. Common Loon Research and Conservation and the Resource Agencies state there are inconsistencies between the proposed SMP and the approved recreation plan and LMP.

¹⁰ Useable lake surface area is calculated by determining the total surface area of an impoundment at full pond and subtracting out the area deemed not acceptable for boating purposes. This excluded area is commonly referred to as a no-wake, water safety, or a shoreline buffer zone. In addition to navigational issues, this buffer zone approach generally factors in shallowness and environmental impacts because these aspects are most commonly associated with shallow water areas (e.g., suspension of bottom sediments, decreased water transparency, impacts on aquatic vegetation, shoreline erosion, destruction of fish spawning areas, and loss of fish and wildlife habitat).

It is important that the SMP, recreation plan, and LMP be consistent with one another and be implemented in a cooperative manner; however, we do not concur with UPPCO's request to amend its approved recreation plan or LMP at this time. Commission staff has not been provided with enough detail concerning the recreational facilities. In this regard, we recommend the licensee develop, in consultation with the appropriate agencies, an amendment request that would include, at a minimum, provisions for all four recreational enhancements listed in the SMP. We recommend the amendment request be filed for Commission approval and include descriptions and design drawings of the two construction-related recreation measures, a cost estimate for each facility, a description of the type and contents of the map and brochure, identification of the entity responsible for the construction, operation and maintenance of the facilities, and an implementation schedule. Further, the LMP is intended to be a comprehensive document dealing with multiple resources and pressures on project resources. The proposed SMP focuses on non-project use of project lands and public enhancements. We recommend the licensee develop, in consultation with the appropriate agencies, an amendment request for the LMP to make it consistent with the proposed SMP.

Use of Project Lands

Article 414 of the project license contains the standard land use article, which allows licensees to establish a program for issuing permits for specified types of use and occupancy of project lands and waters provided uses are not inconsistent with project purposes. Activities not covered under Article 414 require prior FERC approval. While an SMP is typically more comprehensive than the standard land use article, the article can be considered a subpart or underlying component of the SMP. The SMP, in and of itself, does not supercede or change the land use article. Implementation of the SMP can help the licensee carry out the intent of the standard land use article and other license requirements in the following ways: (1) the SMP would help the licensee, the Commission, and the stakeholders to view individual shoreline development proposals in a project-wide or even regional perspective, rather than as individual, isolated actions; (2) the SMP would help track trends of developmental activities; and (3) the SMP would allow for consistent review and approval of the various developmental proposals. However, the licensee would be expected to file, for Commission approval, a request for non-project use of project lands for any dock development that involves more than 10 slips pursuant to Article 414. It would also be important to note that each unit of development is limited to a 10-slip cluster dock unless prior approval is obtained. The licensee would not be allowed to approve the construction of multiple 10-slip docks

under Article 414 for a single subdivision.¹¹ The licensee would need to request FERC approval for any slips over 10.

The Resource Agencies, Common Loon Research and Conservation, Resource Agencies, the Northwoods Wilderness Recovery, executive director Douglas R. Cornett, Tom Wolfe, UPPAC, Tom Church, UPEC, FOLK, Northwood Alliance, Inc., Doug Welker, Nancy Warren, Merrill Horswill, Barbara and Rick Querzi, and Nicole Pollack state in comments filed with the Commission that certain uses of project lands are inconsistent with the intent of the original license, and further environmental analysis is needed. Tom Church, and to some extent Nancy Warren and Merrill Horswill, further state the proposed exclusive use by the owners of the non-project lands was intended to increase UPPCO and real estate developers' profit at the expense of natural resources and the other interested parties.

Article 414 of the project license contains the standard land use article which allows licensees to establish a program for issuing permits for specified types of use and occupancy of project lands and waters provided uses are not inconsistent with project purposes. Activities not covered under Article 414 require prior FERC approval. Licensees may charge a reasonable fee to cover the costs of administering the permit program. Such specific types of uses may include the installation of small private boat docks, pedestrian pathways, wooden walkways and stairs, and development of public trail systems. These uses are not outside the intent of the original license. This EA analyzes the environmental impacts of the proposed SMP.

