

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Upper Peninsula Power Company

Project No. 10854-080--MI

NOTICE OF AVAILABILITY OF ENVIRONMENTAL ASSESSMENT

(July 2, 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 Cataract 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-10854) excluding the last three digits in the docket number field to access the document. For assistance, contact FERC Online Support at [FERCOnlineSupport@ferc.gov](mailto:FERCOnlineSupport@ferc.gov) or toll-free at 1-866-208-3676, or for TTY, (202) 502-8659.

Any comments on the EA should be filed by August 1, 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-10854) 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**

**Cataract Hydroelectric Project  
FERC Project No. 10854-080**

**I. APPLICATION**

Application Type: Cataract Shoreline Management Plan  
Date Filed: November 29, 2007  
Applicant's Name: Upper Peninsula Power Company  
Water Body: Middle Branch of the Escanaba River  
County and State: Marquette County, 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 2-megawatt (MW) Cataract Hydroelectric Project (FERC No. 10854) to Upper Peninsula Power Company (UPPCO or licensee) on February 7, 1997.<sup>1</sup> The project is located on the Middle Branch Escanaba River in Marquette County, Michigan (figure 1). The project consists of (1) a 265-foot-long dam; (2) a 2,700-foot-long water intake line; (3) a 4,720-foot-long bypassed reach; (4) a narrow reservoir with a surface area of 180 acres at normal pool elevation; (5) a powerhouse containing one turbine generator with an installed capacity of 2,000 kilowatts (kW); (6) a substation; and (7) appurtenant facilities. Historically, the project was operated in a peaking mode. However, since May 1990, UPPCO has operated the project in a run-of-river mode.

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<sup>1</sup>78 FERC ¶62,100, Order Issuing Original License (Major Constructed Project), February 7, 1997.



Figure 1. Location map of the Cataract Project.

The licensee is required, pursuant to the project license, to operate the project in a run-of-river mode, with a reservoir target elevation of 1,173.5 feet (+/-0.25 foot) when inflows to the project are between 55 and 415 cubic feet per second (cfs). The licensee is further required to maintain a continuous minimum flow of 8 cfs to the bypassed reach.

The project boundary for the Cataract Project includes approximately 1,200 acres of lands adjacent to the reservoir and project works owned by the licensee (figure 2). Within the project boundary the licensee has established a buffer zone for all lands within 200 feet of the reservoir. Most of the land within the project boundary is owned by the licensee; while some land along the southwestern portion of the reservoir shore is owned by others but the licensee maintains reservoir flowage easement rights. The reservoir has 12.3 miles of shoreline (not including islands).

### **III. PURPOSE AND NEED FOR ACTION**

On November 29, 2007, UPPCO filed a proposed shoreline management plan (SMP) for the Cataract Project. The licensee developed the SMP to help address the land use pressures and potential impacts anticipated from UPPCO's sale of adjacent non-project lands (lands located outside of the project boundary and not subject to the terms and conditions of the project license) to residential real estate developers. Currently, the licensee manages shoreline resources and development activities at the project through certain license conditions (including the implementation of the historic resources management plan [HRMP] [Article 412] and the standard land use article [Article 414]) and Commission-approved plans filed pursuant to license requirements (including the operation and compliance plan [Article 403], noxious plant monitoring plan [Article 408], bald eagle protection plan [Article 409], wildlife management plan [Article 410], comprehensive land management plan [CLMP] [Article 411], and recreation plan [Article 413]).

The licensee also requests to amend the project's approved recreation plan and wildlife management plan to be consistent with the recreational enhancements and policies specified in the SMP. The licensee also intends for the proposed SMP to replace provisions of the project's approved CLMP, thereby eliminating the need for the CLMP. Therefore, UPPCO also proposes to amend the project license by deleting Article 411 and the CLMP. The Commission must determine whether and under what conditions to approve the proposed SMP and amendment requests.

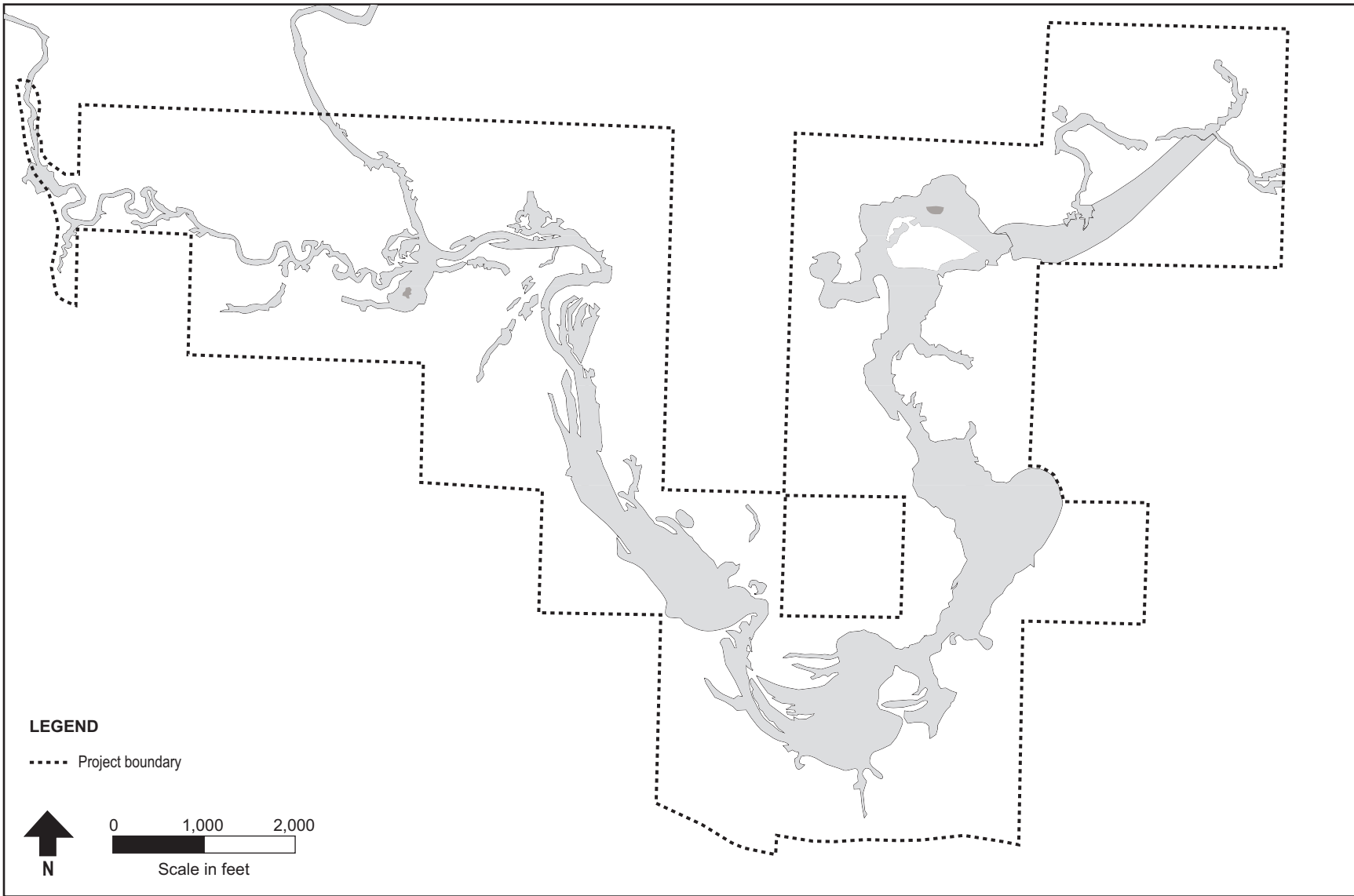


Figure 2. Cataract Project boundary map.

UPPCO's approved recreation plan<sup>2</sup> includes, among other things, a canoe portage, access road to the tailrace, and Michigan Highway 35; a boat launch area with parking and picnic facilities; and public access to the tailwater area. UPPCO proposes to amend the recreation plan to include additional recreational enhancements specified in the SMP. The majority of these recreation enhancements are not currently required by the project's approved recreation plan. UPPCO proposes these recreational enhancements to accommodate anticipated increased general public recreation use of the reservoir that would inevitably occur and increased use that may occur as the result of anticipated development of non-project lands<sup>3</sup> in the vicinity of the project and increased economic activity in the region. In addition, some enhancements are being proposed to upgrade existing project public boat access sites to conditions would be more user-friendly and, in some instances, barrier free, to meet public expectations for water access. UPPCO also proposes to amend the recreation plan to clarify that recreation enhancements, policies, and development guidelines specified in the SMP are consistent with the objectives of the wildlife management plan.

