

Maple Grove's popular Fish Lake poised to drop 'impaired' status



Project partners included Three Rivers Park District, the city of Maple Grove, the Fish Lake Area Residents Association, the Elm Creek WMC and BWSR.

MAPLE GROVE — Fish Lake, a 232-acre lake bordered by a regional park with a swimming beach and public water access, achieved the phosphorus reductions necessary to be considered for delisting in 2017, after the first dose of a two-part alum treatment.

Alum treatments are applied in two half-doses to avoid a significant drop in pH, which could harm fish and invertebrates. Half-dose treatments also improve the efficiency of alum to bind to the phosphorus, locking it up within the upper layer of sediment.

A \$200,000 Clean Water Fund grant the Minnesota Board of Water and Soil Resources (BWSR) awarded to the Elm Creek Watershed Management Commission (WMC) in 2017 supported the \$375,470 project.

“It’s really nice to be able to

recommend to people, ‘Hey, go to Fish Lake and check it out and go paddleboarding and take advantage of the great water quality and the fish community that it has to offer,” said Brian Vlach, senior water resources manager at Three Rivers Park District.

The Elm Creek WMC contracts with Three Rivers Park District to monitor water quality in Fish Lake. Three Rivers Park District owns Fish Lake Regional Park, which offers a swimming beach on the south shore, fishing piers, and a public boat access popular among anglers and water-skiers.

The lake was listed as impaired for aquatic recreation in 2008.

In the past, severe algae blooms emerged during the summer.

Fish Lake Area Residents Association (FLARA) President Dave Spatafore

Fish Lake is among the water bodies slated to be removed from the state’s impaired waters list in 2024 as a result of water-quality improvements supported by Clean Water Funds from BWSR. Delisting becomes official when approved by the Environmental Protection Agency.

Photo Credit: Dave Spatafore, FLARA



Fish Lake is 62 feet deep at its deepest point, with an average depth of 20.5 feet. It attracts anglers, boaters, water-skiers, paddlers and swimmers. Water-quality improvements here affect connected waters including Rice Lake and Elm Creek downstream. **Photo Credit:** Joe Ruegsegger

lives on Fish Lake, where he enjoys swimming, fishing, water sports, ice fishing and ice skating. He recalled times where it was impossible to see his feet while wading because of the algae blooms.

Phosphorus is the primary nutrient causing the algae growth that turns lakes green.

Because the watershed is small — 1,611 acres — and fully developed, Vlach said there wasn't room to install projects or management practices such as ponds or rain gardens that would significantly reduce phosphorus-loading. Any such projects large enough to significantly improve water quality would not be cost-effective. Additionally, soils within the watershed aren't conducive to most infiltration practices.

The WMC and park district's total maximum daily load study determined 70% of the total phosphorus came from within the lake.

"It was really close to meeting

standards but it wasn't quite there," Vlach said.

Phosphorus levels were averaging about 45 parts per billion (ppb). The state water-quality standard is 40 ppb.

"The alum treatment was instrumental in getting the lake delisted," Vlach said.

Matching funds came from the project partners: Three Rivers Park District, the Elm Creek WMC, the city of Maple Grove, FLARA and Hennepin County (which provided an [Opportunity Grant](#)).

"Those dollars we got from BWSR were instrumental," Vlach said. "Without that money, it would've been difficult to do a project of this size."

Removal from the impaired waters list requires meeting the standard for phosphorus levels, and either Secchi disk readings, which measure clarity, or Chlorophyll-a levels.

Fish Lake has met state water-quality standards for

phosphorus levels since the first alum treatment in September 2017. The second half-dose of the two-part treatment finished in August 2019. Post-treatment phosphorus concentrations averaged less than 30 ppb, occasionally reaching 20 ppb.

Fish Lake has met the Secchi depth standard of 1.4 meters since 2017. In 2022, water clarity averaged just over 3 meters.

The lake has met the Chlorophyll-a standard since 2020. Chlorophyll-a is a measure of how much algae is growing in a water body. Algae blooms can degrade overall water clarity; the goal is to meet the Chlorophyll-a standard long-term.

