

To: Lida LID Residents
From: Moriya Rufer, Lake Coordinator, Houston Engineering
Subject: Annual Meeting Report
Date: August 17, 2024

Introduction

Hi! My name is Moriya Rufer and I'm a Scientist at Houston Engineering. Our main office is in Fargo, but I work remotely in Detroit Lakes. I'll be sharing a little bit about the work we've been doing this year on the Lida Lakes, including lake and stream monitoring and aquatic invasive plant surveys and treatment. My contact info is: mrufer@houstoneng.com, 218-396-1169.

Water Quality Monitoring

North and South Lida Lakes have been monitored consistently for more than 20 years, so we have a lot of information to work with that has increased our understanding of the lakes and provided insight as to how they are changing over time.

This year, volunteers (Mike Spangler, Bob Nielson) have continued baseline monitoring on North and South Lida Lakes, which involves collecting water samples once a month, May through September. We primarily look at nutrients (phosphorus), algae, and water clarity; these parameters give us the best picture of overall water

quality and lake condition. Both North and South Lida are showing improving trends in water quality from 1998-2023. The improving clarity is likely due to zebra mussels, but the phosphorus is also improving, which shows the lake's overall water quality is improving.



To look up lake testing results for North and South Lida, visit: <https://lakes.rmbel.com>.

We also collected water samples at numerous inlets flowing into the lake, including inlet road, Ditch 51/Mud Lake, and Moonlight Bay. This testing is meant to investigate what is flowing into the lake and if any projects are needed to fix nutrient sources. Moonlight Bay is the first priority for improvements, and the Lida LID is working with the West Otter Tail Soil and Water Conservation District to implement an improvement project to stabilize the creek flowing into the South Lida.

Curly-leaf Pondweed

Curly-leaf pondweed is an invasive aquatic plant that has been present in the Lida Lakes for many years. It generally grows from the shore to water depths of 15 feet and can grow up to 15 feet tall. The biggest advantage curly-leaf has over native plants is its unique life cycle. It's usually the first to come up in the spring, and it dies off in mid-summer, forming large mats on the water's surface that can interfere with recreation and become a safety hazard.

Curly-leaf is surveyed every spring, and dense areas are treated with herbicide. During this year's spring survey, very minimal curly-leaf pondweed was found, so treatment occurred on May 16 in the same areas as last year (North Lida: 3.2 acres treated, South Lida: 6 acres treated).

Houston Engineering and the Lida LID Water Quality Committee also conducted an intensive survey in June of this year, when the curly-leaf was large and mature. We delineated all possible areas for treatment next year. We will continue to survey every year and treat when necessary. Complete eradication is not likely within any body of water, but continued management practices will help keep the harmful impacts of the invasive plant to a minimum.



Native Plants

Native plants are a normal, necessary part of the lake's ecosystem. Aquatic plants produce oxygen throughout the water column as a byproduct of photosynthesis, which oxygenates the water column. Plants also help to keep the sediments stable at the bottom of the lake and prevent it from mixing into the water column. Tiny invertebrates (zooplankton and aquatic insects) eat algae and use plants as a hiding place from predators such as perch, sunfish and crappies. Bulrush, which is abundant in the Lida Lakes, is an important spawning habitat for crappies, filters the water, and prevents shoreline erosion by acting as a wave break. Shoreline vegetation is also very important for loon nesting.



The DNR allows clearing a small area by your dock, but the following items need a permit:

- The use of pesticides in public waters.
- Clearing vegetation in an area larger than 2,500 square feet or greater than 50 feet along the shore.
- Removing emergent vegetation, such as cattails, bulrush, or wild rice.
- The use of automated aquatic plant control devices such as weed rollers.

Visit this DNR web page for more information on what activities need permits and how to get them: <https://www.dnr.state.mn.us/apm/index.html>.

Why Does it Matter?



Property Values

What is your lake home worth?

Studies on Minnesota lakes show that lake property values are directly tied to water quality. For a three-foot decrease in water clarity, prices were reduced up to \$594 per shoreline foot. For a three-foot increase in clarity, prices increased up to \$423 per shoreline foot. This change in value can be a significant financial loss or gain to an individual property owner as well as a community.



Fishing & Recreation

Do you enjoy fishing and swimming?

Minnesota's native gamefish, such as walleyes, need clear water to see their prey, aquatic plants to hide and spawn in, and shade to keep cool. Keeping native plants in the lake and trees along the shoreline provide shade, spawning habitat, and protection for the game fish we love to catch. These plants and trees also help stop runoff and keep the lake clear for swimming and recreational activities.