#### **IV. PROPOSED ACTION AND ALTERNATIVES**

The licensee is requesting FERC approval of its proposed SMP. The licensee also requests FERC approval to amend the approved recreation and wildlife management plans to ensure consistency with the policies in the proposed SMP. The licensee requests the proposed SMP replace the CLMP and to delete Article 411 and the CLMP from the project license.

##### **1. Proposed SMP**

The proposed SMP is intended to enhance existing practices and help protect and enhance the reservoir'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 impacts of anticipated development of non-project lands so as to complement or have neutral effects on those natural resources. UPPCO believes that the configuration and bathymetry of the Cataract impoundment would self-regulate the size and type of watercraft that would use the impoundment. The docks would be designed to accommodate non-motorized watercraft

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<sup>2</sup>86 FERC ¶62,213, Order Modifying and Approving Recreation Plan, March 22, 1999.

<sup>3</sup> 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.

and smaller motorized boats (25 horsepower or less). Specifically, UPPCO proposes to allow a maximum of 40 private boat slips at the Cataract reservoir. These private boat slips are intended to accommodate anticipated increased recreational use at the Cataract Project. The exact configuration and location of docks would be determined by UPPCO at the time of actual placement, based upon on-site environmental, bathymetric, and topographic conditions. In no case would docks be placed in areas other than those so designated for docks.

The licensee's proposed SMP 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 Resource Agencies,<sup>4</sup> local governments, and non-governmental 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 reservoir, 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 for prohibited and allowable activities within the shoreline classification zones and provides 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 other miscellaneous uses.

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<sup>4</sup>MDNR, Forest Service-Hiawatha and Ottawa National Forests, FWS, National Park Service, Michigan Hydro Relicensing Coalition, and Keweenaw Bay Indian Community.

### Shoreline Classifications and Prescriptions

In consultation with governmental agencies and with input from local stakeholders, the licensee developed five shoreline classifications for the Cataract Project and identified areas of the shoreline to which these classifications would apply. 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.<sup>a</sup>

Shoreline Classification Area	Percent of Shoreline
Conservation – Limited Public Trail	92.8
Conservation – Limited Enhanced View Areas	0.2
Conservation – Limited Public Paths and Limited Enhanced View	1.5
General Use/Formal Recreation	2.2
Project Operations	2.2

<sup>a</sup> The percentages of shoreline contained in the SMP were measured in feet. The reservoir has 12.3 miles (64,944 feet) of shoreline (not including islands). The method used the GIS base layer with a project boundary and surface water overlay. Area was calculated using the GIS system. Any location where the reservoir's surface water 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).

The **Conservation – Limited Public Trail Area** classification is assigned to areas within the project boundary that have been set aside for conservation purposes only, in many cases above and beyond the current requirements of the license. With the possible exception of a public pedestrian trail, and any management activities deemed necessary by the Resource Agencies to move towards preserving or enhancing forest resources, these areas are not to be disturbed. Conservation – Limited Public Trail Areas typically include areas with identified rare, threatened, or endangered species habitat, wetlands, cultural resources, and/or other highly sensitive terrestrial or aquatic habitat.

The **Conservation – Limited Enhanced View Area** classification is assigned to areas within the project boundary where enhanced view areas could be developed. Generally, any enhanced view area activities would (1) require prior written approval from UPPCO; (2) be no longer than 200 feet in length and no more than 40 feet in width; (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 tress be removed or trimmed in the enhanced view areas; (5) not allow any ground-disturbing activity in the development or maintenance of the enhanced view area; and (6) not permit stump removal. With the exception of the enhanced view areas, no other activities would be allowed.

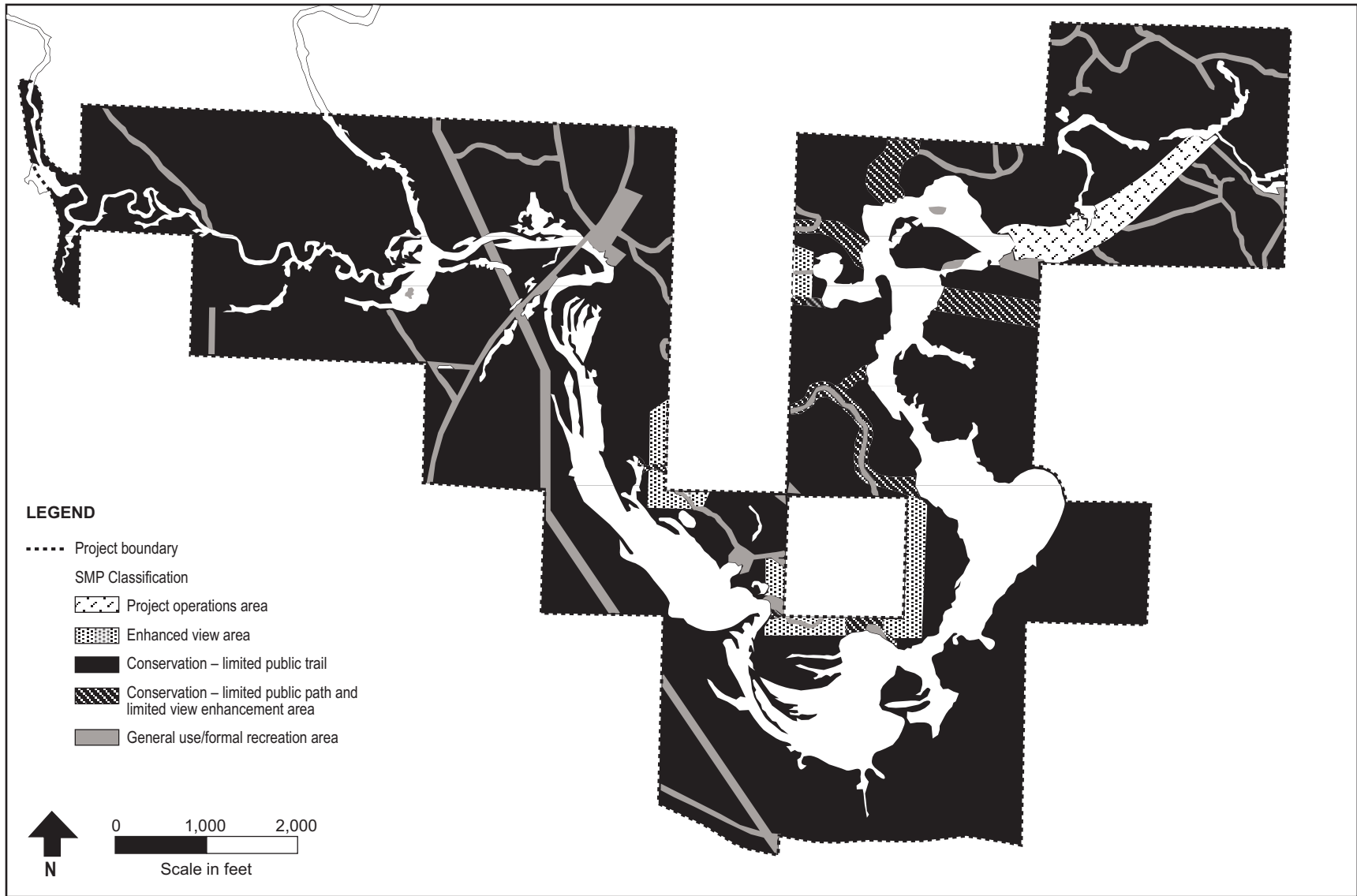


Figure 3. Shoreline classifications for the Cataract Project from proposed Shoreline Management Plan.

