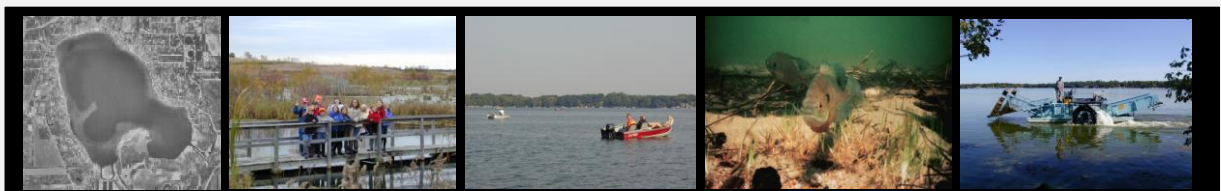




LAKE RIPLEY IMPROVEMENT PLAN

A Condition Assessment and Strategy for Protection and Rehabilitation



Lake Ripley Improvement Plan
A Condition Assessment and Strategy for Protection and Rehabilitation

AREA OF INTEREST: Lake Ripley Management District/Lake Ripley Watershed
Town of Oakland, Jefferson County, Wisconsin

MANAGEMENT UNIT: Lake Ripley Management District
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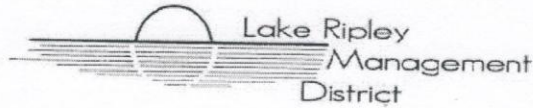
2009-2010

BOARD OF DIRECTORS: John Molinaro, Chair
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PLAN AUTHOR: Paul Dearlove, Lake Manager
Lake Ripley Management District

PLAN APPROVAL DATE: November 21, 2009 [L.R.M.D. Resolution #2009-2]

Funded through the Wisconsin Lake Planning Grant Program



Resolution # 2009-2

**RESOLUTION OF THE LAKE RIPLEY MANAGEMENT DISTRICT
TOWN OF OAKLAND, COUNTY OF JEFFERSON, WI**

Relating to: Acceptance and adoption of Lake Ripley Improvement Plan

WHEREAS Lake Ripley is a valuable resource used by the public for outdoor recreation and the enjoyment of natural scenic beauty; and

WHEREAS Lake Ripley's quality and condition affects local property values, tax base, tourism and economic activity; and

WHEREAS there is a continued need for responsible and holistic long-range planning to better manage the lake, its watershed, and its use for the purpose of promoting public health and welfare; and

WHEREAS pursuit of the goals and recommendations detailed in the abovementioned Plan will further the mission of the Lake Ripley Management District in protecting and enhancing this valued natural resource.

IT IS, THEREFORE, RESOLVED THAT:

The Lake Ripley Management District Board of Commissioners hereby approves and adopts this Lake Ripley Improvement Plan.

Adopted this 21st day of November, 2009

By a vote of: 7 in favor 0 against 0 abstain

BY: *Jane A. Jawbser-Brown*
Secretary, Lake Ripley Management District

FORWARD

By: John Molinaro, Chair

In 1988, Lake Ripley was being invaded; invaded by Eurasian watermilfoil, a non-native lake weed that made it almost impossible to use the lake for any type of recreation. The weeds were so thick that you couldn't back a boat off a pier or reel a fishing lure through the water. In some places, they were so dense that birds could literally walk on the surface of the water.

This situation prompted a group of concerned citizens to organize and raise the money needed to purchase and begin operating a mechanical weed harvester. During the summer of 1989, volunteers ran the harvester seven days a week for 8-10 hours a day. It marked the beginning of a long process of restoring Lake Ripley to the beautiful lake it is today.

What we learned from that first, organized effort was how much we didn't know about lake management. So, the following year, we started the process of creating a Lake Management District with help from UW-Stevens Point and the Wisconsin DNR. It involved circulating landowner petitions, and getting the approval of the Town of Oakland and Jefferson County. We then hit the ground running and began taking the necessary steps to evaluate and improve the lake. It is an effort that continues to this day, almost 20 years later.

