

Appendix B – 2024-28 Aquatic Plant Management Goals, Objectives, and Actions

Goal 1 – Maintain open and involved stakeholder participation in EWM management planning, implementation, and evaluation.

It is a goal of this APM Plan to continue with regular Stakeholders Discussions regarding management actions implemented on the Minong Flowage. Greater involvement by all stakeholders in the management process will increase the support needed to affect implementation. Regular stakeholder discussion also provides a forum to share the results of management.

Objective 1: The MFA will plan and participate in Stakeholders Discussions

- 1) Schedule stakeholder discussions 1-3 times per year that include at a minimum: the MFA, WDNR, St. Croix Tribal Resources, Great Lakes Indian Fish and Wildlife Commission, Washburn County, Douglas County, and the Towns of Minong and Wascott. Other stakeholders can be added.

Goal 2 – Protect and enhance the native aquatic plant community.

It is the goal of the management actions in this plan to protect and enhance the native aquatic plant community in the Minong Flowage, causing no sustained decline in measures of a healthy and diverse aquatic plant community. EWM management actions and CLP management actions (if needed) will be completed in ways proven to cause the least harm to non-target plant species.

Objective 1: Maintain or improve general measurements of aquatic plant community health (Simpson's Diversity Index, FQI, Mean Coefficient of Conservatism, and Mean native species at sites with vegetation).

- 1) Implement aquatic plant management actions that will do the most for protecting and enhancing the native plant population while controlling the target species.

Objective 2: Measure the effectiveness and impacts of large-scale EWM management actions on aquatic plants.

- 1) Complete sub pre- and post-treatment PI aquatic plant surveys within proposed herbicide application areas that exceed five acres in size and/or ten total acres.
- 2) Complete whole-lake pre- and post-drawdown PI aquatic plant surveys when implementing a winter drawdown.

Objective 3: Measure the five-year impact of EWM management actions completed on the Minong Flowage.

- 1) Repeat a whole lake, PI, aquatic plant survey in 2028 (subject to when other whole-lake PI surveys have been completed).
- 2) Review and revise the existing APM Plan for implementation in 2029-33.

Goal 3 – Minimize the negative impact of EWM on the native aquatic plant community, lake use and access, and the investment of property owners.

An integrated, scenario-based approach to management that incorporates physical removal (including diver/DASH), application of aquatic herbicides, and winter drawdown will be implemented between 2024 and 2028 to control EWM. Scenario-based means that there is no pre-determined limit or exceedance necessary to implement management actions. Instead, any amount of EWM can be managed anywhere in the Flowage at any time, but the management actions implemented must follow certain guidelines defined in the APM Plan.

A winter drawdown will impact the entire Flowage and as such, it is the one management action that does come with an established (although not firm) limit for it to be implemented. Unless under extenuating circumstances, a winter drawdown will only be implemented when EWM has reached or exceeded 24% (200 acres) of the 832-acre littoral zone of the Flowage. Extenuating circumstances could include a specific request from St. Croix Tribal Resources, dense growth EWM that creates substantial lake use restrictions, greater restriction on or prohibition of the use of any aquatic herbicide, or other circumstance that cannot be predicted ahead of time.

Annual management actions will be determined based on the previous year's results but will generally follow the scenario-based guidelines in Objective 1.

Objective 1: Support a scenario-based approach to managing EWM to keep it from replacing native vegetation and/or blocking navigation.

- 1) EWM will be monitored by volunteers throughout the growing season.
- 2) Summer bed mapping will be completed annually by a Resource Professional.
- 3) Areas of EWM with sparse, isolated plants will be hand pulled or raked by volunteers in shallow water (\approx 3 feet) around docks and along shorelines.
 - a. These services can be completed at any time during the open-water season and do not require a WDNR permit.
- 4) Free diving, snorkel, and/or scuba diver removal of EWM in deeper water will take place in areas with isolated plants, small clumps, or small beds of plants where practical and if resources are available.
 - a. Used on areas of EWM <0.01 acre (not definitive, use as a guideline)
 - b. Could be done by MFA volunteers or contracted by the lake organization, can be completed at any time during the open water season.
 - c. Does not require a WDNR permit.
- 5) DASH can be used in place of or in combination with free diving, snorkel, and/or scuba diver removal of EWM where practical and if resources are available. DASH may allow larger areas of EWM to be managed without the use of herbicides.