The **Conservation – Limited Public Path and Limited Enhanced View Area** classification is assigned to lands within the project boundary where paths from the adjacent non-project landowners would lead to shoreline areas suitable for the placement of seasonal individual and cluster docks and the creation of enhanced view areas. To the extent possible, new path development would follow existing paths, trails, or roads, would be commonly shared by abutting landowners, and would be limited to a maximum width of 4 feet. The public path area designation represents the acreages of the areas where the pathways and enhanced views could be placed.

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, and motorized vehicle trails, along with the placement of docks and seasonal dock storage, also would be permitted in designated areas. The locations of these areas were planned based upon data collected as part of the 2006 environmental studies. UPPCO would maintain these project access roads according to county specifications for public use. Proposed recreational enhancements would occur in these areas.

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 Cataract 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 under this classification.

Consistent with the Conservation – Limited Public Path and Limited Enhanced View Area, UPPCO proposes dock zones at the Cataract Project. Dock zones were established through the reservoir 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 resources; aesthetic resources; and/or other highly sensitive habitat such as emergent wetlands and beds of submerged aquatic vegetation) were identified.

Should additional lands be required outside of the project operations areas for the continued safe operation of the Cataract 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 the project boundary on UPPCO lands and waters at the Cataract 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). This article allows licensees to convey interests in project lands and waters (through leases, rights-of-way, or fee title conveyances) for certain non-project uses without obtaining prior Commission approval. A non-project use of project lands is a third-party use and occupancy of project property authorized by the licensee through the conveyance of a specific interest in project lands and waters. If a proposed use does not meet the criteria of the standard land use article, the licensee must then obtain Commission approval prior to issuing the conveyance. The licensee now proposes to codify existing and proposed use policies by implementing 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 Cataract Project. The activities include, but are not limited to:

- Any use or activity conducted without prior UPPCO written permission for that use or activity.
- The construction of permanent structures or improvements, except those authorized via a permit<sup>5</sup> or Non-exclusive License Agreement (NLA).
- 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

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<sup>5</sup>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. Construction or ground-disturbing activities requiring a permit would not begin until all plans and specifications have been approved in writing by UPPCO.

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 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 reservoirs, i.e., below the normal high-water mark of the reservoir.
- 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 storm-water drainage onto UPPCO land or into the waters of the reservoirs through open ditches or drains without UPPCO permission.
- The discharge of any septic effluent onto UPPCO land or into the waters of the reservoirs 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.
- 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 reservoir 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 Cataract reservoir. Any such determination lies with the sole and uncontestable discretion of UPPCO.

Permitted 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 outside the project boundary and immediately adjacent to UPPCO-owned land within the project boundary, and who maintain such property for non-commercial use, may request that UPPCO grant it 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 reservoir:

- The creation of a pedestrian path and associated stairs and elevated wooden walkways (if activity falls within the Conservation – Limited Public Path and Limited Enhanced View Area, General Use/Formal Recreation Area, or Project Operations Area).
- The installation of a dock and an access ramp to the dock (if activity falls within the Conservation – Limited Public Path and Limited Enhanced View Area, General Use/Formal Recreation Area, or Project Operations Area).
- The creation of enhanced view areas (if activity falls within the Conservation – Limited Enhanced View Area, Conservation Limited Public Path and Limited Enhanced View Area, or Project Operations Area).

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

### 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 would be subject to the following:

- To the extent possible, new path development would follow existing paths, trails, or roads and would be commonly shared by abutting landowners.
- Where feasible, new paths would not be laid out in a straight line; rather they would 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 would be permitted on the paths except for project maintenance and enforcement action as directed by UPPCO.
- Paths would be no more than 4 feet wide.
- 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 states that the following is consistent with the state of Michigan guidelines for docks and defines 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 and the stored docks are located within areas so designated for dock storage.
- The removal of any submerged/emergent aquatic vegetation or submerged substrate or woody debris for the placement of the dock would be 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 reservoir. Individual docks would not be more than 5 feet wide. 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 figure 7-1 of the proposed SMP, 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 overnight at each individual dock.



Cluster Docks. Cluster docks would not accommodate more than 10 boats and 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 be more than 5 feet wide. This width would be sufficient for the safe loading of gear and passengers. 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 overnight in each individual boat slip.

Enhanced View Areas. Enhanced view areas on project lands at the Cataract reservoir 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 and no more than 40 feet wide. 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 would be allowed in the development or maintenance of the enhanced view area; stump removal would not be permitted.

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

### **Recreational Enhancements**

UPPCO proposes to design and fund the construction, operation, and maintenance of proposed recreation enhancements within the project boundary of the Cataract Project as part of its overall SMP. Most 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 reservoir 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 proposed to upgrade public boat access sites to conditions that would be more user-friendly and, in some cases, barrier free, to better meet public expectations for water access.

For scheduling purposes UPPCO has selected amenities to existing formal public recreation facilities that would make them more user-friendly and accessible as high priorities. In addition, UPPCO considered public requests by regular lake 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. The exact placement of recreation enhancement numbers 1 and 2 would be determined based on approval of the proposed SMP. Recreation enhancement numbers 3 and 4 would be placed near the dam.

Table 2. Proposed recreational enhancements at the Cataract Project.

<b>Recreational Enhancement</b>	<b>Facility/ Priority</b>	<b>Implementation Schedule</b>
Install a public trail as part of a trail network around the reservoir.	1	1 -5 years after SMP approval
Install an additional barrier-free fishing pier.	2	1 -5 years after SMP approval
Install a historical interpretive sign for public education and viewing near the dam.	3	1 -5 years after SMP approval
Install a skid pier at the existing boat launch near the dam.	4	1 -5 years after SMP approval
Develop a bathymetric map of the reservoir for use of the general public.	5	1 -5 years after SMP approval
Develop a recreation brochure for Cataract and make it available to the general public.	6	1 -5 years after SMP approval

The licensee states the proposed pedestrian public trail (priority 1 in table 1) 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 best management practices (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.

UPPCO's approved CLMP<sup>6</sup> focuses on timber harvesting practices and outlines forest management concepts, including a forest reconnaissance survey of existing resources, aesthetic management for areas requiring more restrictive prescriptions, even-aged management on stands with single age classes, and all-aged management for stands with multiple age classes. The plan contains provisions for cooperation with the Michigan Department of Natural Resources (MDNR) and other agencies for fire prevention, detection, and suppression on company-owned lands.

Under the proposed SMP, UPPCO indicates its intent to codify existing policies for non-project use of project lands not anticipated during the relicensing process and be proactive in ensuring that future development on adjacent 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 be above and beyond what is already required by the above-mentioned approved plans. When an applicant applies to UPPCO for permission to use certain project lands or waters, UPPCO would have a convenient tool to help it decide whether and under what conditions to allow the activity. The licensee intends for the proposed SMP to replace the CLMP, thereby eliminating the need for the CLMP.

UPPCO's approved wildlife management plan<sup>7</sup> includes, among other things, forest habitat management provisions to maintain vegetative diversity and directed to benefit white-tailed deer and ruffed grouse, where applicable; aesthetic management techniques (the only management techniques allowed in the 200-foot-wide buffer zone); improved nesting opportunities around the reservoir by installation and maintenance of nesting structures; implementation of endangered species management practices in consultation with MDNR and the U.S. Fish and Wildlife Service (FWS), including cavity nesting and super canopy tree protection for bald eagles; closure of unnecessary logging roads for the protection of the gray wolf; provisions for implementing the Michigan Gray Wolf Recovery and Management Plan if a den or pup rendezvous is discovered on project land; consultations with appropriate agencies when establishing management guidelines for sensitive areas and endangered resources; appropriate modifications to land and wildlife management plans when new species are identified; annual agency consultation prior to any timber harvesting or major land-disturbing activities; constructing and

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<sup>6</sup>88 FERC ¶62,034, Order Approving Land Management Plan, issued July 12, 1999.

<sup>7</sup>87 FERC ¶62,254, Order Approving Wildlife Management Plan, issued June 4, 1999.

installing avian nest structures; joint field inspections with MDNR for location and placement of structures; provisions of funding for license-prescribed improvements and maintenance; and storage of all location data, such as buffer zones and bald eagle protection zones, in a geographical information system (GIS) database. UPPCO proposes to amend the approved wildlife management plan to delete reference to timber harvesting practices due to the fact the new SMP proposes to prohibit all timber harvesting practices, including aesthetic management techniques, on all project lands.

