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## POTATO LAKE AQUATIC PLANT MANAGEMENT GOALS, OBJECTIVES, AND ACTIONS

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### GOAL 1: PROTECT AND PRESERVE THE NATIVE SPECIES COMMUNITY WITHIN AND AROUND POTATO LAKE

Native plant and animal species in a lake are a valuable and vital part of a healthy lake ecosystem. Potato Lake has a number of native plants and animals that warrant special consideration. Wild rice has been and will continue to be a highly valuable resource in Potato Lake. The unique lake characteristics that support the second documented breeding population of the Pronghorn Clubtail dragonfly should be maintained. The local fishery is satisfactory at the present time, but with the potential of winter fish kill it is important to maintain a dialogue with the WDNR. Protecting the overall distribution, diversity, density of the aquatic plant community will help to maintain better water quality, may help keep aquatic invaders at bay, and will help to preserve the uniqueness of the system.

OBJECTIVE 1: MAINTAIN OR EXCEED MEASUREMENTS OF A HEALTHY NATIVE AQUATIC PLANT COMMUNITY OVER THE COURSE OF THE NEXT FIVE YEARS (2021-25).

**Table 1: Values to Measure the Health of the Native Aquatic Plant Community in Potato Lake**

All Plants	2019
Simpson's Diversity Index (SDI)	0.90
Floristic Quality Index (FQI)	32.3
Total Species Richness including boat survey	42

**Action Item:** Complete a whole-lake, point-intercept, aquatic plant survey in five years if management actions are implemented.

**Action Item:** Determine appropriate management actions annually based on management and survey results from the previous year.

- Determine areas to be harvested annually based on where problems exist and if the area has been identified in previous surveys
- Representatives from the PLA and/or a resource professional retained by the PLA will use prior year plant survey results and management results to determine "next year" management actions.

**Action Item:** Implement aquatic plant management actions that will minimize to the extent possible disruption of the native aquatic plant population and wildlife habitat.

OBJECTIVE 2: MAINTAIN OR IMPROVE MEASUREMENTS OF WATER QUALITY OVER THE COURSE OF THE NEXT FIVE YEARS (2021-25)

**Action Item:** Continue involvement in the WDNR/UWEX-Lakes CLMN Water Quality Monitoring Program at the Deep Hole location in Potato Lake.

- Collect Secchi disk readings of water clarity and temperature/dissolved oxygen profiles 2-3 times per month May-October.
- Collect total phosphorus and chlorophyll-a through the CLMN expanded water quality monitoring program May-August.

**Action Item:** Continue dissolved oxygen testing through the winter months to provide information for consideration of future winter aeration projects.

- Maintain a dialogue with WDNR fisheries managers regarding the possibility of winter fishkills.

**Action Item:** When resources are available, complete total phosphorus and chlorophyll a sampling in September and October.

- CLMN water sampling ends in August, but in many lakes the poorest water quality is in the late summer, early fall.

## **GOAL 2: REDUCE NUISANCE AND NAVIGATION ISSUES CAUSED BY EXCESSIVE AQUATIC PLANT AND ALGAE GROWTH IN POTATO LAKE.**

This plan recognizes that there are areas of Potato Lake that do present nuisance conditions and/or make access to open water from riparian owners difficult. NR 109 sets guidelines for the physical removal of nuisance aquatic vegetation without a permit. Physical removal should always be the first management action attempted to reduce issues caused by dense growth vegetation. In areas where physical removal may be overwhelming, navigation lanes parallel to shore at a depth of at least 3-ft have been identified. In areas where dense growth vegetation extends for several hundred feet out toward open water, a limited number of open water access lanes perpendicular to shore have been identified. In these areas harvesting can be implemented with an approved permit from the WDNR. Permit applications are required annually.

### **OBJECTIVE 1: PROVIDE SEASONAL RELIEF FROM EXCESSIVE AQUATIC PLANT GROWTH IN THE NEARSHORE AREA ADJACENT TO DEVELOPED SHORELINE.**

**Action Item:** Physical removal of aquatic plants by property owners in shallow areas around docks, lifts, swimming areas, and where wild rice is present.

**Action Item:** The PLA may purchase weed rakes or cutters for use by property owners and/or consider hiring someone to do physical removal for property owners.

### **OBJECTIVE 2: CREATE NAVIGATION LANES THROUGH AREAS OF DENSE SUMMER VEGETATION THAT INTERFERE WITH GENERAL LAKE ACCESS AND USE.**

**Action Item:** Implement small-scale mechanical harvesting in pre-designated areas under the following guidelines.

- No more than 4.0 acres (<2%) of the surface area of the lake will be harvested in any single year.
- Harvesting will only occur in pre-determined navigation lanes in water >3-ft deep
- Harvesting depth in any location will not exceed two-thirds (2/3) of the depth of the water column.
- Lanes will be no more than 20-ft wide.
- Areas to be harvested must be included in a mechanical harvesting permit.
- Harvesting for the specific purpose of removing wild rice is illegal. Incidental take of wild rice will be avoided.
- Harvested material disposal sites will be identified by the PLA and approved by the WDNR.
- PLA representatives will complete an inspection of contracted harvesting equipment prior to it being launched in Potato Lake.
- PLA representatives will be present while contracted harvesting operations are going on to make sure it is done according to an approved plan.
- The PLA will keep records of what plant species are harvested, where they are harvested, and how much is harvested annually.

**Action Item:** Experiment with different small-scale harvesting methods to determine which are the best fit for Potato Lake.

- Determine the efficiency and effectiveness of different levels of harvesting beginning with rakes and cutters, moving to contracted harvesting, and then possible purchase of mechanical harvesting equipment by the PLA.