Lake Ripley has changed in many ways over the years. It is certainly not the same as it was prior to the first land grants, when Native Americans visited its shores to fish, hunt and bury their dead on the rises overlooking the lake. It is not the same as it was before Ole Evinrude invented the outboard motor, nor is it the same as it was before the arrival of pontoons and boatlifts. These changes are not good or bad in themselves. Rather, they made it clear that there will always be changes affecting the lake, and that we must plan for the changes we know and prepare for the changes yet to come.

For over a year, we have been working on developing a new Lake Management Plan. Our first plan, completed nearly ten years ago, is the ruler by which we measure our success, and the guide by which we plan for the future. It is now time to reevaluate our progress, examine the new science, and plan for the next ten years. Our first efforts to control milfoil growth back in the late '80s were a reaction to a crisis. Our current work continues to be driven by a well-thought-out plan, rooted in science, guided by community input, and observant of the needs of those who love and want to preserve our beautiful lake.

Over the years, we have accomplished a great deal in our commitment to preserve and protect Lake Ripley. The repair of thousands of feet of farm ditches and shoreline has controlled erosion and reduced the amount of polluted runoff entering the lake. The purchase of the Lake District Preserve and the restoration of area wetlands that filter the water entering the lake has been a major accomplishment. Continued weed harvesting is achieving its objectives, and lake monitoring is still used to guide our

actions. None of this could have been accomplished without an effective lake manager, a dedicated Board, and an involved community. We thank all those individuals and groups who have supported the Lake District with their time, their money and their ideas.

This, however, is not the time to sit back on our laurels and pat ourselves on the back for a job well done. We must remain vigilant, because there are always new and emerging threats that will need to be confronted. This guidance document will always be in a state of transition, and, as new science and information become available, we will apply that knowledge to our goals and initiatives. As we plan for future action, we will continue to seek your input and ask for your help. I am confident that, as in the past, our community will step forward when needed.

Our focus remains constant: to protect and preserve Lake Ripley. Fifty years from now, few will remember the names of the many individuals who have worked so hard to accomplish this mission. It is enough to know that future generations will sit on the end of a pier, with their toes in the water, while the summer sun warms their face, and will remember with a smile the time they spent at Lake Ripley.

“The ultimate test of man’s conscience may be his willingness to sacrifice something today for future generations whose words of thanks will not be heard.”

-- Gaylord Nelson, former Wisconsin governor and founder of Earth Day

EXECUTIVE SUMMARY

OUR MISSION

The Lake Ripley Management District seeks to preserve and enhance Lake Ripley's water quality, its fish and wildlife communities, and its overall ecological health, while ensuring public access and use of the lake that is safe, fair and practical.

A VISION FOR THE FUTURE

Scenic shorelands, good fishing, abundant wildlife and clean water are a part of our local culture. They are why many of us choose to live here, why tourists come to visit, and why area property values remain so strong. While our connections to and preferred uses of the lake vary greatly, all of us share in the responsibilities of its care. By investing in Lake Ripley's continued stewardship, we believe the community and future generations will be rewarded by a cleaner, healthier lake and a higher quality of life than would otherwise be possible.

We envision Lake Ripley as a clean and naturally scenic water body that improves regional property values and economies, provides opportunities for outdoor recreation, and contributes positively to our collective quality of life. Specifically, we consider the following to be realistic expectations that we should strive to fulfill. Taken together, they represent an ambitious but practical vision for the future of Lake Ripley.

- High-quality aquatic plants and shoreland habitats support a lake ecosystem that is rich in native flora and fauna.
- The lake and its surroundings abound with opportunities to view a diversity of native species and natural features that inspire learning, nature appreciation and outdoor exploration.
- Recreation occurs in a shared manner that equitably balances the competing demands and expectations found among diverse user groups.
- The mix of lake uses is compatible with the general public interest, identified community priorities, and the lake's ecological and sociological carrying capacities.
- The lake is safe and attractive for swimming, and there are no beach closings due to high bacteria levels or potentially toxic blue-green algal blooms.
- The watershed that drains surface water to the lake contains high-functioning wetlands and protected natural areas that help safeguard water quality and general lake health.
- Local development and associated land-use practices incorporate effective conservation measures that control soil erosion, preserve wetlands and groundwater-recharge areas, and generally minimize adverse impacts to the lake.

