

## Communication, cooperation revived Crystal Lake projects



**LAKE CRYSTAL** — Crystal Lake is showing glimmers of progress.

More than a decade after initial efforts to stop toxic blue-green algae blooms pitted farmers against city dwellers, a new approach has produced new findings and a unified focus.

Last year there wasn't a single toxic algae bloom on Crystal Lake.

It's too soon to call it a trend.

"We're starting to see the excitement. I think that's what's continuing the momentum is everybody's focused on, 'Oh great, now how can I do my part,' rather than everybody sitting back and blaming," said Jerad Bach, Blue Earth Soil & Water Conservation District manager.

Agricultural runoff from the 9,000-acre watershed and stormwater runoff from the 2,500-resident city of Lake Crystal feed the ditch that outlets directly into Crystal Lake.

"People could see the toxic blooms in the lake. You can't deny the end result," Bach said.

"Let's make sure we identify and stop the source first, and then clean up in the lake. The ultimate goal is to get the lake to a consistently non-bloomable state. First, where we can measure pollution, let's get those numbers below MPCA standards on a year-round basis," Bach said.

With a \$374,500 Clean Water Fund grant from the Minnesota Board of Water and Soil Resources (BWSR), the SWCD is working with willing landowners on projects designed to keep nutrients out of the 9-mile-long drainage ditch.

Projects in farm fields include cover crops, no-till trials, and nutrient management plans that calculate when and how much fertilizer to apply. Projects treating the tile include nitrate-filtering wood-chip bioreactors and

*An aerial view of Crystal Lake, photographed July 31, 2016, depicts the farmland and urban residences that surround it. Rural and urban residents are working together to improve the water quality in the lake, which for years experienced blue-green algae blooms in the summer and fish kills in the winter. The blurred spot on the horizon is the result of editing to remove a foreign object.*

**Courtesy Photo**

phosphorus-trapping iron filters. (Both nitrates and phosphorus are needed to produce the toxic bloom.)

This renewed effort started with one-on-one landowner meetings. Rebuilding trust took two years. Conversations started not with maps and proclamations, but by asking landowners to describe what they thought the problems were.

Discovering that coarse-textured soils made up about 4,000 acres of the watershed prompted the SWCD to recommend practices that would slow runoff. The difference in soil types explained why Crystal Lake was more polluted than Lily Lake, even though not one but two drainage pipes flowed into Lily Lake.

“We were looking at water that was crystal clear coming out of the tile. There was no sediment in it, but we were still getting high phosphorus readings. My belief is the phosphorus was transferring through the soil,” Bach said.

Additionally, sediment had built up in the ditch. Phosphorus readings were high even late in the year when the tile wasn’t running. Landowners worked with Blue Earth County to complete a ditch clean-out and install side-inlet structures. That work was funded outside of the Clean Water Fund grant.

The SWCD is nearing its goal of enrolling 1,000 acres in cover crops. Staff had considered nutrient management plans for 1,200 acres, and no-till or strip till for 800 acres.

Instead of enrolling large tracts, the SWCD aims to involve as many landowners as possible. About 10 landowners have a vast majority of the holdings; 10 more own a single field within the watershed. Covering the cost of cover-crop experiments or nutrient-management trials cuts farmers’ risk. If it works, the idea is that farmers will expand the practice on their own.

Mike Roll has led the urban charge, working with the city; and raising money, awareness and interest through the nonprofit Crystal Waters Project. (He also started some of the initial



*The last carp removal three years ago netted about 97,000 pounds of the invasive fish, which stir up sediment on the lake bottom and contribute to degraded water quality. The carp were composted on farm fields. Mike Roll of the Crystal Waters Project called the \$17,000 expenditure money well spent. Another carp removal is being planned. Courtesy Photo*

conversations with farmers, many of them high school classmates.)

“If you sit there and point the fingers on the Ditch 56 farm drainage — nobody likes the finger pointed at them,” Roll said. “If (farmers) see things like carp coming out, and treatment wetlands and shoreline restoration and storm sewers and rain gardens, then they know that people in town are trying to do something.”

The city last year received a \$60,000 grant from the Minnesota Department of Natural Resources to restore the shoreline in Robinson Park.

Through Crystal Waters Project’s stormwater drain adoption program, residents keep 250 of the city’s 600-some stormwater drains clear of leaves and debris. Residents are looking into buying three \$400 stormwater drain screens designed by a Pennsylvania company to keep out leaves and grass clippings. Crystal Waters instituted Rake for the Lake, an every-other-week curbside leaf pick-up by city crews.

Three years ago, commercial fishermen removed 97,000 pounds of carp from Crystal and Loon lakes. Another carp removal is planned for this year.

“What I tell people is 97,000 pounds of carp is equivalent to six cars. So imagine six cars, driving around the bottom of that lake, 365 days a year,

24/7, doing nothing but rutting the bottom up,” Roll said.

Roll, 54, said he never pictured himself talking to people about water quality. A project manager for Mankato-based custom home builder R Henry Construction, he grew up in Lake Crystal. He swam at his parents’ place on the lake. Today, he doesn’t let his 11-year-old in the water.

“I’d like my daughter to be able to swim in the lake again like I did,” Roll said.

But he does have hope.

This winter’s ice-fishing contest produced 30 fish — a high number for a lake that until about six years ago was known for its fish kills. For the first time in 20 years, last summer Roll saw aquatic vegetation in Crystal Lake.

“We’ve improved the lake,” Roll said. “I didn’t expect to see any kind of improvement in that lake in my lifetime.”

Meanwhile, work continues. The SWCD is spreading the word about best practices for soil health. It will prepare contracts when landowners are ready. The nonprofit is promoting community awareness. Its next project focuses on rain barrels.

“The lake didn’t get polluted overnight. It’s going to take a lot of little things. It’s a lot of hard work,” Bach said.