- a. Used on areas >0.01 acre (not definitive, use as guideline)
 - b. Would be contracted by the MFA, can be completed at any time during the open water season.
 - c. Requires a WDNR Mechanical Harvesting permit.
- 6) Aquatic herbicides can be considered in any area under the following guidelines.
- a. Conditions exist that are likely to make other management alternatives less effective.
 - i. Bed size and density of EWM in the area (>0.5 acre, not definitive – use as a guideline)
 - 1. Up to a 50-ft buffer can be extended around any mapped bed.
 - 2. Small beds within 100-ft of each other can be combined to make larger beds.
 - ii. Location of the area in relation to lake access and usability
 - 1. Example: Adjacent to the WDNR public boat landing
 - iii. Water depth and clarity
 - iv. Limited or unavailable access to contracted diver or DASH services
 - v. Limited financial resources
 - vi. Less than a majority constituent support for a proposed management action.
 - b. Areas that are <5.00 acres should be treated with ProcellaCOR (PCOR).
 - i. Only to be applied in the main basin of the lake, not the North Bay, Serenity Bay, or the East Basin until more research on its impact to wild rice is completed.
 - ii. Application rates will be limited to 5pdus/acft or less, unless discussion with the Company dealing PCOR, the Consultant/lake organization, the WDNR, and the Applicator recommend and agree on higher rates.
 - iii. 2,4D or triclopyr-based herbicides can be considered if a limno-curtain is installed around the treatment area.
 - c. Areas ≥5.0 acres may be treated with PCOR, 2,4D-based herbicides, 2,4D/triclopyr blends, triclopyr, or contact herbicides (endothall and diquat) depending on available resources.
 - i. Suggested application rates for PCOR are 3-5pdus/acft.
 - 1. Only to be applied in the main basin of the lake, not the North Bay, Serenity Bay, or the East Basin.
 - ii. Suggested application rates for 2,4D-based herbicides are 2-4ppm/acft depending on size (larger treatment areas could be managed with <4ppm/acft).
 - 1. May be applied to the southern halves of the North Bay and Serenity Bay.
 - 2. Fall applications can be considered if near wild rice.
 - iii. Suggested application rates for other herbicides – follow label instructions.
 - iv. Treatments >5 acres using any aquatic herbicide may have a basin-wide or lakewide impact, so the following monitoring is suggested.
 - 1. Pre (prior year and/or year of) and post (year of and/or year after) treatment aquatic plant surveys within the proposed treatment areas.
 - 2. Herbicide concentration monitoring.
 - v. Treatments >10 acres using any aquatic herbicide may have a basin-wide or lakewide impact, so the following monitoring is required.
 - 1. Pre (prior year and/or year of) and post (year of and/or year after) treatment aquatic plant surveys within the proposed treatment areas.
 - 2. Herbicide concentration monitoring.

- d. The same area will not be chemically treated two years in a row with the same herbicide or any herbicide with the same mode of action as determined by Weed Science Society of America (WSSA) Groups.¹
 - i. PCOR, 2,4D, and triclopyr are all Group 4 herbicides.
 - ii. Diquat is a Group 22 herbicide.
 - iii. Endothall is a Group 31 herbicide.
- 7) Winter Drawdown can be considered when EWM in a late summer bed mapping survey reaches 24% (200 acres) of the average littoral zone (832 acres).
 - a. Work with the Washburn County Highway Department to either extend the existing drawdown permit (end date 11/01/2024) or apply for a new 5-yr drawdown permit (through 2029).
 - b. Prepare a WDNR Population Control Grant to help defray expenses associated with the drawdown.
 - i. Primary expenses would include a whole-lake PI survey and reimbursement for lost power generation during the drawdown.
 - ii. Pre-grant due September 15th of the given year.
 - iii. Final grant due November 15th of the given year.
 - c. Complete a whole-lake, PI survey work.
 - i. In the summer/late summer season prior to the planned drawdown
 - ii. In the summer season following the planned drawdown
 - d. Implement other monitoring programs as determined in planning.