- Residents, property owners, local government entities and other stakeholders are aware of Lake Ripley’s environmental, economic, recreational and cultural value to the community.
- The public maintains a vested interest in the lake’s long-term protection and rehabilitation, and is committed to making the necessary investments for the benefit of future generations.
- There is broad understanding and support of ongoing management designed to address problems and threats through cost-effective action.

To achieve our mission and vision for the future, we have set forth five goals for which the Lake District is committed to pursuing. These goals are: 1) **Clean, clear water**; 2) **Thriving, native aquatic life**; 3) **Safe, fair and responsible lake use**; 4) **Cost-effective management action**; and 5) **A well-informed and engaged citizenry**. A brief status report is provided for each goal, as well as the objectives necessary for attaining the goal. Also included are some specific, representative metrics (or health indicators) combined with realistic targets for what we hope to achieve that we can use to continually track and evaluate our progress.

GOAL #1: CLEAN, CLEAR WATER

Status:

Landscape condition and land uses within a 7-square-mile watershed affect Lake Ripley’s water quality. How we live on the land dictates the amount of stormwater runoff and pollutants delivered to the lake. In fact, the fossilized evidence in sediment cores extracted from the lake bottom indicate much better water quality prior to 1870, which was when the land was first cleared for agriculture and early European settlement. Water quality then rapidly declined in response to increased watershed-erosion rates. It was not until the 1950s when erosion rates and lake conditions first began to stabilize, primarily due to improved agricultural practices. Further improvements were made after 1990, following the start of the Lake Ripley Priority Lake Project and implementation of watershed-conservation measures. Recent lake modeling estimates that the main sources of continued phosphorus loading—the drivers of algal growth—include row-cropped agriculture (70%) and higher-density urban areas around the lake (17%).

Water quality monitoring reveals that Lake Ripley routinely exceeds its desired Trophic State Index (TSI). TSI is a water quality index ranging from 1-100, with values less than 50 being desirable for most lakes. The index is used as a well-accepted indicator of overall lake health. TSI is based on the lake’s phosphorus concentrations (plant nutrient), chlorophyll concentrations (algal pigment) and water clarity. A combination of high phosphorus, high chlorophyll and low water clarity translates into poor water quality for lakes. Monitoring records show that Lake Ripley’s water quality has ranged from very good to poor, with TSI values frequently in the 50s, particularly during high-runoff periods. Prior to 1870, TSI values were closer to 40 and representative of less eutrophic conditions. Lake modeling that was done as part of a 1994 Water Resources Appraisal predicted further water quality declines if pollutant-loading rates at the time remained unchanged.

Objectives:

1. Reduce the delivery of pollutants to the lake, especially phosphorus and sediment originating from construction sites, existing urban areas, and row-cropped farm fields within the outlying watershed.
2. Minimize lakebed disturbances—such as carp activity and aggressive motor boating in shallow-water areas—that contribute to the re-suspension of bottom sediment and mobilization of phosphorus into the water column.
3. Permanently protect and restore groundwater-recharge zones, wetlands, and shoreland buffers that improve the quantity and quality of stormwater runoff.
4. Maximize the capacity of the 167-acre Lake District Preserve to absorb runoff and protect Lake Ripley's only inlet tributary stream.

Metrics:

1. Trophic State Index (TSI)

Targets:

- TSI < 50 (mesotrophic conditions)
- Summer mean total phosphorus < 24.0 µg/L (ideal: < 20 µg/L; best case: 12 µg/L)
- Summer mean chlorophyll-*a* < 7.3 µg/L
- Summer mean Secchi clarity ≥ 6.5 ft

2. *E. coli* (*Escherichia coli*) bacteria levels

Target: < 235 cfu/100 ml (or no beach closings)

3. Macroinvertebrate diversity

Target: Macroinvertebrate populations in the inlet and outlet streams are comprised of diverse species, particularly those intolerant to pollution and poor water quality.