### **3. Action Alternative**

No viable action alternatives have been identified for consideration.

### **4. No-action Alternative**

Under the no-action alternative, the licensee would not implement its proposed SMP and would continue to manage the reservoir's shoreline under its existing license conditions and Commission-approved plans. The licensee would continue to permit activities and the placement of docks on a case-by-case basis, and therefore not benefit from a comprehensive 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.

### **1. 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.

- Forming stakeholder focus groups, consisting of representatives from economic development, government, hunting and fishing, and conservation groups in the Eastern and Western Upper Peninsula that met monthly (May-October and early 2007).
- 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 UPPCO 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); MDNR; Michigan Department of Environmental Quality; Michigan Attorney General's Office; 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 (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 19 resource studies at the Cataract Project. The licensee conducted 12 studies (as requested), 2 modified studies, and did not conduct 5 studies requested by the Resource Agencies.

Specifically, 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 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, and known significant archaeological/geological/cultural features would be mapped pursuant to Article 412 of the project license.

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).

## 2. 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 are italicized:

Table 3. Entities who filed comments and/or motions pursuant to the Commission public notice.

<b>Entity</b>	<b>Filing Date</b>	<b>Comment and/or Motion</b>
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	Intervention in support Comments in support

<b>Entity</b>	<b>Filing Date</b>	<b>Comment and/or Motion</b>
	January 29, 2008 <i>January 30, 2008</i>	Comments in support <i>Comments in support</i>
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 Interior	January 24, 2008	Intervention
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 or “the 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
Tom Casperson, Michigan House of	January 25, 2008	Comments in support

<b>Entity</b>	<b>Filing Date</b>	<b>Comment and/or Motion</b>
Representatives		
Steven Lindberg, Michigan House of Representatives	January 25, 2008	Comments in support
Doug Welker	January 29, 2008	Comments in opposition
Common Loon Research and Conservation	January 29, 2008	Intervention not in 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
Gwinn-Sawyer Area Chamber of Commerce	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
County of Marquette	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>

Common Loon Research and Conservation, the Resource Agencies, 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 effects 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.



The Michigan Hydro Relicensing Coalition commented that a water quality monitoring plan should be required, because of the potential for water quality impacts associated with increased recreation that would result from implementation of 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.<sup>8</sup> 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 on 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 CLMP, 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.<sup>9</sup> Common Loon Research and Conservation also felt the pre-filing environmental studies were inadequate. Tom Church, and to some extent Nancy Warren and Merrill Horswill, further state the proposed exclusive use by

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<sup>8</sup>NEPA 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.

<sup>9</sup>If the EA determines that the environmental consequences of a proposed Federal undertaking may be significant, an EIS is prepared.

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.

Doug Welker and John Novak state concerns with the potential impact on aesthetic resources if the licensee's 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 reservoirs to support loons.

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.

## **VI. ENVIRONMENTAL ANALYSIS**

### **A. General Setting**

The Cataract Hydroelectric Project is located on the Middle Branch Escanaba River in the central part of Michigan's Upper Peninsula in Marquette County, Michigan (see figure 1). The facilities were completed and put into service in 1929. Project facilities consist of a dam and intake structure, two tunnels and an above-ground pipeline, a powerhouse, and a substation. Cataract dam impounds an approximately 3.7-river-mile segment of the Middle Branch Escanaba River. The Middle Branch Escanaba River

discharges to Lake Michigan via the Escanaba River. The shoreline is relatively undeveloped. The river basin has a drainage area of 210 square miles of woodlands. Bear Creek is a tributary to the Cataract reservoir, entering the reservoir near the upstream limits of the basin. The Middle Branch joins the East Branch of the Escanaba River 5.7 miles downstream of the project near the town of Gwinn. From there, the Escanaba River flows about 50 miles to its discharge in Lake Michigan.

The primary land use of the general project region is commercial forest, and most surrounding lands are owned by the state of Michigan or large private corporations. Except for the recreation access and a few residences, no development exists around the Cataract Basin shoreline. UPPCO excludes commercial logging from project lands and from within 200 feet of Cataract Basin and the bypassed reach of the Middle Escanaba River. No lands of the United States are occupied by the Cataract Project.

## **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 February 2037.<sup>10</sup> 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 Cataract 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 Middle Branch 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.

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<sup>10</sup>The license for the Cataract Project expires in 2037. The project relicensing process will require the prospective licensee to prepare a license application based on extensive environmental study and public involvement. The project's SMP would likely be updated at that time.

## 1. Geology and Soils

### a. Affected Environment.

Michigan's Upper Peninsula is heavily mineralized, and the region has been mined for copper and iron since the early 1840s. Some of the largest iron mines in the United States are within a few miles of the Cataract reservoir.

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. The reservoir is very riverine and typical of a meandering stream. There are large outcrops along the shoreline and a number of wooded islands within the reservoir (FERC, 1997b).

The soils along the shoreline of the reservoir and within the 200-foot-wide buffer zone are predominantly composed of Rubicon sand and Sayner loamy sand with many areas of ponded Histosols and Aquents in the upper half of the reservoir (NRCS, 2007; 2008a).

During the site visit for the original licensing of the project in 1994, Commission staff observed no project-induced shoreline erosion. Because no project-induced shoreline erosion was observed, the Commission did not require the licensee to develop and implement an erosion inventory and control plan. However, it was noted in the license order that if major land-disturbing or land-clearing activities were proposed on project lands in the future, the licensee would be required to file a plan to control erosion, slope instability, and sedimentation with the Commission.

The SMP includes maps of the reservoir that note two known erosion sites on the reservoir shoreline. The first site (shown on SMP Map 7-1b) is located in the upstream end of the reservoir on an outside bend in the river. The map identifies the area as "eroded shoreline (7 feet)", which is assumed to refer to the length of shoreline affected. The area is within the portion of the project area that is proposed to be designated as Conservation – Limited Public Trail only.

The second area (shown on SMP Map 7-1d) located much farther downstream in the reservoir in an area that is designated as Conservation – Limited Public Path and Limited Enhanced View Area. The area is also designated as an acceptable dock zone. The maps do not provide a length of eroded shoreline, but the scaled distance on the map is approximately 250 feet.

Ten shoreline areas are identified as acceptable dock zones. These areas are each associated with lands designated as Conservation – Limited Public Trails and Limited Enhanced View Areas. These areas are associated with sands and loamy sands which are subject to cutbanks and slope failures (NRCS, 2008b).

Another 10 areas are designated for General Use and are to be associated with formal and informal recreation areas. These areas are located on 2.2 percent of the shoreline and are distributed along the shoreline of the reservoir. Most of these areas are associated with sands and loamy sands which are subject to cutbanks and slope failures (NRCS, 2008b).

b. Environmental Impacts and Recommendations.

Based on known erosion information for the project, there are only two identified erosion sites on the reservoir shoreline. No information is available as to the cause of the erosion at these sites, although both sites are located on the outside of bends in the river which often experience higher flow velocities.

The proposed land use classifications would limit potential development along the shoreline to 10 locations which represent only 1.5 percent of the available 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.

UPPCO also proposes to install an additional barrier-free fishing pier and a skid pier at the boat launch near the dam. While construction of these facilities may result in some short-term impact to the shoreline, adequate erosion control measures should limit impacts, and the ongoing use of those facilities would not be expected to impact the shoreline.

Potential upland development outside of the project boundary on adjacent lands would reduce vegetative cover in the watershed and ultimately result in increased sedimentation and erosion in the reservoir. 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 40 private boat slips are proposed at the Cataract reservoir. The SMP includes provisions for the protection of 94.5 percent of the reservoir shoreline designated as Conservation Areas (with Limited Public Trails, Limited Enhanced View Areas, or Limited Public Paths and Limited Enhanced Views) by either

prohibiting all activities in an area or 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 compacted 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, shoreline development is only slated for a few discrete locations, so 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 Cataract reservoir is about 3.4 miles long and about 0.25 mile wide, and has a more riverine character following a sinuous course through heavily wooded lands. The reservoir has a surface area of 180 acres, an average depth of about 4 to 5 feet, a maximum depth of 12 feet, and a storage capacity of 4,300 acre-feet. Average monthly river flow, as measured at USGS gage no. 04058100, located about 400 feet downstream of the powerhouse, ranges from 104 cfs in February to 545 cfs in April. The normal water surface elevation of the reservoir is 1,173.5 feet (USGS), and UPPCO typically operates the project within +/- 0.2 foot of that elevation (FERC, 1996).