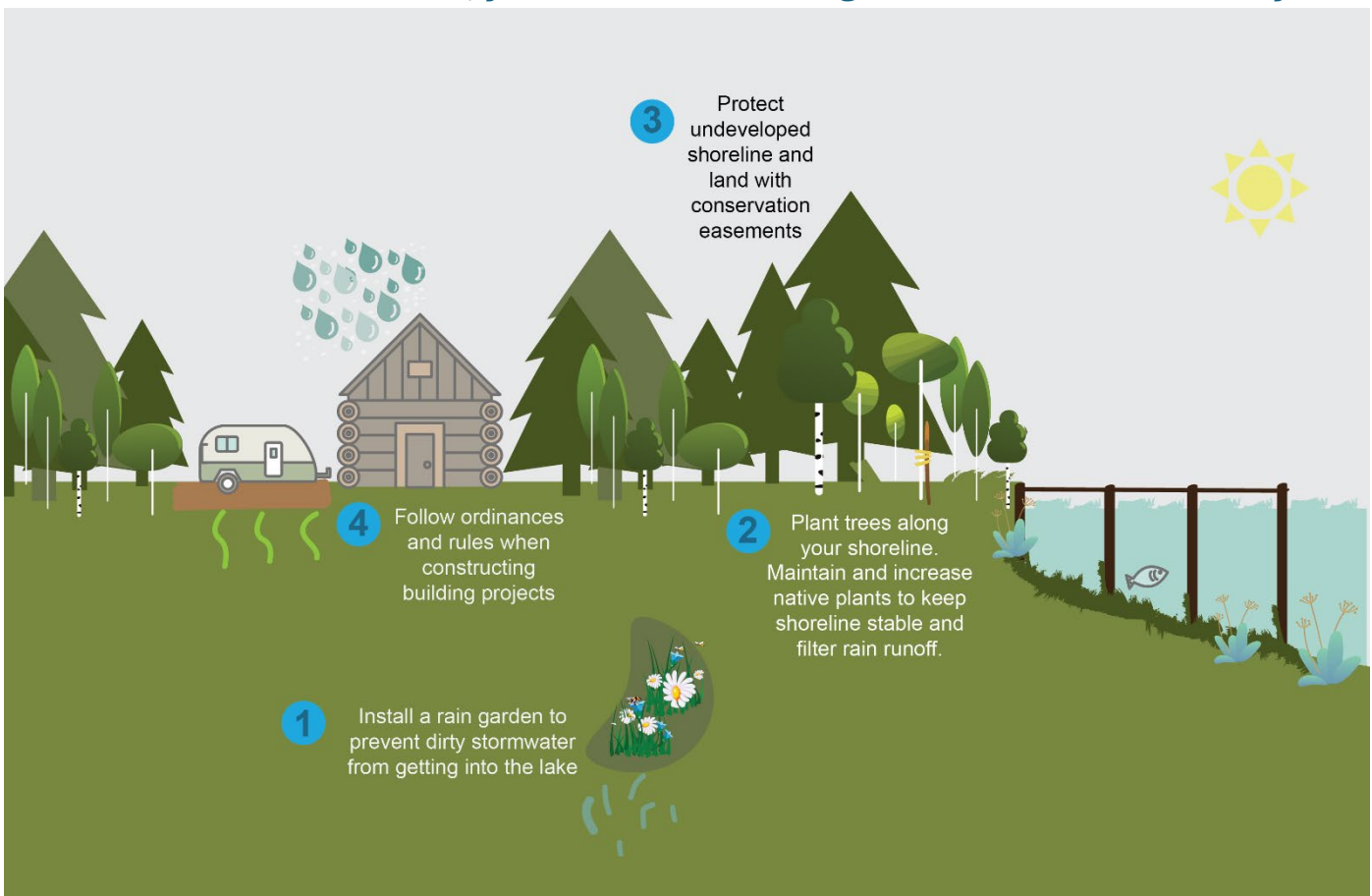


Habitat

Do you enjoy watching loons, bald eagles, turtles, butterflies, songbirds, and other wildlife at the lake?

These animals depend on shoreline plants for nesting and cover, trees and forests for their homes, and native plants and flowers for pollinating. Keeping some of your yard natural enhances the habitat for these animals, ensuring their survival.

As a lakeshore owner, you are vital to making sure our lakes are healthy!



To watch a short video about how to take care of your lake, visit: <https://www.youtube.com/watch?v=dwjAoRwLrmM>.

For help with your shoreline, including technical/design advice and cost share, contact the West Otter Tail Soil and Water Conservation District: 218-998-5300, wotswcd@gmail.com, <https://www.wotswcd.org>.