**GOAL 3: KEEP NEW AIS FROM ENTERING THE LAKE AND EXISTING AIS FROM INCREASING THEIR DISTRIBUTION AND DENSITY.**

At the present time Potato Lake is free of aquatic invasive species like CLP, EWM, and purple loosestrife that can negatively impact an aquatic ecosystem. Efforts to prevent these and other non-native aquatic invasive species from getting into the lake through watercraft inspection and in-lake monitoring are paramount to preserving the ecological integrity of Potato Lake. Efforts to educate and inform all lake residents and users need to be continued and repeated on a regular basis.

**OBJECTIVE 1: IMPLEMENT ACTIONS TO PREVENT NEW AIS FROM ENTERING AND BECOMING ESTABLISHED IN THE LAKE.**

**Action Item:** Make AIS prevention and constituent education a regular part of PLA annual activities.

- Apply for a CBCW grant to support watercraft inspection annually.
- Maintain current AIS signage and a decontamination station at the landing.

**Action Item:** Make AIS monitoring of Potato Lake a regular part of PLA annual activities

- Participate in CLMN AIS monitoring.
- Hire resource professionals to complete AIS recon and mapping surveys.
- Complete physical removal of any AIS like purple loosestrife or CLP located during surveys.

**OBJECTIVE 2: INCREASE THE LEVEL OF LAKE PROPERTY OWNERS AND LAKE USERS AWARENESS AND KNOWLEDGE ABOUT AIS AND HOW TO IDENTIFY THEM**

**Action Item:** Increase lake user AIS awareness and education by distributing AIS materials, holding workshops, and discussing them at annual meetings and other PLA events.

**Action Item:** Report findings of suspect AIS to the Washburn County, WDNR, and other resource entities.

**GOAL 4: IMPROVE FISH AND WILDLIFE HABITAT, REDUCE RUNOFF, AND MINIMIZE NUTRIENT LOADING INTO POTATO LAKE.**

An important part of controlling undesirable aquatic plant growth and the production of algae is reducing the amount of nutrients (mainly phosphorus) that enters the lake. The PLA will promote and encourage the implementation of simple and generally inexpensive best management practices including but not limited to shoreland buffers, rain gardens, diversions, and infiltration trenches to reduce runoff and nutrient loading from the nearshore area.

Trees and other vegetation that naturally fall into a lake or that is intentionally placed in the lake by permit, is known as coarse woody habitat (CWH). CWH provides many benefits to fish and wildlife. Like aquatic vegetation, CWH is essential to the overall health of a lake and should be protected and enhanced, not eliminated. The PLA will provide information about and encourage property owner participation in protecting and/or enhancing CWH.

**OBJECTIVE 1: IMPLEMENT AT LEAST ONE HEALTHY LAKES AND RIVERS PROJECT ANNUALLY ON POTATO LAKE.**

**Action Item:** Introduce projects included in the Healthy Lake and River program to property owners on Potato Lake.

- Identify at least one property owner willing to implement a Healthy Lake and Rivers project annually.
- Identify at least three locations for the installation of Fishsticks in the next five years.

**Action Item:** Apply for at least one Wisconsin Healthy Lakes and Rivers grant in the next five years to support projects that will improve fish and wildlife habitat and reduce runoff into Potato Lake.

**GOAL 5: ASSESS THE PROGRESS AND RESULTS OF THIS PROJECT ANNUALLY AND REPORT TO AND INVOLVE OTHER STAKEHOLDERS IN PLANNING EFFORTS.**

This APM Plan is not intended to be a static document, but rather a plan that makes room for management changes that still fall under the guise of the stated goals, but that may make attaining those goals easier and more efficient. Call adaptive management, the ability to assess management actions implemented each year and to modify them to better meet stated goals, is a necessary component of management planning. Management actions implemented in each year of this plan will be evaluated for how well they helped meet stated goals and objectives. Small changes will be made automatically if it is determined they will improve outcomes. Larger management changes will be presented to the PLA, WDNR, and other Stakeholders for approval before implementation.

An end of project report summarizing the success and failures after five years of management will be completed. This report will be completed by the PLA and its retainers and shared with property owners, lake users, WDNR, and other Stakeholders. A whole-lake, summer, PI, aquatic plant survey will be completed following the last year included in this plan (2025) following the same procedures that were used in the past PI surveys. Results from all PI surveys will be compared to each other with the results leading to development of the next five years of aquatic plant management in Potato Lake.

**OBJECTIVE 1: BUILD AND SUPPORT NEW AND EXISTING PARTNERSHIPS EACH YEAR.**

**Action Item:** The PLA will communicate with local, county, and state entities; schools and local business; clubs and organizations, etc. to generate support for management actions.

**OBJECTIVE 2: COMPLETE ANNUAL PROJECT ACTIVITY AND ASSESSMENT REPORTS.**

**Action Item:** The PLA and their Consultant will prepare end-of-year reports summarizing the management actions completed and how they impacted the lake and share/review them with the PLA constituency, partners, and the WDNR.

**OBJECTIVE 3: PROVIDE MULTIPLE OPPORTUNITIES AND VENUES ANNUALLY FOR LAKE RESIDENTS, USERS, AND OTHER PARTNERS TO KEEP INFORMED ABOUT MANAGEMENT PLANNING AND IMPLEMENTATION ACTIVITIES.**

**Action Item:** The PLA will distribute annually management planning and implementation information to PLA constituency via newsletters, with social media outlets, at local businesses, and during meetings and other events attended by PLA members.