The Cataract reservoir is classified as a warmwater fishery, which has a maximum monthly temperature standard ranging from 38 degrees Fahrenheit (°F) in January to 83°F in July, and minimum dissolved oxygen (DO) standard of 5.0 mg/l. FERC (1996) reported that the reservoir generally met the warmwater fishery standards, although DO levels below 5.0 mg/l were recorded in deeper parts of the reservoir on two occasions in July 1991 during water quality monitoring.

### **b. Environmental Impacts and Recommendations.**

Approval of the SMP with the shoreline protection measures would likely protect water quality in the reservoir from the effects of future construction of docks and related facilities in the water. The SMP includes provisions for protection of 94.5 percent of the reservoir shoreline, by classifying it under the three "Conservation" classifications. The remaining approximately 5 percent of the shoreline could support recreational development following specific design criteria, or would include lands required for

project operation. The Conservation classifications 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 current license conditions.

The Michigan Hydro Relicensing Coalition commented that the water quality monitoring plan required by Article 404 should be amended, because of the potential for water quality impacts associated with increased recreation and development that would result from implementation of the SMP. In particular, the addition of up to 40 private boat slips on the reservoir would lead to an increase in motorized boating on the reservoir and associated pollution. UPPCO states that an amendment to the water quality monitoring plan is not required because increased recreation would occur gradually over the years and the potential for effects on water quality is low. UPPCO also stated it is unaware of any other lakes in the area that were required to monitor water quality because of 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 up to 40 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 warmwater 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 amendment of the Article 404 water quality monitoring plan would not be required. The existing plan for monitoring temperature and dissolved oxygen, would, however, provide a means for long-term monitoring of these parameters, should future development result in unanticipated impacts on water quality.

### 3. Fishery Resources

#### a. Affected Environment.

The Cataract reservoir is a shallow water body with extensive fisheries habitat, with large areas of aquatic vegetation, logs, stumps, and other woody debris. The reservoir supports a warmwater/coolwater fishery for northern pike, yellow perch, and walleye. Other game species that occur in the reservoir include smallmouth and largemouth bass and brook trout (FERC, 1996). The Middle Branch of the Escanaba River upstream of the reservoir is a state-designated trout stream, so trout likely move downstream into the reservoir when conditions are suitable.

#### b. Environmental Impacts and Recommendations.

Implementation of the proposed SMP would not change project operations, so would generally have no effects on 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.

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 about 95 percent of the reservoir shoreline 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, but there already is ample cover in the reservoir associated with logs and other woody debris.



## 4. Terrestrial Resources

### a. Affected Environment.

The Cataract reservoir shoreline is generally undeveloped. Following clearcutting about 40 years ago, the vegetation surrounding the reservoir is now a mosaic of forest at various stages of regeneration. Dominant tree species include quaking aspen, jack pine, cherry, balsam fir, red pine, paper birch, red maple, white spruce, and northern red oak. Dominant understory species include bracken fern, mosses, and lichens. More mature stands are present on the eastern end of the reservoir, where dominant species include jack pine, red pine, red maple, and paper birch. Bracken fern and beaked hazelnut dominate the forest floor in these areas. Along the bypassed reach, red maple is dominant with paper birch and white pine as co-dominants in some places. Understory species along the bypassed reach include beaked hazelnut, bracken fern, ninebark, serviceberry, poison ivy, sweet blueberry, and balsam fir saplings.

UPPCO manages project lands in accordance with the approved CLMP. The objectives of the plan are to manage the forests for consumptive and non-consumptive use and protect endangered resources. Forest management practices are focused on future timber values and minimizing biological pests or other forest health problems.

In June 2006, UPPCO's consultant surveyed the Cataract Project area for rare, threatened, or endangered species habitat and noxious weeds (E-PRO, 2006). UPPCO did not observe any Federal or state rare, threatened, or endangered plant species. Surveyors did observe two invasive species, orange hawkweed and reed canary grass. Neither orange hawkweed nor reed canary grass is on the state of Michigan or Federal noxious weed lists.

Wetland surveys identified and mapped two vegetated wetland types at the Cataract reservoir. UPPCO classified the wetlands in accordance with Cowardin et al. (1979) and they consisted of the palustrine emergent persistent (PEM1) and palustrine scrub-shrub broad-leaved deciduous (PSS1) cover types. These occur at the southern end of the reservoir and along protected shores and coves along the western and eastern shorelines of the reservoir. Maps of existing wetland habitats are presented on figures 7-1A – 7-1G in the SMP (UPPCO, 2007).

Dominant plant species observed within the emergent wetland cover types included reed canary grass, tussock sedge, broad-leaved cattail, and soft stemmed bulrush. Common plant species within the shrub wetland cover type included tag alder, sandbar willow, American elm, and silver maple.

The Cataract 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 and

ruffed grouse. Common non-game mammals include red squirrel, snowshoe hare, mink, weasel, raccoon, otter, woodchuck, muskrat, least chipmunk, and coyote. Wetland areas within the project provide habitat for a variety of reptiles and amphibian species including American toad, eastern box turtle, snapping turtle, pine snake, 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 warblers, ruffed grouse, swallows, common raven, common yellow throat, black-capped chickadee, hermit thrush, red-breasted nuthatch, and hummingbirds. 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.

UPPCO manages wildlife in project lands in accordance with the approved wildlife management plan. Objectives of this plan include managing wildlife resources for consumptive and non-consumptive use by providing for wildlife diversity and protecting endangered resources. A component of this plan includes the installation of nesting structures for a variety of bird species such as wood ducks, blue birds, mallard ducks, purple martin, osprey, kestrel, and owls. The installation of these structures occurred from 2001-2003.

In addition to those listed above, several state sensitive species occur within the project. State-listed threatened species are the osprey (*Pandion haliaetus*), and bald eagle (*Haliaeetus leucocephalus*). Federally listed species are discussed in section VI.C.5, *Threatened and Endangered Species*.

During field surveys, UPPCO biologists did not observe any active or inactive bald eagle nests, but did see several suitable perch trees. Surveyors documented three separate eagle observations (two adult and one immature) across the study area.

#### b. Environmental Impacts and Recommendations.

UPPCO's SMP allows certain non-project uses within the project boundary surrounding the Cataract reservoir as defined in four classifications: Conservation – Limited Public Trail Area, Conservation – Limited Enhanced View Area, 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.

Additionally, UPPCO's proposed SMP is intended to replace the approved CLMP, which would be eliminated in its entirety from the project license.

### **Vegetation**

Under the proposed SMP, UPPCO would permit some limited vegetation removal in all 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 would 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.

In their January 28, 2008, letter, 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 residential land use adjacent to project lands and the removal of vegetation for paths and view enhancement areas was not considered in the development of the CLMP. The agencies request that this plan be rewritten to address the proposed activities.

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, 1.7 percent of the shoreline perimeter would be within conservation zones where the SMP would permit clearing for enhanced view areas. The SMP would permit pedestrian paths in lands surrounding 1.5 percent of the shoreline. The creation of public trails, enhanced view areas, and paths would result in the 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 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.

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.

While the clearing of vegetation would have an unavoidable effect on forest structure and habitat, the extent of the area where UPPCO would permit clearing at Cataract is small relative to the entire shoreline.<sup>11</sup> Permitting the limited removal of vegetation within this area would not change the general character of the vegetation community surrounding the reservoir.

Although UPPCO has developed design criteria for enhanced view areas and paths, site visits may be required. UPPCO 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, and identify tree limbs where trimming would be allowed. Implementing these measures would ensure that the landowners are 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

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<sup>11</sup>The SMP for UPPCO's Au Train Project would allow clearing for enhanced view areas along 54.9 percent of the shoreline. The potential for effects on interior forest habitat resulting from this clearing led Commission staff to recommend additional restrictions on the size of individual enhanced view areas. At Cataract, overall effects on interior forest habitat would be minimal because the proposed SMP would only permit enhanced view areas along 1.5 percent of the shoreline. As such, no additional restrictions on enhanced view areas are necessary in this case.

visit. If UPPCO would commit to pre- and post-clearing site visits, it would minimize the potential for accidental violations to the design criteria, and the resulting effects on vegetation.