Objective 2: Encourage Property Owners to report excessive EWM growth adjacent to their property and to request MFA assistance/guidance in management.

- 1) Evaluate property owner reports for EWM management assistance based on location of the request, level of impairment, ability of property owner to complete physical removal, and available MFA resources to assist.
- 2) Provide property owner assistance if the evaluation determines management assistance is needed, and MFA resources are available.

Goal 4 - Reduce the threat that a new aquatic invasive species will be introduced and go undetected in the Minong Flowage and that existing AIS will be carried to other lakes.

The Minong Flowage is already a source lake for EWM being carried out attached to boats and/or trailers and taken to other lakes. The MFA will continue to implement a watercraft inspection program according to WDNR/UW-Extension Lakes protocol. This program will either be paid for by the MFA or through small-scale CBCW grants applied for by the MFA or by the Minong Town Lakes Committee. Watercraft inspection data will be entered into the WDNR SWIMS database annually. Appropriate AIS signage will be maintained at the three public accesses on the Minong Flowage to improve the AIS awareness of many lake users. AIS monitoring to track the AIS already present in the Flowage and to monitor for possible new AIS will be completed following WDNR/UW-Extension Lakes protocol through the Citizen Lake Monitoring Network (CLMN) AIS Monitoring Program. Monitoring for purple loosestrife,

¹ <https://wssa.net/weed/herbicides/>

yellow iris, curly-leaf pondweed, zebra mussels, spiny waterflea, hydrilla, banded mystery snails, and other species will be completed, and survey data entered to the WDNR SWIMS database annually.

Objective 1: Implement a Clean Boats Clean Waters (CBCW) watercraft inspection program annually.

- 1) Attempt to get 200 hours of paid watercraft inspection at both the County Park and DNR Bay landings, with additional time as warranted at the East Basin (Smith Bridge) landing.
- 2) Encourage and support volunteer watercraft inspection at Pogoes and other private landings, total time unspecified.
- 3) Apply for CBCW grants annually to support watercraft inspection efforts.

Objective 2: Maintain current and complete AIS Signage at public access sites in the Minong Flowage annually.

- 1) Inspect all public and private access points for appropriate AIS signage annually.
- 2) Repair, replace, and/or install current WDNR AIS signs at three landings: County Park, DNR Bay, and the East Basin (Smiths Bridge).

Objective 3: Reduce the likelihood that new AIS goes undetected in the Minong Flowage and track existing AIS for additional spread.

- 1) Participate in CLMN AIS Monitoring at least monthly between May and October each year.
- 2) Map the locations where AIS are found.
- 3) When AIS like purple loosestrife, yellow iris, and Chinese mystery snails are found, remove them from the lake if possible.

Goal 5 - Improve the level of knowledge property owners and lake users have related to aquatic invasive species and their impact on the lake.

The MFA with or without the cooperation of other stakeholders will continue efforts to educate and inform property owners and lake users about AIS already in the Minong Flowage and AIS not already in the Minong Flowage. Efforts will include annual education events; distribution of AIS publications, placement of buoys to mark EWM that is impeding navigation, and discussion forums of various types related to management actions and alternatives.

Objective 1: Plan, coordinate, and implement an annual AIS education event(s) alone or in cooperation with other Stakeholders.

- 1) Seek out other stakeholders including but not limited to the Minong Town Lakes organization, Tribal entities, the Cranberry Lake Association, and Northwest Lakes Conference Planning Committee to explore cooperative education and information events.

- 2) Continue participation in the Minong Town Lakes Fair, Washburn County Lakes and Rivers Association, Douglas County Association of Lakes and Streams, Wisconsin Lakes, and other supportive organizations.

Objective 2: Distribute information and education materials to property owners and lake users.

- 1) Research AIS and lake stewardship materials with little or no cost to attain and make available at events including but not limited to Annual Meetings, Lake Fairs, Summer Picnic, etc.

