
2026-30 RICE LAKE AQUATIC PLANT MANAGEMENT DISCUSSION

When the 2021-25 APM Plan was written, it had five main goals:

Goal 1: Maintain a level of aquatic plant growth (native and non-native) that supports a healthy lake system and multiple human uses of the lake system.

Goal 2: Reduce the threat and impact of AIS to and in Rice Lake.

Goal 3: Improve fish and wildlife habitat, reduce runoff, and minimize nutrient loading into Rice Lake.

Goal 4: Implement monitoring and evaluation that supports adaptive management of aquatic plants and water quality.

Goal 5: Assess the progress and results of this project annually and report to and involve other stakeholders in planning efforts.

At the core of these five goals was removing CLP from the lake, trying to minimize the spread of HWM in the lake, and continuing to maintain navigation and access to open water through the summer harvesting program. To do these three things, a combination of mechanical harvesting, application of aquatic herbicides, and physical removal was incorporated.

These same five goals guide this new 2026-30 APM Plan, but the existing core management actions have been modified, and active management of yellow iris has been added.

The CLP population in Rice Lake was and remains well-controlled by a combination of large-scale mechanical harvesting and limited herbicide application, although this may prove to be more difficult in the future due to more frequent weather conditions that create optimal growing conditions in the lake for CLP.

HWM management over the last 7 years has included physical removal (by hand and divers), large and small-scale herbicide application, and mechanical harvesting. While there have been examples of successful HWM management with 2 or more years of control in the treated areas, most notably the 2024 treatment using ProcellaCOR, HWM continues to spread in those areas not chemically treated in Clearwater Bay and the South Basin, and in the fall of 2024, was identified in several areas of the Central and North Basins. Follow-up survey work in the early summer of 2025 again showed effective control of HWM in treated areas. The continued spread of HWM is inevitable, so management needs to focus on minimizing its negative impact rather than preventing its spread. This should include targeted herbicide application to reduce the amount of HWM in areas where mechanical harvesting may simply cause HWM to spread more rapidly to other areas of the lake. Specifically, this includes any area in the South Basin other than Clearwater Bay, and new beds of HWM found in the Central and North Basins of the lake (Nuto Bay and the North Shore). In areas where HWM has already overtaken an area (Clearwater Bay) mechanical harvesting can keep navigation areas open.

In the last three years (2023-25), yellow iris has taken over a large portion of the shoreline particularly in the South Basin. Herbicide application in 2024 along the south shore of the South Basin greatly reduced the number of flowering plants in 2025 but it remains to be seen what the longer-term results will be going forward. A continued yellow iris management program that includes a public education and information program, additional herbicide application, physical removal, and most important - replacement of the yellow iris with native flowering plants - is recommended in this 5yr plan.

Keeping the constituency aware of and educated about how they can help reduce the impacts of AIS in and around the lake will continue. AIS education, outreach, and prevention through social media outlets,

newsletters, and workshops will continue. Watercraft inspection at the public boat landings will continue with the goal of reducing AIS leaving the lake and keeping new AIS like zebra mussels out.

Specific objectives and actions associated with each goal can be viewed in Appendix A. Appendix A also comments on whether a specific objective was met during the last five-year period. An Implementation Matrix is provided as Appendix B. An annual timeline for implementation is covered in Appendix C.

The following sections discuss how the Lake District is going to move forward with aquatic plant management (native and non-native in the next five years (through 2030)).

PHYSICAL REMOVAL – HAND, SHOVEL, RAKE, FREE DIVING, AND SCUBA DIVER REMOVAL

Physical removal is the first management action implemented when new locations with just a few HWM plants are found, particularly those in the Central and North Basins. Most effective is removal by free diving (without scuba gear) or diving (with scuba gear). Both management actions can be completed without WDNR permits. They work better than rake removal due to more complete removal of the rooted plant and less breakage.

Along the lakeshore, single plants or small clumps of yellow iris, purple loosestrife, or Japanese knotweed can be removed by pulling or digging. At a minimum, the flower heads of yellow iris and purple loosestrife can be removed. Care should be taken to wear gloves and long sleeves when removing yellow iris as it can be irritating to the skin.

