

ROCK LAKE MANAGEMENT PLAN 2018-2028

EXECUTIVE SUMMARY

A lake management plan provides a roadmap on policies and practices that help ensure a healthy lake and watershed. The plan is implemented by the lake community which can include citizens, lake associations, businesses, government agencies, and other organizations.

In 2016, the Rock Lake Improvement Association (RLIA), in collaboration with the Jefferson County Land and Water Conservation Department, received a grant from the Wisconsin Department of Natural Resources to update Rock Lake's management plan.

The RLIA formed an Advisory Committee of community members to review the latest data on the health of Rock Lake, and assist in crafting recommendations to improve and protect Rock Lake and its watershed. This Advisory Committee represented a variety of lake and watershed interests from fishing, to boating, shoreland areas, agriculture and more.

The previous Management Plan for Rock Lake was completed in 2006 and contained recommendations on a wide range of lake issues, from water quality to recreation. These recommendations were fully or partially implemented (34%), were ongoing actions implemented by various entities (36%), or were not implemented due to irrelevance or public or political will (17%). There also are some recommendations that could still be implemented (13%).

The updated Rock Lake Management Plan contains background on Rock Lake and its watershed, factors impacting the lake, and the Vision, Goals, and Recommendations of the plan. The Vision, Goals and Recommendation are contained below. The entire plan can be obtained at the RLIA website, www.rocklake.org, or at the L.D. Fargo Public Library in Lake Mills.

Vision of the Rock Lake Management Plan

Work in partnership with our community to protect and enhance water quality, habitat, and recreational assets in Rock Lake and its watershed for current and future generations.

Water Quality Goal: Improve the water quality of Rock Lake by reducing the summer average phosphorus level in Rock Lake by 20% by the year 2028.

- The 8-year (2009-2016) average phosphorus is 17.7 µg/l. A 20% reduction will result in average phosphorus of 14 µg/l.
- Review this goal in 5 years (2022) to adjust as appropriate given the levels achieved and additional research into phosphorus loading to the lake.

Agricultural Recommendations to Achieve Water Quality Goal

- Install conservation practices on agricultural lands within the Rock Lake watershed to prevent soil erosion and protect water quality.
 - Recommended practices include cover crops, reduced tillage including no-till, filter strips, and grassed waterways.
- Find an agriculture leader(s) in the Rock Lake watershed who is interested in forming a Rock Lake Producer-Led Watershed Protection Committee, in collaboration with either Rock Lake Improvement Association (RLIA) or Land and Water Conservation Department (LWCD) or both, to be eligible for funds to prevent and reduce runoff from farm fields.
- The LWCD should investigate areas identified in the EVAAL analysis to determine if erosion control practices are needed. If they are, then contact the landowners and provide available technical and financial assistance to control the erosion.
- Implement the 2014 “Miljala Channel Tributary Watershed” recommendations:
 1. Maintain the channel turbidity barrier until installed practices make it unnecessary.
 2. Continue to work with Daybreak Foods to ensure that chicken manure spreading on farm fields is done according to state standards.
 3. Implement a vegetated buffer on farm fields adjacent to the stream.
 4. Stabilize the stream banks in partnership with landowners along the stream.
 5. Once upstream practices are installed, pursue wetland restoration to trap sediment and associated phosphorus, and to improve wildlife habitat.
 6. Perform monitoring to document changes resulting from practice implementation.

Residential Recommendations to Achieve Water Quality Goal

- Increase the total length of shorelands that have native vegetation (trees, shrubs, flowers, grasses) and meet state standards from 28.3% in 2016 to 39% by 2023 and 50% by 2028. (This is a recommendation that will also aid in achieving the habitat goal.)
 - Review this goal after repeating the shoreland and shallows survey (in 2021 and 2026) to determine if it should be adjusted.
 - Actions could include: educate property owners about the importance of shoreline vegetation and financial support via Healthy Lakes grant, RLIA native plant sale, shoreland garden workshops, and garden tours among other ideas.
- The City and Town of Lake Mills should ensure that construction site erosion laws are enforced by either their building inspectors or other officials as required.
- The Town and City of Lake Mills should work together on a new composting area so citizens have more yard waste disposal options to reduce phosphorus pollution.
- Promote the use of stormwater management practices in the watershed including rain barrels and rain gardens.

