2.0 Management Goals and Activities

The management goals for Rice Lake were developed as a collaborative effort between the District and lake managers from SEH. The goals were developed to be inspirational, believable and actionable and are derived from the values of the Rice Lake community and mission of the District.

Problem Statement

Cultural eutrophication is causing an increase in algal blooms and nuisance aquatic plant growth in Rice Lake. If mitigation of nutrient loading is not undertaken, more intensive agricultural practices and continued urban development in the watershed will further degrade the water quality of Rice Lake, negatively impacting the lake ecosystem and lake users.

2.1 Goal 1: Decrease the phosphorous and sediment load to the lake from the watershed.

Objective: Reduce the total phosphorous load from the Bear Creek and Red Cedar River watersheds by 25% (reduce annual load from 13,746 to 10,310 pounds—a reduction of 3,436 pounds). The largest nutrient load reductions will be realized via farmland best management practices.

Action Steps:

- Partner with Barron County Soil and Water Conservation Department (SWCD) to install grassed waterways at sites identified throughout the watershed.
- Provide financial support to fix livestock fences along tributaries that are in disrepair. Sites in need of repair were identified during the Bear Creek and Red Cedar River shoreline surveys (Appendix B) and others are likely located throughout the watershed.
- Utilize DOT mitigation funds from Bear Creek sedimentation event as match for lake protection grant funds to implement these and other agricultural best management practices identified as priorities by the Barron County SWCD in the watershed.
- Encourage agricultural community participation in best management practices (including nutrient management planning, cover cropping, no- and low-till agriculture) via direct contact, public meetings, mailings, and by supporting efforts of the Barron County SWCD.
- Showcase best management practice projects, both agricultural and shoreland, which have been implemented on the District webpage and through press releases.
- Publicize management activities and spur discussion by holding an open-house field day at a farm implementing soil and water management practices. Invite farmers, lake advocates, the general public, scientist, educators and government officials.

Objective: Reduce the total phosphorus load from the near-shore area and the City of Rice Lake by 30%.

Action Steps:

- Provide financial support for installation of riparian best management practices.
- Support the efforts of the City of Rice Lake during MS4 permit implementation, particularly those that relate to education and outreach.
- Develop and implement a District policy for demolition site discharge management.
- Work the City of Rice Lake to reclaim the old beach and beach house.
- Develop a runoff reduction plan for the Barron County Fairgrounds
- Work with land owner to remove large trash pile along the Bear Creek shoreline (located during the shoreline survey, Appendix B).
- Identify responsible party to repair erosion along the southwest corner of the Highway 48 Bridge between Stump Lake and Rice Lake, and develop and implement a repair plan.
- Encourage prompt repair of areas of erosion along ditches and roadsides by the City, Towns, County, and property owners.

Objective: Monitor loads (collect nutrient samples and monitor streamflow) on Bear Creek (1), Little Bear Creek (1), Tuscobia Creek (1), the Brill River (2), Unnamed Tributary on

the north shore (1), on the Central Wash (1), and on the Red Cedar River (1) to determine changes to external loading.

Action Steps:

- Collect TP, DRP, TKN, Nitrates/Nitrites, Ammonia, and Total Suspended Solids monthly and during spring snow melt and other significant runoff events annually.

2.2 Goal 2: Decrease internal phosphorus load to the lake.

Objective: Control curly-leaf pondweed to reduce growing season internal load from early summer curly-leaf die-back by at least 50%.

Action Steps:

- Follow guidelines in the current Aquatic Plant Management Plan for harvesting and herbicide application to reduce the distribution of curly-leaf pondweed in the lake.

Objective: Complete a feasibility study of in-lake improvement options for Lower Rice Lake (south basin). Locking up phosphorus in the South Basin could reduce phosphorus loading by more than 800 lbs. annually.

Action Steps:

- Select resource professionals (consulting firm, university, government agency) to complete a feasibility analysis that evaluates expected costs and benefits of in-lake improvement options including alum dosing and aeration.

2.3 Goal 3: Promote sustainable and multi-use recreational opportunities

Objective: Support a safe and multifaceted recreational environment in the lake.

Action Steps:

- Assist the City of Rice Lake with maintenance and development of public swim beaches and public access areas.
- Timely place and maintain navigation buoys.
- Monitor patterns of recreational use in the lake to guide management activities and education efforts.

2.4 Goal 4: Manage and improve the fishery and wildlife habitat.

Objective: Improve riparian and littoral zone habitat.