Physical removal of CLP and large areas of HWM is not recommended. While larger areas of yellow iris could still be removed by physical means, adding cut-stem, dabbing, or swiping application of herbicide is recommended.

DIVER ASSISTED SUCTION HARVEST (DASH)

DASH will likely only be used for removal of HWM in areas that are too small for herbicide application and reach a point when free diving or scuba divers become less effective, like in deep water. With DASH, scuba divers still remove the plant, but instead of bringing it to the surface by hand, the pulled plant is fed into a suction tube and brought to the surface via hydraulic suction minimizing breakage and escaping fragments. DASH can be used in larger areas that may be sensitive to the application of herbicides or where mechanical harvesting may not be possible. DASH requires a WDNR Mechanical Harvesting permit. DASH is not recommended for CLP removal.

MECHANICAL HARVESTING

As previously mentioned, the Lake District owns three mechanical harvesters with 10ft cutting heads. Two of them were purchased in the last five years. Purchase of a third new harvester to replace one that was purchased in the 1990's is planned in the next 1-3 years. Mechanical harvesting remains the main aquatic plant management action used by the Lake District and generally has two main harvesting stages – 1) CLP removal and 2) nuisance and navigation relief.

In a normal year two of the three harvesters are launched in early May on the main body of the lake (North and Central Basins). The third is launched into the South Basin a little later. Mechanical harvesting is used to remove CLP from the North and Central Basins with most harvesting occurring in May and June. The areas most targeted for CLP removal in the North and Central Basins include the area between the Red Cedar River delta and Hospital Bay, North Shore, Big Bay, Stein St. Bay, East Shore, and Nuto Bay. Additional CLP harvesting occurs in the South Basin near the Orchard Beach boat landing, Hanson Bay, Bayview Bay, and in Clearwater Bay. Mechanical harvesting of CLP in South Basin and Clearwater Bay is somewhat problematic

as that is also where the majority of HWM is located. Fortunately, the harvester that is placed in the South Basin is not used in the Central or North Basins. Harvesting is also used to remove floating debris/mats of dead and dying floating vegetation and rafts of break-away bogs that block navigation.

The second stage of harvesting begins in early July when pre-established navigation lanes are kept free of nuisance growth vegetation to improve access and lake use. Currently there are 9.92 miles of navigation lanes that vary between 20ft and 160ft (Figure 69). Total navigation lane harvesting accounts for a little more than 67 acres.



Figure 1: Navigation lanes in Rice Lake – Yellow-20ft, Green-40ft, Red-60ft, Orange-80ft, Blue-160ft
For the most part these lanes are parallel to shore or cut through dense aquatic plant beds in the delta of the Red Cedar River. Harvesting also keeps navigation channels open in Clearwater Bay and in several other smaller bays. Mechanical harvesting is effective at removing large areas of HWM as well, however it creates many fragments that can be spread to other parts of the lake. Mechanical harvesting requires a WDNR mechanical harvesting permit.

APPLICATION OF AQUATIC HERBICIDES

Several herbicides have been used for control of CLP in Rice Lake. The most used are liquid or granular herbicides with the active ingredient - endothall. Diquat based herbicides have also been used. Both are

contact herbicides that will kill the vegetative plant parts if concentrations and contact time are high enough. Contact herbicides do not generally kill parts of the target plant that do not come in contact with the herbicide. In some cases, this may mean the root (buried in the sediment) is not entirely killed, which may allow regrowth from existing root structures. Contact herbicides like diquat and endothall are also not plant selective. Both can kill all plant material they come in contact with.

Several herbicides have been used to control HWM in Rice Lake. The most used are liquid herbicides with the active ingredients 2,4D or triclopyr. ProcellaCOR has also been used. All are considered systemic herbicides that are absorbed into the plant and dispersed throughout to kill the entire plant. All three of these herbicides can be somewhat selective in what they kill depending on time of application, the amount of herbicide applied, and the type of aquatic plant. Like broadleaf herbicides used to kill dandelions in a corn field, and grassy herbicides used to kill crab grasses in a soybean field, different aquatic herbicides impact different plants. Systemic herbicides like 2,4D, triclopyr, and ProcellaCOR are like herbicides used to kill crabgrass in a soybean field. Only the grasses are killed, not the broadleaves or in aquatic settings, pondweeds.