Regarding the effect of implementing the SMP on other land uses, the classification system identifies areas where a full spectrum of uses can and cannot occur, based on the suitability of the area for the allowable use. Of particular note, 35.7 percent of the shoreline is classified as areas with restrictive uses to protect environmental resources on a case by case basis and an additional 7.1 percent is set aside for public use. This system results in a balance of reduced environmental impacts and orderly development that reduces conflicting shoreline uses. Further, because shoreline development applications are subject to review, and approval, the Commission, UPPCO, and the consulted agencies are able to take account of the type, quantity, and quality of associated facilities and activities being proposed.

It should also be noted that while shoreline areas are classified for a certain use, an area may never be developed to its full potential. One common example of why a shoreline area may not be developed as classified is economic and market constraints

¹¹ A single unit of development may include, but is not limited to, a single, planned, residential subdivision. In this regard, the licensee would not be allowed to approve the construction of multiple docks, containing 1 to 10 slips each, for this single subdivision, under Article 414.

(e.g., supply and demand). Another common reason is that adjoining local zoning restrictions may preclude a certain use in a given area. The SMP classifications do not extend beyond the project boundary.

The SMP's shoreline management guidelines contain design criteria for developing facilities and conducting ground-disturbing activities associated with various land uses, including restrictions on the size and location of facilities, design standards, and construction methods to minimize impacts on project resources and values in the surrounding area.

In the event that the shoreline, over time, is developed to the full extent as allowed by the SMP and its classifications, recreational opportunities at the project would notably increase, particularly water-based recreational activities. Some displacement of certain types of recreational uses may occur where one use conflicts with another, such as canoeing and kayaking versus motor boating. Short-term effects of construction activity would occur such as water access restrictions due to traffic, temporary road closures, and parking restrictions and availability. Long-term effects would be both positive and negative. The types of recreational uses would become more diverse; the character of the shoreline would change to a more residential, developed environment; and the lake and surrounding area may become less attractive to recreationists who prefer more serene, natural recreation activities.

SMPs are evolving documents that need to be flexible. The SMP should be monitored and reviewed on a regular basis to determine how effective it is in accomplishing the licensee's goals, and to respond to new or evolving situations or conditions. The licensee has stated that, at a minimum, consultation with the agencies would occur annually to discuss the progress of the implementation of the SMP. However, the licensee does not provide for updates of the SMP. We recommend the licensee update and refile the plan every 5 years, for Commission approval, after consultation with the appropriate agencies, beginning 5 years from the issuance of any order approving a SMP. The filing should also include documentation of the licensee's consultation with the agencies on the updated plans, including responses to any agency comments and recommendations.

John Novak, Merrill Horswill, and Barbara and Rick Querzi have stated the pre-filing environmental studies were inadequate because they failed to address the potential negative impacts on the segments of the river designated under the Wild and Scenic Rivers Act. Review of the Wild and Scenic Rivers Act and National Wild and Scenic Rivers System does not indicate the presence of any segment of river involved in this proceeding as designated within the Wild and Scenic Rivers system (NWSRS, 2008).

9. Socioeconomics

a. Affected Environment.