Streets Recommendations to Achieve Water Quality Goal

- Continue to work with the Town and City of Lake Mills to reduce the delivery of pollutants from streets to lakes and streams (such as runoff from Cedar Lane into the Miljala channel, sediment buildup in cutouts on Shorewood Hills Road, and updates to the storm drainage system on Lake Shore Road).
- The City of Lake Mills should find a location other than Veterans Lane for snow disposal which doesn't impact the lake. Otherwise, the City should pile the snow on Veterans Lane on the side of the road that is farthest from the Mill Pond.
- In the short term, the Town of Lake Mills should direct their contractor to not spread sand and salt together. Salt should be placed at stop signs, hills, and curves; sand should be placed on straight road stretches. After salt turns the snow to slush, the roads should be plowed again.
- In the long term, the Town of Lake Mills should modernize their approach to snow/ice removal to incorporate a brining system (or other system that is superior to the current situation).
 - The Town could investigate partnering with the City of Lake Mills or Jefferson County to obtain the equipment and/or personnel if local contractors cannot implement more modern systems of snow/ice removal.

Other Recommendations to Achieve Water Quality Goal

- Research the pros, cons, and mechanics of restoring Rock Creek to its natural channel by bypassing the man-made ditch downstream of County Highway A.

Water Quality Sampling Goal: Measure the health of lakes and streams in the Rock Lake Watershed with volunteers and applicable technologies to track trends and identify sources of pollutants.

Recommendations to Achieve Water Quality Sampling Goal

- Increase the number of water clarity measurements to at least every other week on Rock Lake by recruiting and training volunteers.
- The Land and Water Conservation Department and the Department of Natural Resources should take their phosphorous samples on different days in July and August so that there are 4 samples used to analyze the trends instead of 2 samples.
- Measure the dissolved oxygen profile at the deep hole biweekly rather than monthly in the summer to better document the amount of anoxic water and the depth when anoxia happens throughout the summer.
- Determine the level of internal phosphorus loading in Rock Lake by implementing a sampling regime of additional dissolved oxygen and phosphorus testing.
- Determine the costs and the protocols/equipment needed to measure the phosphorus loading that occurs from Marsh Lake to Rock Lake.
- Expand water quality monitoring at Rock Lake's inlets: add phosphorus at Hwy A; initiate temperature, dissolved oxygen, macroinvertebrates, and phosphorus at Cedar Lane; determine if the creeks at Shorewood Hills Road and Hope Lake Road can be monitored.

- Collect concurrent samples of both base stream flow and phosphorous levels from all the sampled input streams, where possible, on the same day. Storm event sampling should also be pursued at these sites.
- In Mud Lake, add water quality measurements (temperature/dissolved oxygen profiles, phosphorus, and chlorophyll) to the existing clarity measurements being taken by volunteers.

Habitat Goal: Achieve a diverse ecosystem in the water and on the land for native plants and animals to thrive.

Fish and Wildlife Recommendations to Achieve Habitat Goal

- Look for opportunities to increase fish and wildlife habitat in Rock Lake and its watershed including the fish sticks project at Tyrannena Park.
- The nearshore fish survey should be performed in future years to monitor the trends in nongame fish populations. Future surveys should be performed using both seining and electrofishing gear.
- The Department of Natural Resources should add a boom shocking survey in Rock and Marsh Lakes that specifically targets smaller, rare fish species by using fine-mesh nets.
- Additional and more frequent nearshore fish sampling should be performed in Mud Lake because both rare and environmentally sensitive fish species have been documented there in 2007 and 2013. In addition, more sites should be added and both seining and electrofishing gear should be used.
- Additional fish surveys on Mud Lake should be performed. The carp population should be assessed as it may be negatively impacting the aquatic plants.
- Research whether fishing tournaments held on Rock Lake may be having a negative impact on the lake or the fish population.
- Continue to educate the public in the spring regarding Columnaris, a naturally occurring bacterium that can lead to fish kills.
- Research the feasibility of expanding frog and toad surveys to include other areas such as Mud Lake, Bean Lake, Korth Park, and Lost Lake.
- Continue to have volunteers perform the bat survey on Rock Lake each summer.

Aquatic Plant Recommendations to Achieve Habitat Goal

- Review the results of the 2017 aquatic plant survey and the 2018 bulrush survey to determine if actions should be added to this plan.
- Determine if the water milfoil near the outlet of the Miljala channel is native, Eurasian, or a hybrid (via genetic testing), and pursue a DNR permit to hand pull any Eurasian or Hybrid water milfoil.
- Aquatic plant surveys (including the bulrush survey) should be performed approximately every 5 years (starting in 2022) on Rock Lake, Marsh Lake, and the mill pond to keep track of community changes and the appearance or spread of invasive species.
- Aquatic plant surveys should be performed on Mud Lake (starting in 2018/2019) and done at a time when curly-leaf pondweed is growing.

- Continue to educate landowners about the value of native aquatic plants and removal laws (especially that permits are required in sensitive areas prior to any removal).

Invasive and Nuisance Species Recommendations to Achieve Habitat Goal

- Continue to implement the Clean Boats/Clean Water program at the City and Town of Lake Mills launches and expand coverage during waterfowl hunting season.
- Continue holding an annual environmental cleanup including invasive species control (garlic mustard) and garbage pick-up.
- Take action to reduce the Canada geese and sea gull population (including a geese count to inform management officials on the population).