### **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 wetland effects wherever possible. In instances where wetland crossings are unavoidable, UPPCO states that it 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 effects on wetlands.

In their January 28, 2008, letter, 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 Cataract reservoir, and their importance 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 instances where wetlands are abutted by Conservation – Limited Enhanced View Areas, Conservation – Limited Public Path and Limited Enhanced View Areas, and General Use/Formal Recreation Areas. Wetland effects would occur if paths, trails, or docks were constructed in any wetland habitat. If the proposed SMP included language prohibiting the removal of vegetation in wetlands, and stipulating that UPPCO or the landowner consult the U.S. Army Corps of Engineers on any unavoidable effects under section 404 of the Clean Water Act, UPPCO would further minimize the effects on wetlands.

### **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 recommend that monitoring and control are 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 recommend that the noxious plant control plan 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 noxious plan monitoring plan 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 noxious plant monitoring plan only includes monitoring of aquatic and wetland areas. The plan does not evaluate the potential introduction of terrestrial invasive species such as orange hawkweed which has been documented in the vicinity of the project. 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 for terrestrial invasive species, the risk of a negative effect resulting from noxious weeds would be minimized.

### **Wildlife**

To minimize potential effects on wildlife, UPPCO proposed to place limits in the SMP on the types and quantities of vegetation that landowners could remove to create trails, paths, and enhanced view areas. The SMP specifies that all other areas be left in a natural state and any non-project activities are prohibited.

In their January 28, 2008, letter, 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, including waterfowl, and point out that non-project activities are proposed for areas containing wood duck, bluebird, and bat structures.

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. As discussed above, the potential exists for some localized reductions in understory canopy as shrubs and tree limbs are cleared around trails, paths, and enhanced view areas. This habitat provides perching and foraging sites 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 of the existing wildlife habitat. However, in areas where proposed non-project activities would occur adjacent to structures created as mitigation for wildlife effects (bird boxes and bat boxes), as was prescribed in the original license, these activities would reduce the benefit that these structures provide to wildlife. If UPPCO relocates any such structures to suitable areas where no new activities are proposed, it would further minimize effects on wildlife.

The licensee's proposal includes a request to amend its approved wildlife management plan. Pursuant to the approved plan, UPPCO is required to maintain land within the project boundary in a manner that protects and enhances wildlife habitat, waterfowl habitat, osprey and blue bird nesting, and bald eagle protection. Within a 200 foot buffer zone around the impoundment, timber harvesting is limited to aesthetic management techniques (logging impacts are minimized by reducing slash visibility, logging in the winter, and precautionary skidding).

UPPCO proposes to classify lands within the 200-foot buffer zone to preserve and protect the project's land and water resources while providing for hydropower operations, future recreational enhancements, and lake access for the general public and adjacent landowners. UPPCO proposes to prohibit all timber harvesting practices, including aesthetic management techniques, on all project lands while continuing to manage wildlife at the Cataract impoundment in accordance with all other aspects of the approved plan.

Common Loon Research and Conservation and the Resource Agencies state there are inconsistencies with approved plans and that they are outdated. The licensee's request to amend the wildlife management plan would clarify the policy that no timber harvesting would be allowed on any project lands and ensure consistency with the SMP. We do not agree with UPPCO's request to amend its approved wildlife management plan at this time due to the fact that the locations of some of the proposed recreational enhancements have not been identified. Once site specific plans have been identified an amendment of the approved wildlife management plan would be more comprehensive and could be prepared in a more cooperative manner with other resource plans.

### *Bald Eagle*

To minimize potential effects 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. No active nests were identified during field studies; however, UPPCO would 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 bald eagle management plan, which includes sharing the cost of future Forest Service surveys, maintaining records of observations by UPPCO hydro operations personnel, and coordinating with Resource Agencies. As stated in this plan, UPPCO employees would observe eagle use of the project area, and when observations are noted that are not consistent with existing patterns, UPPCO would contract a consultant to do further investigation.

In their January 28, 2008, letter the Resource Agencies assert that increases in human activity resulting from the proposed SMP would have additional effects on the bald eagle.

Implementation of the proposed SMP has the potential to affect 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 can be 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, as stated in the FWS draft National Bald Eagle Management Guidelines (FWS, 2007), any human activity that agitates or bothers roosting eagles to the degree that causes injury or substantially interfered with breeding, feeding, or sheltering behavior and causes, or is likely to cause, a loss of productivity or nest abandonment constitutes a violation of the Bald and Golden Eagle Protection Act's prohibition against disturbing eagles (FWS, 2007). Eagles are most sensitive to human activity during nesting periods and are less disturbed while feeding. No eagle nests were observed within the project area, and



UPPCO's existing management plan includes measures for the protection of future nests. The existing plan should be sufficient to minimize effects on eagles and no revisions are necessary.

While UPPCO stipulates that no eastern hemlock trees would be removed or limbed, 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 reduce the potential for reducing bald eagle roosting and/or nesting areas.

## **5. Threatened and Endangered Species**

### **a. Affected Environment.**

During the consultation process, FWS (2008) identified the federally threatened Canada lynx (*Lynx canadensis*) as the only federally listed species potentially occurring in the project area. 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 Marquette County.

### **b. Environmental Impacts and Recommendations.**

To minimize effects on the Canada lynx, UPPCO would continue to manage those lands within the 200-foot buffer not subject to enhanced view treatments, paths, or the proposed public trail as mature mixed forest. In their January 28, 2008, letter, the Resource Agencies did not make any comments directly related to the Canada lynx.

Forest within the project area may be suitable for lynx; however, due to the narrow buffer of land managed by UPPCO, the land within the project boundary is not a sufficient habitat area to support this species. If lynx are present in areas adjacent to the project, they could utilize project lands for dispersal, or as a component of their range. Implementation of the proposed SMP would result in some limited removal of mid-story and some upper story forest vegetation. Human presence within and adjacent to the reservoir is expected to increase in conjunction with increased development.

Canada lynx are secretive and sensitive to human presence. If development and human activity within and adjacent to the Cataract reservoir occur, it is unlikely that lynx would utilize this habitat. However, because there is no evidence that lynx have utilized this habitat in the past, implementation of the proposed SMP would have no effect on the Canada lynx.

## **6. Aesthetic Resources**

### **a. Affected Environment.**

The Cataract reservoir is long, thin, and winding with ledges (on the east end) and extensive emergent grassy areas (central portion). The Cataract reservoir is natural appearing and has a remote feeling because of the enclosed and winding shore which feels more like a meandering river rather than a lake. Development on the reservoir, other than that related to power generation, includes a handful of homes fronting the shore on the western-most reach of the project area, transmission lines, a bridge, and boat landing, also located on the western end. A picnic area in the vicinity of the Michigan Highway 35 bridge allows filtered views of the water (E-PRO, 2006).

The shoreline and surrounding lands are forested, creating a pristine natural environment (FERC, 1997b). The surrounding vegetation is mostly conifers, punctuated by pockets of mixed woodland which makes the fall color less dramatic. The greatest change in relief from the water to the highest surrounding terrain within 0.5 mile of the shore is only about 38 feet (to the south) (E-PRO, 2006).

The water of the reservoir is colored as a result of high tannin concentrations that occur naturally. Annual draw-down does not produce a marked aesthetic impact. The large expanse of conifers limits the display of fall color (E-PRO, 2006).

### **b. Environmental Impacts and Recommendations.**

Over the long-term, additional shoreline development at the Cataract reservoir 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 40 private boat slips are proposed at the Cataract reservoir. 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 filled comments with the Commission stating concerns with the potential impact on aesthetic resources. The licensee's proposed SMP for the Cataract reservoir includes approved dock zones that were selected to minimize visual impacts. To further minimize visual impacts at the Cataract reservoir, 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.

No cultural resource surveys have been performed at the project during preparation of the proposed SMP. The area of potential effects (APE) for this undertaking includes all lands within the project boundary around the Cataract reservoir. Review of the National Register of Historic Places (NRHP) does not indicate the presence of any historic properties within the APE for the project (NPS, 2008).