The socioeconomic environment for the Boney Falls development includes the adjacent townships of Ewing and Wells in Marquette County and Baldwin and Cornell in Delta County. Compared to the state of Michigan as a whole, these areas are considerably more rural, the residents are older, median incomes are lower, and average home values are lower (UPPCO, 2007). Citing U.S. Bureau of the Census data, UPPCO reports that, between 1970 and 2005, the Marquette County population remained essentially the same, reaching 64,760 in 2005, while the population of Michigan as a whole increased by 14 percent. During the same 35-year period, the Ewing Township population decreased by 1 percent, reaching 174 in 2005, and the Wells Township population increased by 20 percent, reaching 333 in 2005 (UPPCO, 2007). Both Ewing and Wells townships experienced population declines from 1980 to 2000, with rapid growth since 2000. During the same 35-year period, the population of Delta County rose by 7 percent to 38,347, the Baldwin township population increased by 27 percent, reaching 773 in 2005, and the Cornell Township population increased by 30 percent, reaching 570 in 2005. In both townships, the greatest increase in the population occurred between 1970 and 1980. While just one-quarter of the Michigan population is classified as living in rural areas, 42 percent of the residents of Marquette County and 45 percent of the residents of Delta County are classified as living in rural areas. Populations in the four townships range from 93 to 100 percent rural.

According to the 2000 U.S. Census, Marquette County had 32,877 housing units. While Michigan as a whole had a vacancy rate of 11 percent, vacancy rates were higher in Marquette County (22 percent) and much higher in Ewing Township (60 percent) and Wells Township (72 percent). At the same time, Delta County had 19,223 housing units with a vacancy rate of 18 percent, while vacancy rates were much higher in Baldwin Township (36 percent) and Cornell Township (39 percent). In all cases, the large percentage of homes in season, recreational, or occasional use account for much of the high vacancy rates, because housing units are counted as vacant when a housing unit is not occupied at the time of the census (UPPCO, 2007).

Marquette and Delta counties lag behind Michigan and the United States in measures of income. In 1999, residents of Marquette County earned 80 percent of the median household income and 82 percent of the per capita income for Michigan residents as a whole. In Delta County, residents earned 80 percent of the median household income and 84 percent of the per capita income for Michigan residents as a whole. Nonetheless, the percentage of people living below the poverty level statewide was either the same (Marquette County, 11 percent) or lower (Delta County, 9 percent) than in the state as a whole (11 percent) (UPPCO, 2007).

Marquette County had a labor force of 36,622 in October 2006. Unemployment in the county was 4.6 percent, lower than the state's average of 6.1 percent, but 12 percent higher than the U.S. average of 4.1 percent. Annual 2005 unemployment in Marquette County was 5.6 percent, less than the state average (6.7 percent) but more than the national average (5.1 percent). In the same time period, Delta County had a labor force of 20,722; unemployment was 5.1 percent, lower than the state's average of 6.1 percent, but 24 percent higher than the U.S. average of 4.1 percent; and annual unemployment was 7.0 percent, higher than the both the state average (6.7 percent) and the national average (5.1 percent) (UPPCO, 2007).

As might be expected for a rural area with an abundance of public land and outdoor recreational opportunities, the employment mix is different from the state as a whole. In 2000, a higher percentage of people in Marquette County were employed in the following industries compared to the state as a whole: retail trade; transportation, warehousing and utilities; educational, health, and social services; arts, entertainment, recreation, accommodation, and food services; professional, scientific, management, administrative, and waste management services; and other services. At the same time, a lower percentage of people were employed in industries such as agriculture, forestry, fishing and hunting, and mining; construction; manufacturing; and wholesale trade (UPPCO, 2007).

In Delta County in 2000, a higher percentage of people were employed in the following industries compared to the state as a whole: manufacturing; retail trade; transportation, warehousing and utilities; educational, health, and social services; arts, entertainment, recreation, accommodation, and food services; professional, scientific, management, administrative, and waste management services; and other services. At the same time, a lower percentage of people were employed in industries such as agriculture, forestry, fishing and hunting, and mining; construction; wholesale trade; finance, insurance, and real estate; services (UPPCO, 2007).

In its comments filed with the Commission, SaveOurSchools/SaveOurShorelines (SOS) states that the economies of Upper Peninsula communities are struggling because mining and logging jobs have been declining and because the abundance of government-owned land limits the amount of private land available for development. Others commented that the lack of economic development options has led to an outflow of the area's younger residents, who leave for areas with more employment opportunities.

b. Environmental Impacts and Recommendations.