Shoreland and Shallows Recommendation to Achieve Habitat Goal

- Perform the shoreland and shallows survey every 5 years (2021, 2026) to track changes.
- Investigate how to make it clear to boaters how to navigate through Korth Bay in order to protect the sensitive area. Navigational buoys could be placed in the “channel” that is known to local residents.

Mill Pond and Channel Recommendation to Achieve Habitat Goal

- The City of Lake Mills should hold a public comments session (separate from a City Council meeting) to review options proposed in the Mill Pond and Channel dredging feasibility study prior to the City Council making a final decision.

Lake Recreation Goal: Ensure a safe and healthy multipurpose recreational environment.

Water Recreation Recommendations to Achieve Lake Recreation Goal

- Perform a survey in the summer to determine boat congestion on the lake and if there is a potential safety hazard during busy weekends.
 - The survey could include: determining the number of boat trailers parked at the launches, and counting the number of boats on the lake. Surveys on multiple dates increases the likelihood of more meaningful data. Follow-up actions could include limiting parking spaces to prevent the over usage of the lake.
- Research if the Town of Lake Mills can adopt an ordinance to limit the total number of people on a watercraft and being towed to the total capacity of the watercraft.
- Share with the lake patrol the public survey results regarding which recreational rules respondents observed being violated. Recommend that the lake patrol increase education and perhaps citations on those violations.
- Research, with broader public input, the viability of simplifying the current Slow-No-Wake distance regulation for all motorized boats to 200 feet from shore.

- Educate lake residents regarding slow-no-wake rules including: definition of slow-no-wake, location of slow-no-wake areas, and distances in which motorized vehicles must operate at slow-no-wake speeds.
 - This could be achieved by sending a letter to all lake residents.
- Provide the recreational rules pamphlet to people obtaining season launch passes and continue to put the pamphlets at the launches.

Beach Water Quality Recommendations to Achieve Lake Recreation Goal

- The City of Lake Mills and Town of Lake Mills should follow the current DNR and EPA protocols on posting beach water advisories and closures.
- The day after a beach water sample exceeds an advisory or closure standard, the City of Lake Mills and/or Town of Lake Mills should take a beach water sample and pay the costs to overnight it to the State Lab of Hygiene in Madison.
- Review the status and enforcement of laws regarding dogs on public beaches and explore options to provide lake access at other areas to prevent them from polluting the beaches.

Sandy Beach Recommendations to Achieve Lake Recreation Goal

- Prior to making a final decision, the City of Lake Mills should hold a public comments session (separate from a City Council meeting) to review the proposal(s) for changes to the Sandy Beach and trailer park areas.
- Any development to the Sandy Beach and trailer park areas should include practices that result in no negative environmental and/or recreational impact to the lake (including water runoff, boat use & access, and recreational safety). Further, if no development is undertaken at Sandy Beach, the impacts to the lake of the current situation should be reviewed to identify practices that improve the impact that the park and its uses have to the lake.

Education Goal: Achieve a more knowledgeable and active public in regards to Rock Lake, the watershed, and the lake management plan.

Education Recommendations to Achieve Education Goal

- Expand education efforts to create a more knowledgeable public on lake and watershed issues, including efforts to train more citizen scientists.
 - The public survey results can be used to determine topics that could be covered.
 - Activities could include articles in the paper, internet and social media, direct mail, workshops, one topic talks, garden or conservation practice tours, and water tours.
- Continue to provide new and current lake shore property owners with information on the lake including zoning rules, recreational rules, and native shoreland gardens.
- Improve peace and tranquility by educating the public about light and noise pollution.

LWCD & the Rock Lake Management Plan

Green highlights: recommendations already achieved or are implemented as an on-going project

Yellow highlights: recommendations that have been started, but not completed

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Water Quality Goal

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Agricultural Recommendations to Achieve Water Quality Goal

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- Find an agriculture leader(s) in the Rock Lake watershed who is interested in forming a Rock Lake Producer-Led Watershed Protection Committee, in collaboration with either Rock Lake Improvement Association (RLIA) or Land and Water Conservation Department (LWCD) or both, to be eligible for funds to prevent and reduce runoff from farm fields. [Implementer: LWCD, RLIA]
- The LWCD should investigate areas identified in the EVAAL analysis to determine if erosion control practices are needed. [Implementer: **LWCD**]
- Implement the 2014 “Miljala Channel Tributary Watershed” recommendations. [Implementer: LWCD, RLIA]

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- Continue to provide new and current lake shore property owners with information on the lake including zoning rules, recreational rules, and native shoreland gardens. [Implementer: RLIA, LWCD]
- Improve peace and tranquility by educating the public about light and noise pollution. [Implementer: RLIA, LWCD, Joint Rock Lake Committee]