Glyphosate is another systemic herbicide, most often used for control of yellow iris, purple loosestrife, or Japanese knotweed. While still considered a systemic herbicide, it is not selective. It will kill whatever it comes in contact with so great care should be used when applying it. For plants like yellow iris, purple loosestrife or Japanese knotweed, glyphosate is most often applied using cut-stem or wiping/wicking methods. If used as a spray, the area treated should consist of all target species.

A WDNR chemical application permit is required for all herbicide applications in or near an aquatic setting. In most cases, a WDNR permit will not be approved if planning on using herbicides to control native aquatic vegetation.

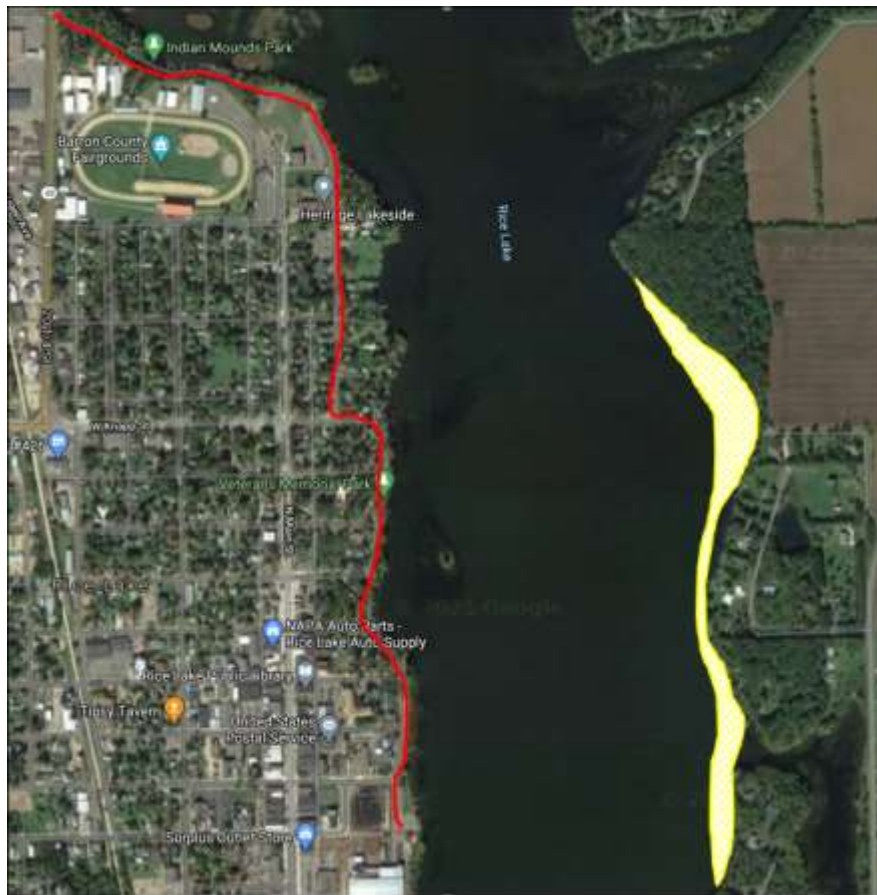
LAKESHORE DRIVE AND SOUTH OF THE RED CEDAR RIVER INLET

Lakeshore Drive in downtown Rice Lake follows the western edge of the lake from Newton St. to Hwy 48 near the Barron County Fairgrounds (Figure 70). This stretch of Lakeshore Drive contains several parks and other interesting community and public attractions and is considered a celebration of the history of the area and of Rice Lake. Parks include Veteran's Memorial Park and City Band Shell, and Indian Mounds Park. Several iron sculptures commemorating the history of the area including Woolly-Mammoth (glacial times), Rusty-The Draft Horse (the logging era), and a third sculpture to serving as a tribute to the Native American communities that used to make their homes along the Red Cedar River and Rice Lake. A historic information sculpture commemorating what was called the Bayfield Trail (from Lake Superior through Rice Lake to points south traveled by Native Americans, Fur Traders, and Settlers is also in the works.