Action Steps:

- Survey coarse woody structure in the lake using GPS.
- Develop management goals for coarse woody structure, potentially based on undeveloped lakes or estimates of pre-settlement conditions.
- Continue to develop the Aquatic Plant Management goal of creating a residential and riparian owner best management practice program.
- Work with landowners, Barron County, the WDNR to control buckthorn growth along the Red Cedar River upstream of Rice Lake using approved physical removal (for example, hand pull plants less than 3/8 inch in diameter) and chemical control methods (for example, cut and spray or paint stems with the herbicide glyphosate or other approved herbicide).
- Map riparian environmental corridor lands throughout the Rice Lake drainage area of concern and develop management goals to protect and enhance the environmental, economic, and recreational benefits provided by environmental corridors.
- Create a new bathymetric map of the lake using state of the art GPS and GIS methods to identify important habitat features, aid in nuisance aquatic plant and invasive species control, and evaluate impacts of sedimentation.

Objective: Minimize negative impacts to fishery caused by lake management activities

Action Steps:

- Work closely with WDNR fisheries staff to identify and mitigate effects of activities that may be detrimental to the fishery (e.g. harvesting, alum dosing).

Objective: Manage resident urban Canada geese population using an integrated approach.

Action Steps:

- Determine times of year when problems occur, available control options, probable effectiveness of control techniques, community support, cost, and legality of control measures.
- Educate riparian property owners about the habitat preferred by geese—large unobstructed lawn areas close to open water—and support appropriate landscape modifications (for example, native plantings of trees, shrubs and herbaceous ground cover).

2.5 Goal 5: Continue implementing the management activities of the Aquatic Plant Management Plan.

The current Aquatic Plant Management Plan supports sustainable practices to protect, maintain and improve the native aquatic plant community, the fishery, and the recreational and aesthetic values of the lake. The goals of the Aquatic Plant Management Plan are:

1. Reduce the total amount of curly-leaf pondweed in Rice Lake by combining the use of aquatic herbicides and large-scale mechanical harvesting;
2. Prevent the spread and establishment of aquatic invasive species already present along the shores of and in the wetlands adjacent to Rice Lake;
3. Maintain a Eurasian watermilfoil rapid response plan;
4. Provide native aquatic plant management that protects and enhances native plant growth and diversity in Rice Lake;
5. Improve record keeping, monitoring, and assessment for all plant management activities;
6. Provide the general public with a means to contact the District to request information, voice concern over aquatic plant and other issues, and request appropriate service;
7. Create a residential and riparian owner best management practices program;
8. Increase public awareness of and involvement in the District by improving public outreach, exposure, and image and provide greater land owner and lake user education;
9. Implement the activities associated with the APM Plan through a combination of District and State of Wisconsin grant funding; and,
10. Complete annual project summaries and a final project evaluation.

2.6 Goal 6: Support activities of other management and stewardship groups in the Rice Lake Watershed

Objective: Maintain open lines of communication to coordinate management efforts.

Action Steps:

- Identify contacts for the various lake management and stewardship groups in the Rice Lake Watershed.
- Host annual watershed meeting with representatives from each group to showcase project successes and failures, identify opportunities for collaboration, discuss water level management, and discuss future activities.
- Continue to participate in the Red Cedar River Total Maximum Daily Load project implementation.
- Expedite data acquisition and lower costs by entering into a formal data-sharing agreement with Barron County to share county land information data including GIS data as it relates to the District.
- Continue District involvement with the Rice Lake Aquafest to increase exposure.

Objective: Partner with the Barron County Soil and Water Conservation Department to promote and implement agricultural and riparian BMPs

Action Steps:

- Maintain an open dialogue with Barron County Representatives for possible collaboration on BMP projects.
- Promote and uupport Barron County BMP programs including nutrient management planning, local resource/habitat protection, protection of forested areas and wildlife habitat, no-till packets, and others.

2.7 Goal 7: Implement, update and maintain this management plan.

Objective: Follow and adaptive management approach.

Action Steps:

- Draft annual reports that include summaries of management activities, water quality conditions, and future directions and needs.
- Integrate new information and planning elements into the plan as they become known.

Because of the various management activities currently, and to be undertaken, it is important to continue monitoring lake water quality through Citizen Lake Monitoring Network. The water quality of Rice Lake provides a useful barometer of conditions in the watershed. Further developing a long-term dataset can be used to identify both problems and improvements in the lake and to the watershed and to evaluate the effectiveness of management efforts.

Secchi depth, total phosphorous, chlorophyll *a*, temperature, and dissolved oxygen monitoring should be completed on regular basis during the open water season at the three primary monitoring sites. The District should continue to recruit and support volunteers collecting water quality data.

Objective: Secure funding to support implementation of management activities.

Action Steps:

- Finance implementation of management activities through District funds and by seeking WDNR Lake Protection grant funds.
- Identify other potential funding sources and grant programs for implementation of management activities.