In its SMP, UPPCO states that allowing people listed on property deeds immediately adjacent to UPPCO-owned land within the project boundary of the Boney Falls development to construct pedestrian paths and install seasonal docks on project lands would have a beneficial effect on local socioeconomic conditions. UPPCO states

that the presence of boat docks and the proposed recreational enhancements could increase the real estate value of the houses within the area, new residents would contribute to an expansion of the local economy and tax base, and additional income could be generated for businesses that cater to these homeowners.

Many commenters made similar points. In their comments filed with the Commission, SOS, the Upper Peninsula Construction Council, and several individuals (some represented by SOS) wrote that the proposed SMP would have a positive effect on the local economy because it would allow private docks and other amenities that would enhance the area's attractiveness to new homeowners and raise the value of homes abutting the project boundary, which in turn would bring new jobs and revenue to the area. In their comments, these SMP supporters wrote that such development would increase the tax base, which would benefit the school districts as well as the township and county government units that provide needed services such as transportation, fire and ambulance protection, road maintenance, and senior citizen programs. The county of Marquette, Lake Superior Community Partnership, Upper Peninsula Construction Council, Wells Township Board, and Western Upper Peninsula Michigan Works made some of the same points.

Other commenters expect a different economic outcome, indicating that the additional tax revenue associated with higher land and home values would not be enough to offset the increased cost of developing and maintaining the infrastructure needed to support such development in a rural area. In its comments, UPEC states that so much of the private shoreline property in the Upper Peninsula has already been developed that the long-term economies of local communities would be best served by leaving the UPPCO project basins (including Boney Falls) in the natural condition that first attracted visitors and residents to the area. In their comments, the Resource Agencies state that the SMP does not fully disclose the economic effects of implementing the proposed SMP and connected actions, including the costs of development and road construction.

The amenities associated with UPPCO's proposed SMP (paths, docks, and view enhancements for adjacent property owners) would no doubt increase the appeal of those properties to buyers, which in turn would likely lead to the increased construction activity, jobs, and tax revenues anticipated by UPPCO, SOS, and others. However, no project-specific economic analysis has been prepared to conclusively demonstrate whether the increased tax revenue would more than offset the additional costs to the communities for providing services to those properties and residents. That would depend in large measure on the nature of the development, the types of residents that are attracted, the level of services provided by local governments, and of course the tax structure.

D. No-action Alternative

Under the no-action alternative, there would be no SMP to provide shoreline classifications or an integrated, comprehensive approach to management of the Boney Falls impoundment shoreline. Without the SMP, UPPCO would continue to manage the shoreline through its existing license conditions and Commission-approved plans filed pursuant to license requirements. In addition, any future shoreline development proposals would be subject to applicable Federal, state, and local agency approvals, permits, and regulations.

Under the no-action alternative, UPPCO's management of the reservoir shoreline would not receive the benefits of the proposed SMP, including its shoreline classifications. Thus future shoreline development at the project would occur in a less orderly manner and without full consideration of the effects of such development on the impoundment's environmental resources from a comprehensive perspective. As such, the no-action alternative would likely have greater overall adverse impacts on the environmental resources of the impoundment shoreline.

VII. CONCLUSIONS

Water-based recreational activity and waterfront and water access properties are growing in demand and value throughout the project area. Local counties and municipalities also benefit economically from the existence of the impoundment. These factors, along with input of local, state, and Federal agencies, private and non-governmental entities, and the general public, have shaped the proposed SMP. As previously noted, this document analyzes the effects of implementing the proposed SMP (proposed action) and the no-action alternative on the affected environment during the remainder of the license term. The current project license is due to expire in 2035.

As future shoreline development occurs around the impoundment, commensurate with increases in residential development adjacent to the project area, it is anticipated that there would be an increased demand for boat dock facilities. Implementation of the proposed SMP would allow such facilities pursuant to the various provisions of the plan, and such development would have some impacts on the Boney Falls impoundment's shoreline and impoundment resources. The SMP also would ensure an orderly and appropriate level of development and protection of project purposes and resources.