Nearly all the shoreland between Lakeshore Drive and the body of water known as Rice Lake is owned by the city and is frequented daily by community residents and travelers. There are several public fishing piers and a specialized kayak launching dock along this stretch of Lakeshore Drive. Lakeshore Drive is adjacent to Fireworks Island where 4th of July Fireworks is celebrated each year. Lakeshore Drive is also the focal point during the annual Rice Lake Aquafest Celebration in early June. During this event, activities have included a children's fishing contest, rubber duck race, and a waterski show that utilizes the lake front. Veteran's Memorial Park and Band Shell on Lakeshore Dr. are a focal point of Aquafest activities. There is also a summer "Music in the Park" scene that runs for several months. The Elks Lodge and Moose Club are also along Lakeshore Drive, as is the Heritage Manor Lakeside – a senior living community.

The water depth in this area of the lake ranges from 3 to 10 feet deep with bottom substrates of sand, gravel, and rock, covered with a thin layer of muck. The area supports abundant native plant growth when not overrun by CLP. Lake District harvesters work strenuously in this area throughout the season, but particularly during late May and early June with the goal of keeping the area in good shape for Aquafest and other

In more recent years, the area of the Rice Lake lakeshore on the eastern shore of the lake south of the Red Cedar River Inlet has become more problematic (Figure 70). Though not used as a public place of gathering, there is small watercraft/walk-on access point in this area off Zabel Road. It is expected that herbicide use in this area to control CLP would only be used every 5-10 years, and only the year after a survey has documented dense CLP growth.



AQUATIC PLANT SURVEYING

RECON AND MAPPING SURVEYS

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indicator that there is something that does not belong. These surveys help find target plant species, document the location where target plants are found using GPS technology, and provide an opportunity to physically remove the target plant or make it a part of another management action. Annual bedmapping of CLP is considered a recon and mapping survey and serves to identify areas of concern for management in the following spring. AIS monitoring as a part of the CLMN AIS monitoring program is also an example of recon and mapping surveys. These are completed at least monthly during the open water season and look for AIS including EWM/HWM, purple loosestrife, and yellow flag iris. The Lake District will complete recon and mapping surveys annually to help define management actions and impacts.

PRE- AND POST-TREATMENT POINT-INTERCEPT SURVEYS

Pre- and post-treatment, point-intercept surveys are more quantifiable and document short-term changes in areas that are chemically managed. These surveys consist of a set of points that can be surveyed multiple times, usually before and after a chemical treatment. Statistical information can be gathered from the data collected during one of these surveys. The WDNR only requires pre- and post-treatment, point-intercept aquatic plant surveying when greater than 10 acres of the littoral zone are proposed for treatment, or if a chemical treatment is grant funded. Should these conditions be met, pre- and post-treatment point-intercept surveys will be completed as a part of management. Harvesting operations generally do not require pre- and post-treatment point-intercept surveys.