4. Watershed landscape condition

Targets:

- Rural watershed land uses are retained outside the Town's urban service boundary (east of County Rd. A).
- Well-vegetated shoreland buffer areas are increased along all shoreline, stream and drainage-ditch corridors.
- Remaining wetland acreage is permanently protected around the lake, and filled or drained wetland acreage is restored whenever feasible.
- Agricultural acreage under conservation farming practices is increased, including acreage subject to no-till cropping and nutrient-management planning.
- Number of rain gardens and rain barrels used in residential areas is increased.
- Eroding drainage ditches that connect to the inlet tributary stream are repaired or, preferably, plugged.
- Total annual phosphorus loading is reduced by at least 19% through the implementation of watershed Best Management Practices (BMPs) in order to maintain a TSI below 50.

GOAL #2: THRIVING, NATIVE AQUATIC LIFE

Status:

Lake Ripley is home to a diverse assemblage of aquatic plants, fish and animals. Some indigenous species documented in and around Lake Ripley are listed as rare or endangered, while other species are classified as non-native and invasive. All require particular habitat conditions and demonstrate varying sensitivities to pollution, habitat loss and other disturbances. A species-rich community of native aquatic plants and fish is an indicator of good lake health, whereas their absence or displacement by non-native species is often a sign of trouble.

Wetlands and near-shore littoral areas are particularly important for sustaining much of the aquatic life found in Lake Ripley. Since the early 1900s, over a third of the wetlands around Lake Ripley have been lost due to drainage and filling. Loss of wetlands causes hydrologic instability, reduces spring flow to the lake, increases the rate of runoff and pollutant delivery, and reduces vital habitat for fisheries, wildlife and endangered resources. The quality of the lake's biologically-rich littoral zone (shallow, near-shore area) is of equal importance in sustaining aquatic life, but remains threatened by the ongoing effects of shoreline development, beach grooming, motor boating and other recreational-use pressures.

Lake Ripley is currently plagued with the non-native Eurasian watermilfoil, curly-leaf pondweed, zebra mussel and common carp. Aquatic plant inventories indicate that Eurasian watermilfoil has been on the decline since it peaked in the late 1980s, while curly-leaf pondweed continues to maintain a limited but potentially-expanding presence. Sediment and nutrient loading has favored these tolerant, weedy species while reducing overall biodiversity. As for the lake's fishery, field surveys show fairly stable populations of all species, with carp currently comprising a small component of the overall community. Zebra mussels were a relatively recent introduction to the lake, and are still sustaining high numbers after their apparent peak in 2008. Other invasive species that pose immediate threats due to their close geographic proximity to Lake Ripley include the spiny waterflea, quagga mussel and New Zealand mudsnail—among others. Many of these species enter the Great Lakes through transoceanic shipping, and spread to inland lakes primarily through transient, recreational boat traffic.

Objectives:

1. Protect and restore native fish and wildlife habitat found in and around the lake.
2. Reduce the potential for the introduction and spread of aquatic invasive species.
3. Manage existing biological communities (plants, fish, etc.) in a manner that supports identified management goals and priorities.

Metrics:

1. Aquatic plants

Targets:

- Stable or increased *native* species richness (total number of species).
- Eurasian watermilfoil and other non-native species comprise a small and decreasing fraction of overall plant community.
- The aerial extent of bulrush and lily pad beds is maintained or expanded.
- No further fragmentation or disturbance of identified “Critical Habitat Areas.”

2. Fish

Targets:

- Stable or increased *native* species richness (total number of species).
- Sustained presence of previously inventoried sensitive species, including the lake chubsucker (*Erimyzon sucetta*), least darter (*Etheostoma microperca*) and pugnose shiner (*Notropis anogenus*).
- Carp represent a small and decreasing fraction of the overall fishery.
- Desired size-frequency distributions are maintained for sport fish populations.
- Increased number of littoral tree-drops to serve as coarse woody habitat.
- Increased number of native trees growing near the shoreline for cover and a source of food, and for future recruitment of coarse woody habitat to the lake.
- Maintenance of water quality conditions sufficient to sustain pollution-sensitive biota.

3. Wetlands

Targets:

- No further loss of existing wetland acreage.
- Existing wetlands are protected and restored to their fullest functional value.
- Wetland acreage and function are returned (when feasible) to areas subjected to past hydrologic manipulation.