"It's something that we're extremely proud of. Trying to get these lakes off the impaired waters list takes years to do and a lot of partnerships," Vlach said.

As Maple Grove's water resources engineer, Derek Asche is responsible for

surface water management in the city. Through the city's Lake Quality Commission, he works on water-quality improvement projects with lake associations and watersheds, including the FLARA and the Elm Creek WMC.

"It's a validation of a long history of work and effort that's gone into improving surface water and lake quality in the city of Maple Grove," Asche said, noting partners' involvement. "Ever since the Clean Water Land and Legacy Amendment and the funding that's come from BWSR, we've really been able to take some of the biggest steps forward. ... A lot of the work doesn't come cheaply but can be very effective, like an alum treatment."

The city's Clean Water Fund grant match came from its stormwater utility fund. Asche said the grant funding made it possible to reach Fish Lake's water-quality improvement goals — goals also shared by FLARA and the WMC.



A Clean Water Fund grant from BWSR supported a two-dose alum treatment for Fish Lake, applied in September 2017 and August 2019. Some of the city of Maple Grove's previous water-quality improvement work within the lakeshed aligned with street reconstruction, when hydrodynamic separators were installed to remove sediment and pollutants. The city also provides extra street sweeping on roads within the lakeshed that would otherwise drain untreated to Fish Lake, and it partners with FLARA for more street sweeping around Fish Lake. **Photo Credit:** Three Rivers Park District

"As a lake association, we've had water quality as our top goal for lake improvements ever since I can remember," Spatafore said. He became a lakeshore resident 13 years ago and has served as president of the 100-household FLARA for about seven years. "More specifically, getting our lake removed from the impaired waters list has been a goal for many years."

The Elm Creek WMC recognized partners' work leading to the proposed delisting.

"Anytime something like that happens, it's great news. It's a sign that all the behind-the-scenes work does pay off in a measurable way," said Joe Trainor, the Elm Creek WMC commissioner representing Maple Grove.

Trainor noted that water-quality improvements benefit connected waters, too. Fish Lake drains to Rice Lake via culverts under Weaver Lake Road. Water from Rice Lake flows to Elm Creek.

"This is a great example of collaboration between all the different entities that were involved," Trainor said. "We

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— Brian Vlach, senior water resources manager
Three Rivers Park District

wouldn't have been able to make as much progress without the involvement of Three Rivers and all the technical guidance."

Three Rivers staff continue to monitor water-quality changes throughout the summer, calculate averages and compare to the state standard. Staff are also monitoring aquatic vegetation. Since phosphorus levels decreased, water clarity has increased, allowing more light to penetrate the water column. That, in turn, encourages plant growth.

Vlach said the park district is monitoring how improved growing conditions will affect Eurasian water milfoil and curly-leaf pondweed, two aquatic invasive species

present in Fish Lake. Eurasian water milfoil is nearing a level that might require management.

"What you really want to manage for is a diverse native plant community," Vlach said.

"If we're able to improve the native plant community on this lake, that will benefit the macroinvertebrates, which is very beneficial for the fish to eat. Also, it will improve fish habitat if we can have a more diverse native plant community," Vlach said.

The Minnesota Department of Natural Resources notes Fish Lake is known for bluegills, largemouth bass and Northern Pike.

Three Rivers will also monitor how zebra mussels affect the

lake. The invasive aquatic species was confirmed in fall 2022.

"Once you get a lake off the impaired waters list, your work isn't necessarily done. You still need to try and manage for changes in the aquatic ecosystem that would be more desirable from a recreational standpoint, such as fish community and plant management," he said.

Spatafore said the successful alum treatment triggered additional water-quality improvement efforts such as promoting best management practices to reduce runoff, increasing street sweeping, and keeping storm drains clear.

"Even though a lot was achieved with that alum treatment to address the internal loading, we're still trying to make further improvements to water quality so we don't take any steps backward and keep taking steps forward," Spatafore said. "I would say we now have a greater motivation than ever to stay in pursuit of improved water quality."