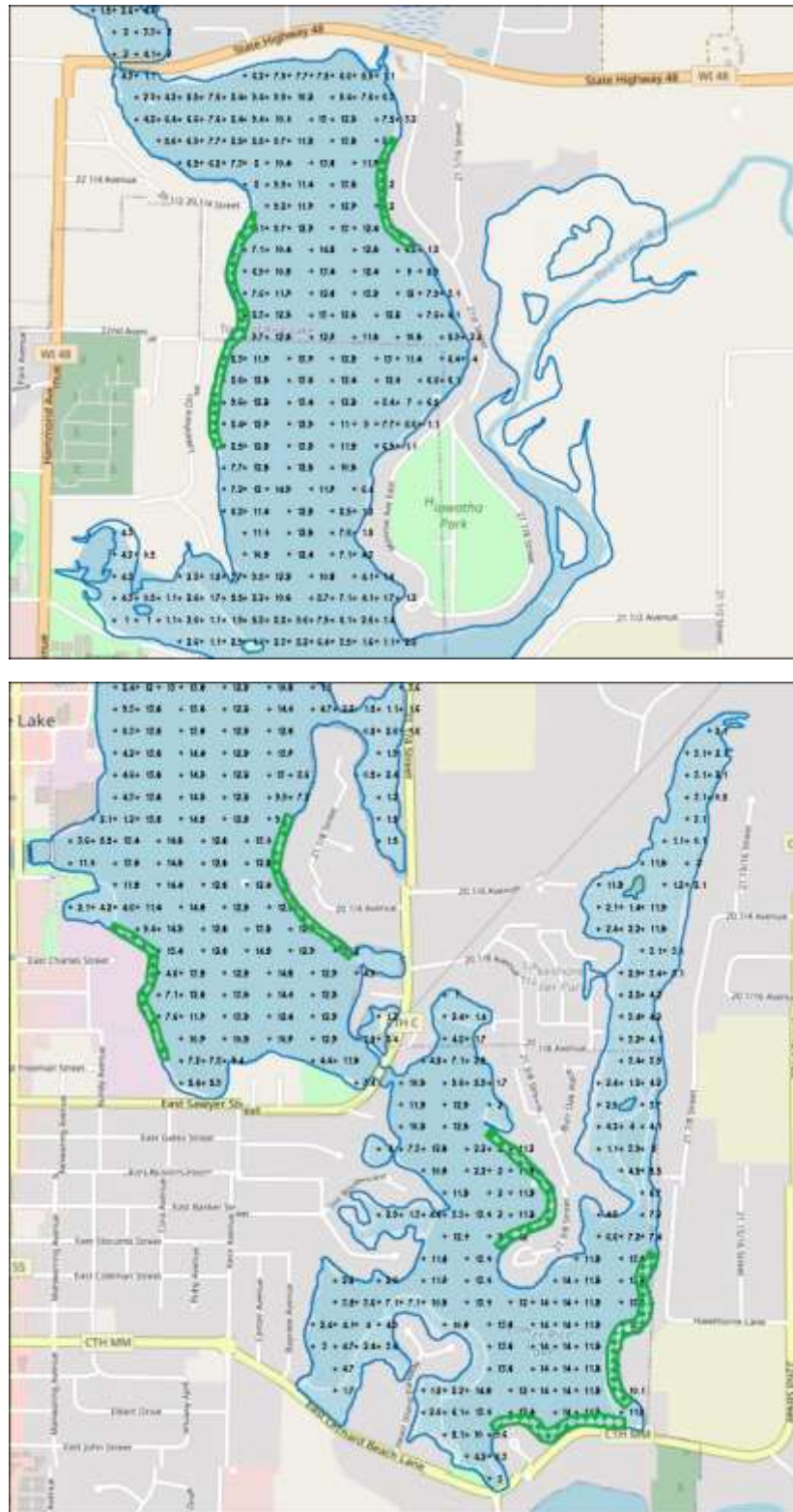
WHOLE-LAKE, POINT-INTERCEPT, AQUATIC PLANT SURVEYS

Whole-lake, PI surveys are intended to track changes to the aquatic plant community over time. Typically, in a lake where management of aquatic plants (non-native or native) takes place, whole-lake surveys are recommended at least every five years using the same set of pre-designated points each time. The first time a whole-lake PI survey is completed, the results serve as a baseline for future comparisons. After the first survey, the results from any future surveys can be compared to the first survey for changes. If any changes are identified, it is then possible to analyze what might have caused the changes. While changes naturally occur in most lakes from one year to another, management actions can also be a reason for change.

Whole-lake PI surveys were completed in Rice Lake in 2008, 2015, 2018, and 2024. The 2018 point-intercept survey was completed early due to HWM.

COARSE WOODY HABITAT

Coarse woody habitat has never been formally quantified within Rice Lake. One recommendation in this plan is to complete a coarse woody habitat survey to help identify places along the shore where “fishsticks” or fish cribs could be installed to augment the fishery. The most appropriate shorelines for fishsticks installation are those with little or no development and that drop off into 6-12ft of water a short distance from shore. Figure 71 shows areas where conditions would be favorable for installation. Once locations have been identified, property owners can be approached to discuss installation. Funding up to \$1,000.00 per fishsticks project is available through the Healthy Lakes and Rivers Initiative, but any grant request would have to be prepared by the Lake District.