Future shoreline development would result in some sedimentation and erosion along the shoreline; temporary impacts on water quality; some losses in habitat for fish; and changes in the aesthetics character of the lake from a rural, wilderness nature to a more developed landscape, consisting of some residential boating facilities that serve single- and multi-family dwellings. While these impacts are expected to occur during the license term, the proposed SMP has specific requirements, measures, and programs to minimize such impacts, as noted throughout this document. In addition, the

environmental effects of any specific development proposals filed with the Commission in the future would be evaluated in the context of the requirements of the proposed SMP and, if appropriate, additional measures to minimize or mitigate for site-specific impacts would be required. Any such measures would further protect the impoundment's resources.

In addition, there is a possibility of disturbing cultural resources at the locations of future ground-disturbing activities along the impoundment shoreline. The executed PA and Commission-approved CRMP contain specific provisions to avoid and minimize potential impacts on historic properties. Implementation of the PA and CRMP in conjunction with proposed SMP would provide for adequate protection of historic properties.

As proposed, the SMP has the potential to affect wetland resources. Wetlands are present in areas zoned for potential clearing of vegetation for future trails, paths, and enhanced view areas. UPPCO states that it will work to minimize effects on wetlands wherever possible, but that in some cases the construction of trails, paths, or docks could affect small areas of wetlands. Resource Agencies commented that wetlands are important to overall ecological health and as such they do not support any non-project uses in these areas.

- We recommend that UPPCO prohibit the removal of any trees or shrubs in PSS1 wetlands, and stipulate that the U.S. Army Corps of Engineers be consulted in advance to evaluate any unavoidable effects on wetlands as required under section 404 of the Clean Water Act.

Disturbance associated with the removal of vegetation would create microsites where the introduction of terrestrial noxious weeds, including garlic mustard and orange hawkweed, could establish. Resource Agencies requested that UPPCO rewrite the approved noxious plant control plan to address effects from terrestrial disturbance and increased human use. UPPCO has agreed to implement an education program and to monitor and control additional noxious species not included in the current plan, as long as the species are identified by the Resource Agencies and the agencies can provide proven control measures. Because the existing NPMP is targeted at purple loosestrife and Eurasian water milfoil, both aquatic species, and the majority of the effects of the proposed SMP on vegetation would be in terrestrial areas.

- We recommend UPPCO work with Resource Agencies to develop an appropriate monitoring and control plan targeted at terrestrial noxious species and areas where vegetation removal and ground disturbance would be permitted by the SMP.

The proposed SMP's effects on wildlife would depend on the quantity of overall reductions in vegetation permitted by UPPCO and increases in human disturbance. To minimize potential effects on wildlife, UPPCO's proposed SMP would place limits on

the types and quantities of vegetation that landowners could remove; thereby limiting effects on wildlife habitat. The SMP specifies that all other areas be left in a natural state and prohibits any non-project activities in these areas. The Resource Agencies state that vegetation removal and increases in human presence may result in disturbance to local wildlife. Because these impacts were not considered during the development of the wildlife management plan, the agencies request that UPPCO rewrite the plan to address the new proposed activities. Objectives of the approved wildlife management plan include the maintenance of the forest with a diversity of vegetation types and age classes and increasing the overall number of waterfowl that utilize the project. The extent to which the proposed SMP would affect these objectives would depend on final development plans for lands surrounding the 200-foot buffer.

- We recommend that UPPCO develop a revised WMP, in consultation with Resource Agencies, to mitigate for the effects of increased human activity on wildlife, including relocation of existing nesting structures to more secluded areas, or the installation of additional nesting structures in suitable areas.

The proposed SMP includes provisions for minimizing effects on the bald eagle. These provisions include prohibiting the cutting of most trees suitable for bald eagle use, public education, and continued implementation of the approved bald eagle management plan. Resource Agencies commented that these provisions are insufficient because the SMP was developed while relying on incomplete survey data that failed to identify all potential bald eagle habitat. The Resource Agencies also commented that increases in human presence associated increased development and recreation activities could disturb eagles.