A 1991 Phase I cultural resources inventory of the project focused on the immediate vicinity of the hydroelectric facility (dam, penstock, and powerhouse), the access roads, and the public access areas on the shores of Cataract reservoir. The literature search and field examinations identified no significant cultural materials. However, the State Historic Preservation Officer (SHPO) determined the Cataract Hydroelectric Plant to be historically significant and eligible for nomination to the NRHP. The SHPO's determination was based on the project's association with the Cleveland-Cliffs Iron Company, a corporation historically significant in the development and exploitation of the Upper Peninsula's natural resources, combined with the fact that this was one of the best-preserved and least-altered of Cleveland-Cliffs' hydroelectric plants. The SHPO identified the diversion dam and intake, tunnel and steel penstocks, surge tank, substation, and powerhouse as over 50 years old and of interest in terms of protection and historical integrity (FERC, 1997b).

A Programmatic Agreement (PA) was executed on December 30, 1993, among the Commission, the Michigan SHPO, the Wisconsin SHPO, and the Advisory Council on Historic Preservation. This PA is included in Article 412 of the Cataract license. The PA required the licensee to develop a historic resources management plan (HRMP) that addressed (1) shoreline monitoring, (2) unsurveyed lands within the project boundary, (3) archaeological properties on non-managed lands within the project boundary, and (4) protection of the historic generating facilities. The PA further required the licensee to file a copy of the HRMP with the Commission and the SHPO for review. If the SHPO agreed with the HRMP, the licensee implemented the HRMP. On January 12, 1999, the licensee filed an HRMP with the Commission. On March 15, 1999, the Commission issued a letter to the licensee stating it had reviewed the HRMP and found it met the requirements of Article 412 and the PA.

### b. Environmental Impacts and Recommendations.

Implementation of the proposed SMP would not change project features or operation; therefore, this Federal undertaking would have no effect on the features of the plant identified as historically significant and eligible for nomination to the NRHP. In the future, we expect that shoreline development would occur on the Cataract reservoir

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.

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 suspend work activities, notify the SHPO, and contract with a professional archaeologist to conduct a Phase I site evaluation study as outlined in the HRMP and the PA. Given this information, we find that implementation of the executed PA and HRMP 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 Peninsular of Michigan is a region rich in recreational resources. Outdoor resources within Marquette County include 79 miles of Lake Superior shoreline, 4,000 miles of stream, 1,800 inland lakes, and numerous scenic waterfalls. Common spring, summer, and fall recreational activities include fishing, boating, canoeing, hiking, hunting, camping, and sightseeing. Winter activities include snowmobiling and icefishing. Within Marquette County there are 533 campsites, 19 picnic areas, 18 boat launches, 6 scenic hiking trails, 200 miles of snowmobile trails, and various other recreation facilities (FERC, 1997b).

Portions of the Escanaba River State Forest are located just beyond the licensee's ownership boundaries. Facilities in the forest include three state campgrounds, one ski trail, and six fishing access sites (FERC, 1997b).

The Cataract Project is located in a relatively remote area and offers modest recreational opportunities in an undeveloped setting. Fishing is the leading recreational activity at the project.

The Cataract reservoir provides opportunities for fishing, dispersed camping, and small boat and canoe launching. The reservoir is small and shallow, which tends to limit the overall use and activities that occur at the project site. There are five recreational access sites on the reservoir (four owned by UPCCO and one by Michigan Department of Transportation) and one access site below the dam. All sites provide canoe and small

boat carry-in access, and two can be used for launching slightly larger boats. The Michigan Department of Transportation maintains a day-use facility near the head of the reservoir near Michigan Highway 35 that provides eight parking spaces, two picnic tables, and a grill. It is also possible to launch canoes and small boats at this site, although there is no specific designated put-in.

The bypassed reach is relatively inaccessible, which limits recreational opportunity or interest. The presence of project facilities (the power canal) limits access on the south side of the reach; and lack of roads or paths limits access to the north side of the reach. Visitors to the reservoir are able to walk across the dam to reach the north side of the bypassed reach. With the exception of the recreation facilities which are scattered along the reservoir, a few residences on the westernmost reach of the project area, and approximately one dock, the Cataract area's shoreline is undeveloped.

UPPCO's approved recreation plan includes, among other things, warning sirens and signs, directional signs along the canoe portage, access road to the tailrace, and along Michigan Highway 35; a boat launch area with parking and picnic facilities, and provisions for removing or permanently opening the gate to the tailwater area.

FERC's Licensed Hydropower Development Recreation Report (Form 80 report)<sup>12</sup> includes recreational data for all recreational activity occurring within the project boundary, collectively accounting for UPPCO facilities and those facilities provided by other recreation providers. Based on the latest Form 80 report, the Cataract Project had a total of about 216 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 Cataract Project in 2002.

Type of Recreation Resource	Number	Total Acres	Level of Use <sup>a</sup>
Access Areas	4		Low
Boat Ramps	1		Low
Boat Launching Lanes	1		Low
Canoe Portages	1	0.5 mile	Low
Tailwater Fishing Facilities	1		Low
Fishing Pier	1		

<sup>12</sup>To evaluate recreational resources at the project, the Commission requires the licensee to prepare and submit a FERC Form 80 (Licensed Hydropower Development 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.

<b>Type of Recreation Resource</b>	<b>Number</b>	<b>Total Acres</b>	<b>Level of Use<sup>a</sup></b>
Park	1	4	
Picnic Areas	2	8	Low
Hunting Areas	1	200	Low
Winter Sports	1		Low

<sup>a</sup> 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 to 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 CLMP outlines the forest management concepts, including a forest reconnaissance survey of existing resources, aesthetic management for areas requiring more restrictive prescriptions, even-aged management on stands with single age classes, and all-aged management for stands with multiple age classes. The licensee's plan employs the most recent science-based forest management principles and silvicultural techniques, with the primary emphasis placed on sustained forest management, future timber values, and minimization of biological pests and other forest health problems. Natural resource protection techniques such as BMPs for water quality, extra caution with pesticides and toxic substances, and avoidance of high risk environmental hazards would be used in all timber operations. The plan contains provisions for cooperation with MDNR and other agencies for fire prevention, detection, and suppression on company-owned lands.

Pursuant to the standard land use article, the licensee has the 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.

**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 reservoir. Public recreational development would include improvements to existing formal recreation facilities, installation of a barrier-free fishing pier, a historical interpretive sign, public trail system, and production of recreation brochures and bathymetric map.

The percentage of proposed shoreline classifications in the project area is shown in section IV.1 in table 1 and figure 3. That section also contains full descriptions of each type of classification.

The Resource Agencies commented the shoreline classifications are confusing. The classification system identifies five categories along the project shoreline (see figure 3 in section IV.1) 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. Other than snowmobile use in the winter, the use or parking of motorized vehicles would be prohibited except at designated recreation areas, existing roads, project operations areas, 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.

About 2.2 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 Resource Agencies commented that, without defining a desired character for each basin, any assumptions made or conclusions reached regarding watercraft capacity, type of watercraft, or other appropriate recreation are premature and without context. The licensee conducted a literature review/desktop analysis of boating carrying capacity and concluded reservoir configuration, width of buffer zone, types of watercraft and their associated activities, and the expectations related to the water body all factor into the determination of a boating carrying capacity for a particular water body. Unique to this reservoir is a very narrow configuration that the licensee states contradicts the methodology of the literature-based boating carrying capacity analysis that was conducted as part of the resource assessment for the project (E-PRO, 2006). Because of the shoreline configuration, useable lake surface area was reduced to only 16 acres, theoretically limiting the carrying capacity to a range of 1 to 13 boats.

However, there is boating activity at the project and with the sale of adjacent non-project lands it is expected to increase. Although the licensee states there is the potential for up to 40 private boat slips, the schedule for development may be spread over many years. Since Marquette County includes 4,000 miles of stream and 1,800 inland lakes, the Cataract reservoir is not one of the more desired destinations due to its small size and shallow depths. It is unlikely that all private boat slip owners would be on the water simultaneously at any given time, and the meandering character of the reservoir would tend to disperse users. Existing boating use consists of kayaks, canoes, motorized

canoes, motorized drift boats, and small fishing boats up to 16 feet long. Motorized boating at the reservoir usually entails outboard motors of 25 horsepower or less.