GOAL #3: SAFE, FAIR AND RESPONSIBLE LAKE USE

Status:

While Lake Ripley is of modest size, it is both a popular and accessible recreational destination that can support a range of activities. This popularity has created challenges as different user groups compete for time and space on the lake. Public opinion surveys consistently reveal that boat traffic and congestion routinely interfere with people's use and enjoyment of the lake. According to a 2003 recreational boating study, Lake Ripley's estimated carrying capacity was regularly exceeded during summer weekends and other peak-use times.

Such high-intensity lake use, combined with the expansion of private and public access facilities, can create a host of safety and environmental problems. A number of lake-use and lakeshore-development policies are in effect at the state and local level to help address these concerns. These pertain to slow-no-wake times, slow-no-wake areas, and shoreland zoning provisions that set permitting standards for certain development activities next to the lake.

Objectives:

1. Minimize the potential for user conflict by supporting policies that fairly balance competing recreational demands.
2. Promote recreational uses and intensities that are compatible with the lake's physical, ecological and social carrying capacities.

Metrics:

1. Public access

Target: The current level of public access is maintained with no expansion or increase in

the number of public boat-access facilities.

2. Private pier development

Targets:

- Pier sizes, densities and number of mooring spaces meet Wisconsin DNR standards (NR 326).
- No further pier development—except for the repair, maintenance or replacement of existing piers—in designated “Critical Habitat Areas” (formerly called “Sensitive Areas”), unless it can be shown that impacts will be fully mitigated.

3. Boating densities

Target: Boating does not exceed estimated carrying-capacity thresholds as per the formula described in *Lake Ripley Watercraft Census and Recreational Carrying Capacity Analysis* (LRMD, 2003).

4. Law enforcement

Target: Lake rules are enforced through regular Town of Oakland police patrols during the boating season, with emphasis on summer weekends and other peak lake-use periods.

5. Public survey input

Target: Opinion survey results reflect favorable reviews regarding the lake’s overall recreational atmosphere (i.e., fairness of rules, perceived compliance levels, degree of crowding, adequate enforcement, etc.).

GOAL #4: COST-EFFECTIVE MANAGEMENT ACTION

Status:

In 1991, the Lake Ripley Management District began operations under authority of Chapter 33 of the Wisconsin Statutes. It is a local, special-purpose unit of government that serves property owners living around the lake. The mission of the District is to preserve and enhance Lake Ripley’s water quality, its fish and wildlife communities, and its overall ecological health, while ensuring safe, fair and practical lake use. To accomplish this mission, the District engages in a number of tax- and grant-supported programs in accordance with approved management plans and operating permits. A seven-member board of directors is responsible for directing the affairs of the District with the help of a full-time lake manager and two part-time weed-harvesting employees.

Objectives:

1. Management actions advance stated planning goals.
2. Management programs are appropriately targeted and cost-effective as set forth in approved guidance documents.
3. Monitoring is routinely conducted to evaluate resource conditions and management progress.
4. Funding and staffing resources are sufficient to implement recommended management actions.
5. The latest scientific information, strategy guidance and technological innovations are fully utilized as they become available.

Metrics:

1. Management-planning directives

Target: Plan recommendations are regularly reviewed, implemented and updated according to an approved schedule.

2. Lake District operating budget

Target: The Lake District budget provides for sufficient resources to implement, on a timely basis, recommended management activities necessary to achieve identified goals.

3. Public survey input

Target: Realistic management expectations are maintained, and programs are viewed as effectively addressing community priorities.

4. Monitoring-data archives

Targets:

- The lake's shoreline is videotaped every few years to document changes in shore conditions and development activities.
- An annual census of piers, boat lifts, rafts and moored watercraft is maintained to document resident boating facilities and lake-use potential.
- Documentation of on-lake boat counts and lake-use observations is maintained during each boating season to track trends over time.
- Secchi depth measurements are taken at least twice per month (May to September).
- Basic water chemistry (total phosphorus, chlorophyll-*a*, etc.) is evaluated at least three times per year (after spring turnover, during mid-summer stratification, and after fall turnover).
- Invasive species information (locations, population estimates, etc.) is collected as per Wisconsin DNR guidance.
- Documentation of cost-shared conservation measures and estimated pollutant reductions is maintained as projects are completed.
- Aquatic plant inventories are performed every 4-5 years.
- Annual weed harvesting reports are maintained that document staff hours, cutting areas, number of loads harvested, and plant species collected.
- Public opinion solicitations are conducted every 5-7 years to track awareness and general attitudes associated with ongoing management challenges and their proposed solutions.