- We recommend that UPPCO extend limitations on tree trimming to include all super canopy trees including red pine and white pine. This would prevent the loss of suitable bald eagle habitat, regardless of whether the specific trees were previously identified.

The Resource Agencies commented the SMP lacks a formal framework for monitoring and updating in order to incorporate new information and changed conditions. The Resource Agencies commented that, at a minimum, UPPCO should regularly monitor key parameters such as amount of undisturbed shoreline and changes in wildlife use of project lands and waters. The Resource Agencies further comment that monitoring and enforcement plans should be developed concurrently with the SMP with input from the Resource Agencies.

UPPCO stated in its proposed plan it is committed to providing the resources needed to conduct regular inspections and manage the Escanaba Project in accordance with the terms of the SMP, its license, and applicable FERC rules and regulations. UPPCO states it is responsible for ensuring that the uses and occupancies for which it grants permission are safe, maintained in good repair, and comply with applicable safety

and health requirements. This responsibility includes public recreation access and protecting important natural, environmental, and scenic resources. In addition, Article 414 of the project license, the standard land use article, states that the licensee:

“shall have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation.”

The SMP's shoreline management guidelines contain design criteria for developing facilities and conducting ground-disturbing activities associated with various land uses, including restrictions on the size and location of facilities, design standards, and construction methods to minimize impacts on project resources and values in the surrounding area. However, without a site visit before and after vegetation removal; it would be difficult to determine whether violations to permitting terms and conditions occurred.

- We recommend the licensee, as part of its permitting program; visit a permitted site before and after vegetation removal to ensure compliance with the terms and conditions of its permit.

The licensee has stated that, at a minimum, consultation with the agencies would occur annually to discuss the progress of the implementation of the SMP. However, the licensee does not provide for updates of the SMP.

- We recommend the licensee update and refile the plan every 5 years, for Commission approval, after consultation with the appropriate agencies, beginning 5 years from the issuance of any order approving an SMP. The filing should also include documentation of the licensee's consultation with the agencies on the updated plans, including responses to any agency comments and recommendations

Common Loon Research and Conservation and the Resource Agencies state there are inconsistencies with approved plans. It is important that all approved plans be consistent with one another and implemented in a cooperative manner; however, Commission staff has not been provided with enough details to include the specific placement of the recreational enhancements.

- We recommend the licensee develop an amendment request after consultation with the appropriate agencies, to amend the project's recreation plan that would include, at a minimum, provisions for all four recreational enhancements listed in the SMP. We recommend the amendment request be filed for Commission approval and include specific descriptions and design drawings of the two construction-related recreation measures, a cost estimate for each facility, a description of the type and contents of the map and brochure, identification of the entity responsible for the construction, operation and maintenance of the facilities, and an implementation schedule.

A review of the project license indicates the LMP was intended to be a comprehensive document dealing with multiple resources and pressures on project resources. The proposed SMP focuses on non-project use of project lands and public enhancements. However, the SMP is narrow in scope and needs to be consistent with the project's recreation plan and LMP.

- We recommend the licensee file for Commission approval, after consultation with the appropriate agencies; a request to amend the approved LMP. At a minimum, the amendment should:
 - (1) Prohibit all timber harvesting and eliminate timber management activity on project lands;
 - (2) Replace Appendix B of the approved LMP with the revised project buffer zone map from the SMP that illustrates the entirety of lands that would be subject to the LMP;
 - (3) Clarify the uses and prohibitions specified in the SMP and recreation plan are consistent with the objectives of the LMP; and
 - (4) Include components to address the new recreational enhancements once specific locations have been chosen for all facilities and design drawings have been made.