Objective 3: Provide information annually about the locations of dense growth EWM that may impair navigation.

- 1) Inventory existing EWM buoys annually and repair or replace if necessary.
- 2) Determine buoy placement annually based on previous years aquatic plant survey work.
- 3) Install buoys prior to the MFA annual meeting in June and distribute a map of placement at the Annual Meeting; provide maps for CBCW personnel to distribute at landings.

Objective 4: Solicit public input and review of annual AIS management planning efforts.

- 1) Complete preliminary AIS management planning by January 31 each year and post on the MFA webpage for public comment.
- 2) Provide a summary of coming year AIS management plans in a spring newsletter to be published and distributed prior to March 31 each year.
- 3) Present current year AIS management actions at the Annual Meeting held in mid-June each year.

Goal 6 - Improve the level of knowledge property owners and lake users have related to how their actions impact the aquatic plant community, lake community, water quality.

An important part of controlling undesirable aquatic plant growth and the production of algae is reducing the amount of nutrients (mainly phosphorus) that enter the lake. The MFA will promote and encourage the implementation of simple and generally inexpensive best management practices including but not limited to shoreland restoration and the installation of rain gardens to reduce 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 debris. Coarse woody debris provides many benefits to fish and wildlife. Like aquatic vegetation, coarse woody debris is essential to the overall health of a lake and should be protected and enhanced, not eliminated. The MFA will promote and encourage the implementation of Fishsticks and other woody debris projects.

The MFA will continue to collect water quality data at three sites. One of the sites is already in the CLMN Expanded Water Quality Monitoring program, the other two will either be added to CLMN, or the cost of monitoring will be covered by grants and/or MFA funds.

Objective 1: Reduce the amount of shoreland without a natural buffer in place through shoreland restoration and other best management practices.

- 1) Distribute shoreland improvement education and information materials to lake property owners through the newsletter, Facebook, webpage, and general mailings.
- 2) Host and/or sponsor annual lake community events that encourage landowner participation in shoreland restoration or habitat improvement projects.
- 3) Support property owners who wish to complete shoreland restoration or habitat improvement projects by applying for Healthy Lakes and Rivers grants.
- 4) Recognize property owners who participate in and/or complete shoreland restoration and habitat improvement projects in the newsletter, on Facebook and the webpage, in local news publications, and/or at the site of the project.

Objective 2: Maintain and/or increase the amount of coarse woody debris present along the shoreline of the Minong Flowage.

- 1) Provide educational and informational materials to lake property owners that promote the benefits of coarse woody debris in a lake.
- 2) Encourage property owners not to remove woody debris that falls naturally into the lake from their shoreline unless it presents a dangerous and/or undesirable condition.
- 3) Encourage property owners to install Fishsticks habitat improvement projects on their property.
- 4) Work with the WDNR and other owners of the islands within the Minong Flowage to evaluate potential Fishsticks sites that will improve habitat and may help protect the islands.
- 5) Support property owners who wish to complete Fishsticks projects by applying for Healthy Lakes and Rivers grants.

Objective 3: Continue to collect water quality data in the Minong Flowage.

- 1) Collect CLMN water quality data (water clarity, total phosphorus, chlorophyll-a, and dissolved oxygen and temperature) in the Deep Hole Near Dam, the Central Basin, and the North Basin.

Goal 7 - Complete APM Plan implementation and maintenance for a period of five years following adaptive management practices.

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. 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 MFA and other Stakeholders for approval before implementation.

Objective 1: Prepare summary reports for annual aquatic plant surveys and management actions.

- 1) Aquatic Plant Survey Results Reports will be completed by the Aquatic Plant Specialist contracted by the MFA.
- 2) End-of Year Summary Reports will be completed by the Primary Consultant contracted by the MFA.
- 3) Preliminary management proposals for the following year will be completed by the Primary Consultant contracted by the MFA prior to January 31 each year and posted for public review.

Objective 2: Adapt the management goals, objectives, and actions in the 2024-28 APM Plan as needed.

- 1) Review goals, objectives, and actions from the 2024-28 APM Plan for relevancy and appropriateness annually.