GOAL #5: A WELL-INFORMED AND ENGAGED CITIZENRY

Status:

Results of public opinion surveys show that most respondents feel well informed of issues related to Lake Ripley and its management. The Lake District seeks to communicate with and solicit participation from its constituents using multiple media outlets. These include public meetings and hearings, dissemination of printed materials (such as newsletters), e-mail bulletins, local newspaper articles, educational workshops, Web postings, and lake and watershed tours—among others. Social-marketing strategies are now being tested as a way of increasing the

effectiveness of these communications, and to improve participation rates in the Lake District's landowner cost-share program.

Objectives:

1. Maintain open lines of communication with Lake District constituents, watershed property owners, and affected stakeholders using diverse media outlets.
2. Use the *Ripples* newsletter as the primary means of information sharing.
3. Actively solicit community participation and involvement in protection and rehabilitation efforts.

Metrics:

1. Outreach tools

Targets:

- A minimum of three Ripples newsletters are disseminated each year.
- E-mail bulletins are used as needed to distribute announcements and time-sensitive information to interested constituents.
- The Lake District website is updated on at least a quarterly basis.
- Welcome Wagon informational packets are mailed on at least a quarterly basis to new District and watershed property owners.
- All meeting agendas and proposed operating budgets are posted and published on a timely basis.
- Board meetings and public hearings are well publicized and aired on local cable television.
- An informational boat tour is offered each year for the benefit of Town of Oakland Board members.
- Community events (watershed tours, lake fairs, litter cleanups, etc.) are regularly used to educate and engage citizen volunteers.
- Social-marketing strategies that target specific, meaningful behavior changes are incorporated into existing outreach programs.

2. Public survey input

Target: Opinion survey results give favorable reviews for quality of outreach materials and effectiveness of communication strategies.

3. Volunteer and landowner participation

Targets:

- Mechanisms are in place for attracting and retaining volunteers to support ongoing programs.
- A critical mass of targeted landowners adopt recommended conservation measures as a result of outreach and incentive programs.
- School groups are solicited to participate in service-learning projects.

RECOMMENDATIONS

The following is a bulleted list of strategy recommendations intended to further the Lake District’s overall mission, goals and objectives. As a consequence of their implementation, the expected outcome would be the safeguarding of a high-quality natural resource that strengthens area property values, provides unique outdoor recreational opportunities for the community, and enhances the overall quality of life of its residents.

Watershed Conservation

- Continue the restoration and improvement of the 167-acre Lake District Preserve.
- Provide project design, permitting and cost-sharing assistance to targeted landowners for the implementation of eligible Best Management Practices (BMPs).
- Partner with targeted landowners to protect identified “critical areas” and improve wetland function.
- Encourage the planting of native trees throughout the watershed.
- Consider providing free soil tests as a service to both residential and agricultural landowners for the purpose of reducing fertilizer use.

Land-Use Policy

- Advocate for policies that reward developers who incorporate green infrastructure and low-impact development (LID) practices.
- Advocate for policies at the Town and County levels that limit the amount of road salt applied on area streets.
- Advocate for policies at the Town and County levels that call for the use of grass swales, rain gardens and other measures to capture and treat street runoff, as opposed to the creation of curb-and-gutter systems that connect to storm sewer outfalls.
- Advocate for the adoption of a Town or County ordinance that would regulate or prohibit the development of high-capacity wells where their operation could negatively affect Lake Ripley or its inlet tributary.
- Advocate for the development of multi-modal transportation options around Lake Ripley that can be incorporated during street-reconstruction planning.
- Work with Town of Oakland to explore the possibility of strengthening existing construction site erosion-control rules and enforcement standards.
- Ensure that Lake District property annexed by the Village of Cambridge remains a part of and under the taxing authority of the District, and remains subject to shoreland zoning provisions.
- Support the Town of Oakland’s comprehensive growth plan (adopted 11-18-08) that places limits on the eastward expansion of the urban service area within the Lake Ripley watershed.