AIS AWARENESS, EDUCATION, AND PREVENTION

Rice Lake currently has many different AIS including CLP, purple loosestrife, rusty crayfish, Japanese knotweed, yellow flag iris, Chinese mystery snails, and most recently – hybrid watermilfoil, a cross between native northern watermilfoil and non-native Eurasian watermilfoil. Zebra mussels and spiny waterflea have not been discovered in the lake. The presence of AIS has impacts on the lake, how it is managed, lake use, and healthy lake habitat. As a Lake District with taxing authority, nearly \$100,000.00 annually is collected from upwards of 8,000 property owners with the primary function of managing AIS.

Preventing new AIS from entering the lake and keeping existing AIS from leaving the lake and expanding its abundance and density is a primary goal of this APM Plan. Rice Lake is one of 300 lakes on a WDNR list of lakes with high potential to be source waters for AIS going to other lakes, simply due to the amount of boating pressure it receives. The Lake District has been sponsoring a watercraft inspection program following Clean Boats, Clean Waters protocol. Each year they apply for \$8,000.00 to support 400 or more hours of inspection at the two main boat landings off Stein Street and Orchard Beach Lane. In 2020, Arnolds Landing off Lakeshore Drive and 22-1/4 Ave., was improved with a new blacktop leading to a new ramp in the lake so it is expected that this landing will start seeing more use and will be added to the watercraft inspection list during this plan. Rice Lake has several other walk-in or small craft landings that are not monitored and receive limited use. In addition to watercraft inspection, AIS signage has been installed near these landings. That signage is inventoried nearly every year to determine if changes or improvements are needed.

The Lake District posts information about existing AIS in the lake and potential new invaders on their Facebook and webpage. At least one article is published in the Rice Lake Chronotype, the local newspaper, highlighting AIS. The status of AIS in the lake is one of the agenda items discussed monthly during regular board meetings and the annual constituency meeting each year. A newsletter is sent out with the notice for the annual meeting that includes information about AIS and AIS management in the lake.

SHORELAND AND WATERSHED IMPROVEMENT PROJECTS

The Lake District will continue to offer its R3P program and continue to work with the City, Town, and County to develop and implement larger water shed projects. While it is not expected that any more money will come from the Hwy 53 and V interchange, the WDNR does have funding for certain projects through its Healthy Lakes and Rivers Initiative.¹

IMPLEMENTATION AND EVALUATION

This plan is intended to be a tool for use by the Lake District to move forward with aquatic plant management actions that will maintain the health and diversity of the aquatic plant community in Rice Lake. Management actions will also maintain lake access and aide navigation in areas of dense growth native vegetation. This plan is not intended to be a static document, but rather a living document that will be evaluated on an annual basis and updated as necessary following Integrated Pest Management Strategies that will ensure that the goals of this plan and community expectations are being met. This plan is also not intended to be put up on a shelf and ignored. Implementation of the actions in this plan through funding obtained from the WDNR and/or Lake District funds is highly recommended. An Implementation and Funding Matrix is provided in Appendix B. A Calendar of Actions is provided in Appendix C. A harvesting plan for CLP and native aquatic plants for navigational purposes is included in Appendix D.

¹ [Healthy Lakes Program of WI. Let's Make Healthy Lakes Together!](#)

WISCONSIN DEPARTMENT OF NATURAL RESOURCES GRANT PROGRAMS

The surface water grant program provides cost-sharing grants for surface water protection and restoration. Funding is available for education, ecological assessments, planning, implementation, and aquatic invasive species prevention and control. With many different projects eligible, grant funding may be available to support surface water management at any stage: from organization capacity development to project implementation.²

Counties, municipalities, natural resource agencies, tribal governing bodies, other local units of government, accredited colleges, universities, technical schools, lake districts and town sanitary districts are automatically eligible to apply for a Surface Water Grant.

Actions in this APM Plan that may be eligible for surface water grant application and funding are identified in the Implementation and Funding Matrix, Appendix B.

² [Surface Water Grants](#) | [Wisconsin DNR](#)