What’s happening

RICE MARSH LAKE ALUM TREATMENT

In September 2018, Rice Marsh Lake was treated with alum (aluminum sulfate). Alum binds with phosphorus in the sediment on the lake bottom, and keeps it from being released up into the lake. Phosphorus is a major food source for algae, the single-celled plants that can turn lakes pea green. When phosphorus is bound by alum, it can’t be used by algae any more, so less phosphorus means fewer algae, and cleaner, clearer water. Keeping phosphorus out of Rice Marsh Lake also means that less of it will flow downstream into Lake Riley, which is used frequently for swimming, boating, and fishing. Read more about alum on our website.

You can help the alum do its job by preventing more phosphorus from entering the lake. Keeping leaves, grass clippings, dirt, and pet waste out of the street is something we can all do. These are sources of phosphorus, and when on the street, they end up down stormdrains and on their way to water bodies like Rice Marsh Lake. Rake, sweep, and pick up to help care for Lotus Lake!

DIVE DEEPER

Interested in learning more? Explore the following reports on our website.

Aquatic plants

Carp management

Paleolimnology

Stormwater ponds
RPBCWD. 2013. Stormwater pond project.

Watershed study

ZEBA MUSSELS FOUND IN LAKE RILEY

Zebra mussels, an aquatic invasive species (AIS) were discovered in Lake Riley in October 2018. This is the first lake within the Riley Purgatory Bluff Creek Watershed District where they have been spotted. Zebra mussels live in dense clusters and can spread quickly. They attach to docks, boats, rocks, logs, and other surfaces in the lake, and can threaten recreation and the underwater ecosystem.

The District will continue to monitor the zebra mussel population in Lake Riley, and work with our partners to try to prevent this species from spreading to other lakes. You can help! Remember to always clean, drain, and dry your watercraft and equipment when leaving a lake.

Celebrating our 50th Anniversary in 2019. Learn more at www.rpbcwd.org/50years

Contact us
and find out how you can get involved

DISTRIBUTION OFFICE
18681 Lake Drive East
Chanhassen, MN
55317

CONTACT INFO
952.607.6512
info@rpbcwd.org
rpbcwd.org

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20% Commercial
34% Residential
27% Open Space
8% Roads
11% Open Water

LAND USE in the Rice Marsh Lake Watershed

Located in both Eden Prairie and Chanhassen, Rice Marsh Lake is aerated in the winter. This management practice helps keep bluegill sunfish alive so that they can feed on invasive carp eggs in the spring.

WATERSHED BOUNDARIES

Water that falls anywhere within the white border drains to Rice Marsh Lake.
How healthy is Rice Marsh Lake?

Water quality in Rice Marsh Lake decreased slightly from 2017 to 2018, only meeting one parameter for clean water standards set by the Minnesota Pollution Control Agency (MPCA). Still, water quality in the lake is on a path that is much improved compared to historical trends. The graphs on the next page show the trends over time. The red line on each graph marks the MPCA standard. The goal is for the average values (the dots) to be below the red line.

During the growing season (June - September), district staff visit Rice Marsh Lake every other week to collect water samples and take measurements. The water samples are sent to a lab where they are tested for several compounds including total phosphorous (TP) and chlorophyll a (Chl-a). Staff also measure how clear the water is using a disk that is lowered into the water until it can no longer be seen. All three of these parameters help indicate whether the water is clean.

Rice Marsh is classified as a “Shallow Lake”, which means that it is generally less than 15 feet deep and light can reach the bottom in most of the lake. This ample light means that shallow lakes often have a lot of aquatic plants, and are habitat to many types of fish and birds. To be considered healthy by the MPCA, shallow lakes need to be clear enough to see one meter down, and have low TP and Chl-a levels.

Rainwater runoff, the water that flows across yards, parking lots, and streets into stormdrains, is one of the main causes of pollution in urban areas. You can take simple actions to help protect Rice Marsh Lake.

Keep the curb clean
Sweep up leaves, grass clippings, and fertilizer from driveways and streets.

Water with care
Grass requires 1-inch of water per week, about one hour of sprinkling per week if it has not rained.

Salt smart
The salt we use to melt ice can pollute our lakes and creeks. Use salt sparingly and always shovel first.

Reuse the rain
Collect and reuse rainwater with a rain barrel.

Build a raingarden
Raingardens soak up water and filter out pollution. Visit our website for help.

Summary table

<table>
<thead>
<tr>
<th>Parameter</th>
<th>MPCA standard</th>
<th>1972 - 2017</th>
<th>2018</th>
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<tr>
<td></td>
<td>TP</td>
<td>Chl-a</td>
<td>Secchi</td>
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<td>max</td>
<td>min</td>
<td>average</td>
<td>max</td>
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<td>Chl-a</td>
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<td>2.75 0.6 1.59</td>
</tr>
</tbody>
</table>

Phosphorus is a nutrient that plants and algae need for growth. It is often measured as total phosphorus (TP). Too much phosphorous can cause algae blooms.

Chlorophyll a is the main pigment in algae, so measuring chl-a can tell us how much algae there is. Too much chl-a means that there are too many nutrients in the water.

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Water clarity is measured using a Secchi Disk, a black and white disk the size of a dinner plate. It is lowered into the water, and the depth at which it is no longer visible is recorded.

Help keep Rice Marsh healthy