Lake Ida: Clear, cold, in danger of degrading

A state aquatic management area, county ditch authority, and local lake association have a stake in managing this phosphorus-sensitive lake

ALEXANDRIA – One of the largest, deepest and cleanest lakes in Douglas County, Lake Ida is in danger of turning green.

Situated in the glacial hills northwest of Alexandria, Lake Ida is unique among the county's 400-some lakes. It's cold enough to support tullibee – fish that feed walleye and northerns. Its irregular shoreline supports 839 parcels. With an estimated market value of nearly $245 million, their combined tax capacity exceeds $2.3 million.

CLEAN WATER LAND & LEGACY AMENDMENT

Top: *Jerry Haggenmiller, Douglas SWCD coordinator, and Danica Derks, SWCD water planner, pause Sept. 20 at a public boat launch on Lake Ida. A $227,430 Clean Water Fund Grant will be used to identify and prioritize problem spots and propose solutions. This winter, engineers will continue computer modeling work. They could identify more sites where water testing is needed.* **Left:** *Ida Lake Association President Dick Sudmeier bought a home on Lake Ida 10 years ago.*

Photo Credits: Ann Wessel, BWSR

R. Dean Beck, Minnesota Department of Natural Resources' area fisheries supervisor, explained what sets Ida apart: "No. 1 is the size of the lake and the depth of the lake. On top of that, for this area of Central Minnesota, it's just got exceptional water clarity. It's significant to recreational users. It's got a lot of development on it."

The Douglas Soil & Water Conservation District this fall launched an investigation into what's causing phosphorus loading. Lake Ida is at risk for excess phosphorus, which feeds the algae that turns lakes green.

With a $227,430 Clean Water Fund grant from the Minnesota Board of Water and Soil Resources, the SWCD hired Barr Engineering to identify and prioritize problem spots, and propose solutions. Results are expected in June.

The entire 3,375-acre County Ditch 23 watershed drains into Lake Ida by way of the ditch, which starts west of Garfield and runs 62,340 feet through tile. The last 8,500-foot-long segment runs above ground, all of it buffered. Just before it reaches the lake, the ditch meanders for 2,400 feet through a 40-acre wetland that includes the 35-acre, DNR-owned Lake Ida Aquatic Management Area).

Top: *The Minnesota Department of Natural Resources' Lake Ida Aquatic Management Area lies between Douglas County Ditch 23 and Lake Ida. Phosphorus levels are higher in the water flowing out of the wetland than they area at the point where the ditch flows in. Wetlands typically filter out sediment and pollutants.* **Above:** *About 8,500 feet of Douglas County Ditch 23 is open, all of it buffered. The rest of the ditch runs through tile. The Douglas County Board of Commissioners serves as the ditch authority.*

Wetlands typically absorb nutrients and sediment by slowing the flow of water, which allows those pollutants to settle out.

But a few years ago, Ida Lake Association monitoring results showed water from the ditch was cleaner going into the wetland than it was coming out. That can happen when a wetland has absorbed so much of the nutrients and sediment that it starts releasing them.

The Ida Lake Association brought its data to the SWCD.

"We're hoping to preserve things, not to let it go downhill the way some places have," said Dick Sudmeier, lake association president.

A retired Worthington doctor, Sudmeier grew up spending summers on Lake Ida. He bought a place of his own 10 years ago, became a year-round resident four years ago.

"It's a beautiful lake. It's clean and has good fishing and recreation, and a lot

of people like me have bought houses on it with the intention of spending the rest of their life on a beautiful lake," Sudmeier said.

Working with Alexandria-based engineering firm Widseth Smith Nolting, Barr Engineering will take soil borings and water samples, measure elevation and hydrology readings, track water movement and volume. It will propose ways to cut phosphorus and sediment loading within the watershed, ways to manipulate water levels in the ditch, and ways to optimize treatment capacity in the wetland.

SWCD Coordinator Jerry Haggenmiller said he expected an additional 15 to 20 smaller projects to emerge from the recommendations – including a mix of agricultural practices such as sediment control basins, and best management practices such as shoreline restorations and rain gardens. The SWCD would apply for another Clean Water Fund grant to pay for projects.

"The water quality is good there now, and we're looking at keeping it good," Haggenmiller said.

Any ditch modifications would require approval of the Douglas County Board of Commissioners, which serves as the ditch authority. Any changes to the AMA would require approval from the DNR commissioner.

County Ditch 23 was established in 1921.

Lake Ida's size, depth and clarity are among the factors that make it unique among Douglas County's 400-some lakes. More than 830 parcels touch the shore of this lake northwest of Alexandria.

"This is the natural drainageway. If we took the ditch out of there, we'd still have overland flow from this area. This is the single outlet from this drainage area," said Tom Anderson. Douglas County's drainage and agricultural inspector, he's the liaison between farmers and the ditch authority.

In 2002 the ditch was cleaned to – but not through – the wetland.

"We continue to look at improving the runoff from the lands. This project also doesn't single out the County Ditch 23 watershed. We are looking at the rest of the lakeshed to identify potential problem areas that could be addressed," Anderson said.

"Water quality is something that affects everyone as it passes from the land through the wetlands and into the lakes and continues on downstream. We agree that pristine lakes are a valuable resource for Douglas County," Anderson said. "That's one of the reasons we're looking at this issue and other issues in the lakeshed – to keep it in that high-quality lake status."

Lake Ida Aquatic Management Area was established in 1968 as a potential northern pike spawning habitat, but was never used for that purpose.

The DNR has since moved away from promoting northerns, which prey on walleye.

"So it essentially is functioning as a nice riparian wetland with some water quality benefits," Beck said.

About 80 percent of Lake Ida's shoreline is developed.

Properties range from trailer-home rentals and small cabins tucked between road and shore to year-round residences with four-car garages perched above the water. A church camp and a resort are situated on the lake.

Homeowners find the steeper eastern shore more attractive. Aquatic plants and cattails dominate the flatter western shore. (The AMA lies on the western shore.) Most of the lakeshed's agricultural land lies to the north and east. In mid-September, corn fields were drying and soybeans were turning the hillsides gold.

Proposals derived from the study likely will involve all three groups – the residents ringing the lake, the DNR that controls the adjacent wetland, and the farmers whose land drains into the ditch.

Once the SWCD receives the engineer's recommendations, staff will meet with private landowners to discuss best management practices – those 15 to 20 smaller projects meant to augment recommendations for the ditch and wetland.

"This is a feasibility study," said Danica Derks, Douglas SWCD water planner. "This project is going to set us up to design projects, and then apply for Clean Water funding in the future to do project practices, boots-on-the-ground work."

This is the first time the four-person SWCD staff has hired an outside firm to complete survey and design work, and could change the way it plots future projects.

BWSR

The Minnesota Board of Water and Soil Resources' mission is to improve and protect Minnesota's water and soil resources by working in partnership with local organizations and private landowners. Website: www.bwsr.state.mn.us.