Lake-Use Policy

- Maintain slow-no-wake and no-motor zoning ordinances in their current form.
- Support Town of Oakland’s lake-patrol program, and advocate for increased enforcement hours during peak-use boating times.
- Discourage policies or actions that would increase motor boat access to the lake.

- Work with the Town of Oakland in advocating for and instituting an outdoor lighting ordinance, particularly if outreach efforts prove ineffective at curbing unnecessary light pollution.

Management of Lake Biota

- Use mechanical harvesting to cut and remove non-native, invasive lake weeds.
- Implement strategies that promote a diverse and thriving native plant community—both on shore and throughout the lake’s littoral zone—to protect water quality and enhance fishery habitat.
- Explore the feasibility of using spot herbicide treatments or hand pulling to more aggressively control curly-leaf pondweed colonies in East Bay.
- Support walleye stocking, carp-control efforts, and a thriving native aquatic plant community as “biomanipulation” tools that can positively influence water quality.
- Protect designated Sensitive Areas, now called Critical Habitat Areas, by ensuring adequate enforcement of the Town of Oakland’s pier and boating ordinances that affect these locations, and by advocating for additional protections if deemed necessary.
- Partner with Wisconsin DNR to complete a re-evaluation and re-mapping of Lake Ripley’s Critical Habitat Areas, a process that was started in 2008.
- Work with Wisconsin DNR to revisit bag and size limits for bass, northern pike and walleye to ensure that current fish-harvest policies are achieving stated objectives.
- Investigate the feasibility and potential effectiveness of installing a carp barrier in the outlet channel.
- Assist targeted landowners in securing federal permits to implement egg-oiling efforts if deemed necessary to control nuisance, non-migrating geese populations.

Public Education and Outreach

- Explore using additional incentive programs and community-based social marketing strategies to increase landowner participation rates relating to the implementation of watershed Best Management Practices (BMPs).
- Utilize multiple forms of media and social-marketing techniques to enhance the public’s ability to understand, evaluate and advocate for actions and policies that protect the lake.
- Organize paid or volunteer watercraft inspectors to educate boaters about aquatic invasive species at boat launches.
- Maintain high-visibility informational signage at the public boat landing and other access locations.
- Ensure that the public is made aware of strategies or approaches to problems that the Lake District considers impractical, ill-advised, of questionable impact, or beyond the District’s charge and authority.

Evaluation and Analysis

- Use computer modeling to identify realistic sediment/phosphorus reduction targets on a watershed and subwatershed basis.
- Estimate the extent and sources of in-lake phosphorus recycling by developing more refined phosphorus and hydrologic budgets for the lake.

- Assist the Wisconsin DNR and other permitting authorities to ensure a thorough and comprehensive permit evaluation of any future dredging proposals related to Lake Ripley's inlet channel or Vasby's Ditch.

Capacity Building

- Encourage board members and staff to attend continuing education seminars, lakes conferences and technical workshops.
- Utilize Board committees, citizen task forces, volunteer groups and student internships to increase the capacity of Lake District programs.
- Seek out grant opportunities and diverse partnerships to advance Lake District initiatives.

Long-Term Monitoring

- Maintain an updated inventory of completed projects and targeted properties that remain eligible for approved BMPs.
- Monitor changes in land-use conditions to identify potential problem areas and better target BMPs.
- Support the continuation of long-term trends monitoring on Lake Ripley by the Wisconsin DNR, including regular monitoring of water quality, fishery and aquatic plant conditions.
- Monitor water quality conditions by tracking a range of parameters and biotic indicators in accordance with recommended monitoring schedules.
- Support annual electrofishing inventory and occasional fyke-net surveys by Wisconsin DNR fisheries biologists to monitor fish-community health.
- Conduct aquatic plant inventories at least every 4-5 years to evaluate changes in the plant community.
- Monitor lake use to track long-term changes in boating behavior and recreational-use patterns.
- Survey opinions of property owners and lake users at least every several years.
- Synthesize and evaluate all available monitoring data at regular intervals to re-evaluate trends and diagnose emerging problems.
- Update management-planning findings and recommendations as needed.

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