VIII. FINDING OF NO SIGNIFICANT IMPACT

Based on information, analysis, and evaluations contained in this EA, we find that implementation of the proposed SMP, with our recommended measures, would not constitute a major Federal action significantly affecting the quality of the human environment.

IX. LITERATURE CITED

- Cowardin, L.M., Carter, V., Golet, F.C., and LaRoe, E.T. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service, Washington, DC. FWS/OBS-79/31. 131 pp.
- E-PRO Engineering and Environmental Consulting, LLC. 2006. Assessment of the Recreation, Wildlife, Loon, and Aesthetic Resources of the Boney Falls Impoundment, Alger County, Michigan.
- Evers, D.C. 2004. Status assessment and conservation plan for the Common Loon (*Gavia immer*) in North America. U.S. Fish and Wildlife Service, Hadley, MA.
- FERC. 1994. Draft Environmental Assessment for Hydropower License, Escanaba River Hydroelectric Project, FERC No. 2056-002, Michigan. January 1994. Washington, DC.
- Gardner R.H. and R.V. O'Neill. 1991. Pattern, process, and predictability: the use of neutral models for landscape analysis. In Turner M.G. and Gardner R.H. (eds), Quantitative Methods in Landscape Ecology. Springer, New York, pp. 289-307.
- Gustavson, E.J. and G.R. Parker. 1992. Relationships between landcover proportion and indices of landscape spatial pattern. Landscape Ecology 7:101-110.
- Heimberger, M., D. Euler, and J. Barr. 1983. The impact of cottage development on common loon reproductive success in central Ontario. Wilson Bulletin 95(3):431-439.
- Maine Department of Inland Fisheries and Wildlife. 2008. Living with Loons. Available online at <http://www.state.me.us/ifw/wildlife/species/index.htm> (Accessed May 6, 2008).
- Matlack, G.R. 1992. Microenvironment variation within and among forest edge sites in the eastern United States. Biological Conservation 66: 185-194.
- Michigan Natural Features Inventory. 2007. Rare Species Explorer (Web Application). Available online at <http://web4.msue.msu.edu/mnfi/explorer> (Accessed April 3, 2008).
- Minnesota Department of Natural Resources. 2008. The Minnesota Department of Natural Resources Web Site (online). Accessed April 2, 2008 at <http://www.dnr.state.mn.us/sitetools/copyright.html>.
- NPS (National Park Service). 2008. National Register of Historic Places, National Register Information System. Accessed June 11, 2008 at <http://www.nr.nps.gov>.

- NRCS (U.S. Department of Agriculture, Natural Resources Conservation Service).
2007a. Soil Survey of Marquette County, Michigan, issued 2007. Natural Resources Conservation Service.
- NRCS (U.S. Department of Agriculture, Natural Resources Conservation Service).
2008b. Official soil descriptions.
[Http://soils.usda.gov/technical/classification/osd/index.html](http://soils.usda.gov/technical/classification/osd/index.html), accessed March 31, 2008. Natural resources Conservation Service.
- NRCS (U.S. Department of Agriculture, Natural Resources Conservation Service).
2008c. Web Soil Survey web page.
[Websoilsurvey.nrcs.usda.gov/appl/WebSoilSurvey](http://websoilsurvey.nrcs.usda.gov/appl/WebSoilSurvey), accessed on March 31, 2008. Natural Resources Conservation Service.
- NWSRS (National Wild and Scenic River System). 2008. National Wild and Scenic River Act. Accessed June 12, 2008.
- Turner, M.G. 1989. Landscape Ecology: The effect of pattern and process. Annual Review of Ecology and Systematics 20: 171-197.
- UPPCO (Upper Peninsula Power Company). 2007. Boney Falls Shoreline Management Plan and Request for Amendment of Article 413: Land Management Plan, and Article 412: Recreation Plan, dated November 2007. Green Bay, WI.
- Washington Department of Fish and Wildlife. 2005. Management Recommendations for Washington's Priority Species for Use to Guide Site Specific Management of Priority Species, Common Loon (*Gavia immer*).

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