### **Amendment to Recreation Plan**

The licensee has requested to amend its approved recreation plan to clarify those recreation enhancements, policies, and development guidelines specified in the SMP and to include the recreational enhancements specified in the SMP.

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, we do not concur with UPPCO's request to amend its approved recreation plan at this time. Commission staff has not been provided with enough details to include the specific placement of the enhancements. 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 six recreational enhancements listed in the SMP. We recommend the amendment request be filed for Commission approval and include design drawings of the four construction-related recreation measures, a cost estimate for each facility or production cost for the map and brochure production, identification of the entity responsible for the operation and maintenance of the facilities, and an implementation schedule.

### **Amendment to the CLMP**

The licensee proposes the SMP would replace provisions of the CLMP, thereby eliminating the need for the CLMP. Therefore, UPPCO proposes to amend the project license by deleting Article 411 and the approved CLMP from the license. The license requirement to develop a CLMP was intended to establish policies for existing and future management of the shoreline buffer zone and project lands owned by the licensee. The Resource Agencies state that at the time the CLMP was written and approved, the major threats addressed in the plans involved forestry operations and associated use of roads for logging activities on project lands. The Resource Agencies further state that since the new threats or activities proposed in the SMPs were not addressed in the original license plans, many of the license plans are outdated and must be rewritten.

A review of the project license indicates the CLMP was intended to be a comprehensive document dealing with multiple resources and pressures on those resources. In fact, non-project use of project lands was not mentioned and the main focus of the CLMP was on timber harvesting practices. The proposed SMP focuses on non-project use of project lands, public recreation enhancements, and maintenance of project facilities. The proposed SMP would prohibit timber harvesting on project lands and eliminate any timber management activities. However, the SMP is too narrow in scope to replace a comprehensive land management plan and we do not recommend the SMP



replace the CLMP as the licensee has requested. The SMP does not provide enough detail describing how resources on lands owned by the licensee and not subject to non-project uses would be managed.

We recommend the licensee file for Commission approval, after consultation with the appropriate agencies; a request to amend the approved CLMP to include, at a minimum, to include components to address transportation and access roads, further discussion on fire prevention and response, management of forest pests, the management of the licensee's use of hazardous substances.

### **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. Such specific types of uses may include the installation of private boat docks, pedestrian pathways, wooden walkways and stairs, and development of public trail systems. 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. It is important to note that dock facilities for a unit of development, allowed pursuant to Article 414, are limited to a total capacity of 10 watercraft (i.e., 10 slips).<sup>13</sup> The licensee would be expected to file, for Commission approval, any dock proposals that involve more than 10 slips for a single unit of development.

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, Robert and Sarah Wagner, 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.

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<sup>13</sup>A unit of development would include, but is not limited to, a single, planned, residential subdivision. The licensee would not be allowed to approve the construction of multiple docks containing 1 to 10 slips each under Article 414 for this single subdivision.

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. 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 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 does utilize an environmental analysis to consider 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, the proposed land use classifications limit potential development along the shoreline to 10 locations which represent only 1.5 percent of the available shoreline. 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 (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. As stated earlier in this EA in section VI.C.4, *Terrestrial Resources*, without a site visit prior to 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 prior to vegetation removal to flag the area to ensure compliance with the terms and conditions of its permit.

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 Cataract Project includes Forsyth Township and Marquette 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 population of Marquette County rose by just 0.1 percent to 65,760, while the population of Michigan as a whole increased by 14 percent. During the same 35-year period, the Forsyth Township population decreased by 41 percent, reaching 4,857 in 2005 (UPPCO, 2007). While three-quarters of the Michigan population is classified as living in urban areas, 58 percent of the residents of Marquette County are classified as living in urban areas.

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 significantly higher in Forsyth Township (47 percent) (UPPCO, 2007).

Marquette County lags behind Michigan and the United States in measures of income. In 1999, residents earned 80 percent of the median household income and 82 percent of the per capita income for Michigan residents as a whole. However, the percentage of people living below the poverty level in Marquette County (11 percent) was the same as that 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) (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: agriculture, forestry, fishing and hunting, and mining; arts, entertainment, recreation, accommodation, and food service; education, health and social services; other service occupations; and construction, extraction, and maintenance occupations. At the same time, a lower percentage of people were employed in industries such as manufacturing and professional, scientific, management, administrative, and waste management services (UPPCO, 2007).

In its comments filed with the Commission, the organization 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 Cataract reservoir 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 and the Lake Superior Community Partnership 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 Cataract) 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 Cataract reservoir 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 river 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 reservoir'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 reservoir shoreline.

## **VII. CONCLUSION AND RECOMMENDATIONS**

Water-based recreational activity and waterfront and water access properties are growing in demand and value throughout the Cataract Project area. Local counties and municipalities also benefit economically from the existence of the reservoir. 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 2037.

As future shoreline development occurs around the reservoir, 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. While such development would have some impacts on the Cataract reservoir's shoreline and reservoir resources, the proposed SMP 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 adjoining 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 reservoir's resources.

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

While the SMP is generally adequate and accomplishes most of the stated objectives and purposes, it does not fully address specific issues and concerns as noted in

the above analysis. As such, Commission staff makes the following recommendations to address these outstanding issues and concerns. 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 wetlands, and stipulate that the U.S. Army Corps of Engineers be consulted 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, such as 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. The existing noxious plant control plan 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 and compromise the use of some nesting structures installed in compliance with the license. 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. Increased human activity and vegetation removal surrounding installed nesting structures would reduce the value of the structures.

- We recommend that UPPCO relocate any installed wildlife structures that are within recreation and enhanced view areas. These structures should be placed in suitable areas where no new activities are proposed.

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 be implemented in a cooperative manner. Concerning the licensee's request to amend the approved wildlife management plan, UPPCO has not provided Commission staff with site location information concerning all of the proposed recreational enhancements. Once the locations for the recreational enhancements have determined, a more meaningful comprehensive analysis can be conducted.

- We recommend the licensee develop and file for Commission approval, an amendment request to the wildlife management plan after the location of all of the recreational enhancements have been determined. The amendment request should include, at a minimum, the locations of the recreational enhancements in relation to important wildlife habitat, waterfowl habitat, osprey and blue bird nesting, and bald eagle protection. The amendment request should also include documentation of consultation with the appropriate agencies, agency recommendations, and if a recommendation is not incorporated into the plan provide the reasons why they were not incorporated.

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 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. This would prevent the loss of suitable bald eagle habitat.

The Resource Agencies commented the SMP lacks a formal framework for monitoring, enforcement, 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 Cataract 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 prior to 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 prior to vegetation removal to flag the area, as well as visit the site 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

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. Therefore, any proposed changes to these classifications or proposals to alter shoreline uses that are not consistent with the SMP

should be filed for Commission approval in advance of any inconsistent activities. The licensee should prepare such proposals in consultation with appropriate agencies.

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 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 six recreational enhancements listed in the SMP. We recommend the amendment request be filed for Commission approval and include design drawings of the four construction-related recreation measures, a cost estimate for each facility or production cost for the map and brochure production, identification of the entity responsible for the operation and maintenance of the facilities, and an implementation schedule.

The Resource Agencies state that at the time the CLMP was written and approved, the major threats addressed in the plans involved forestry operations and associated use of roads for logging activities on project lands. The Resource Agencies further state that since the new threats or activities proposed in the SMP were not addressed in the original license plans, many of the license plans are outdated and must be rewritten.

A review of the project license indicates the CLMP 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. The proposed SMP would prohibit timber harvesting on project lands and eliminate any timber management activities. However, the SMP is too narrow in scope to replace a CLMP and we do not recommend the SMP replace the CLMP as the licensee has requested. The SMP does not provide enough detail describing how the resources on lands owned by the licensee and not subject to non-project uses would be managed.

- We recommend the licensee file for Commission approval, after consultation with the appropriate agencies; a request to amend the approved CLMP to include, at a minimum, management provisions for other project lands not covered by the SMP, components to address transportation and access roads, further discussion on fire prevention and response, management of forest pests, the management of the licensee's use of hazardous substances, and the distribution of the CLMP and SMP to riparian owners within the project boundary.

## 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.

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