

Stearns looks out for its lakes

Tracking transparency can forewarn of pending trouble

By Kelly Scott
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Before Stearns County can launch a water quality improvement plan for its 294 lakes, it needs to determine the level of quality in those lakes and their likely future quality.

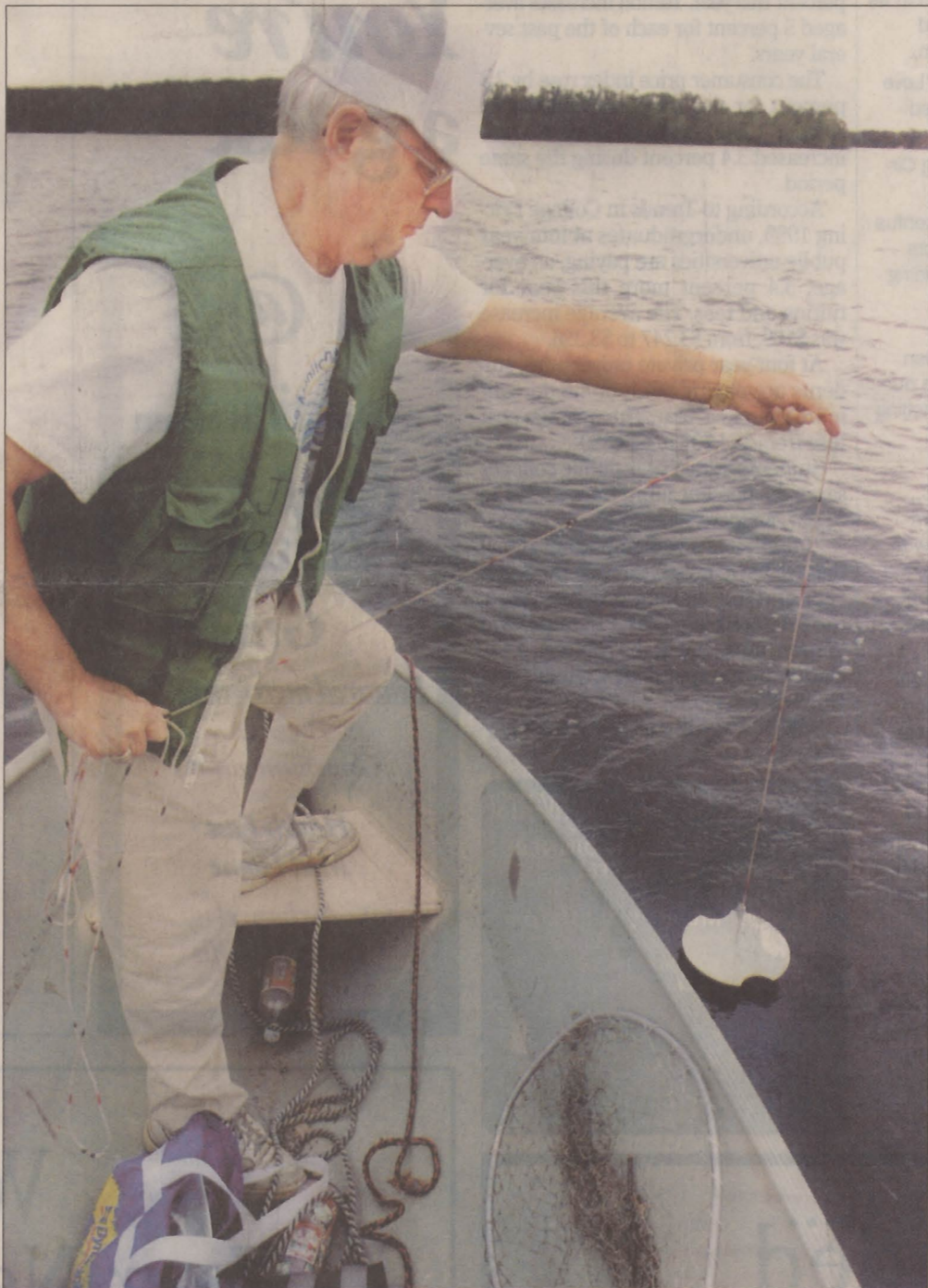
Dennis Fuchs, director of the Stearns County Soil and Water Conservation District, and the county's Department of Environmental Services teamed up this summer to do just that.

They began comprehensive testing of Big Watab Lake, Sand Lake, Lake Maria, Big Fish Lake, Eden Lake and North Browns Lake. And they had technicians measure water clarity every other week in 30 other county lakes.

The Stearns County Lake Monitoring Project, the first such countywide effort, will issue an initial report by December. The program, which employs four people to do the research, costs the county only \$13,500 and is funded with state grant money.

The 30 lakes were chosen specifically to provide researchers with a broad range of results, said St. Cloud State University biological sciences professor Neal Voelz. Comprehensive monitoring, which includes measuring the levels of dissolved oxygen, phosphorus, chlorophyll and temperature, will shift every year to six different lakes so that all 30 are looked at every five years.

Water quality in lakes is an issue central to much of Minnesota, which — if you believe the marketing campaign — is home to at least 10,000 lakes.



TIMES PHOTO BY MIKE KNAAK

Joe Chovan, an independent tester for the Minnesota Pollution Control Agency lake monitoring program, lowers a Secchi disk to test the clarity of Big Fish Lake near Cold Spring.

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Lakes

But making people aware of how important of an issue it is can be the tricky part, Voelz said.

Those who pay attention to water quality now include property owners, county officials and university researchers.

"More people are getting concerned," Voelz said. "But really, people don't get too worked up until there's a problem."

Data from the study should give researchers and county officials a snapshot of quality in area lakes and enable them to let residents know how the lakes are doing, Voelz said.

"Without monitoring, or some kind of baseline data, you certainly don't know what you're doing to the water or if you're helping it through things like best management practices," he said.

Visual checks

The most common monitoring method involves dropping a device known as a Secchi disk into lakes to check the clarity.

The 8-inch disk is lowered into the water until its white color no longer can be seen. The depth when it disappears measures the water's transparency, which is decreased by sediments or algae.

Tracking the transparency rates year to year can be an early warning that land activities are affecting the lake, Voelz said.

But most lake associations and others using Secchi disks began checking waters only within the last 10 years, leaving little time to spot trends, the professor noted.

One year with poor Secchi disk readings doesn't necessarily mean the lake has a problem. At least 10 years of readings need to be evaluated, and each year's weather conditions must be con-

sidered, Voelz said.

Fourteen lakes in Stearns County have been monitored long enough to see trends, according to the Stearns County Soil and Water Conservation District's 1998 report. About half of those will be included in the Stearns County comprehensive study.

Of those 14, only Lake Louisa's quality is slipping. Improvements have appeared in five lakes: Grand, Bolting, Big Fish, Horseshoe and Clearwater.

Nine lakes are steady: Big Watab, Knaus, Big Pelican, Rice, Koronis, Little Birch, Big Birch and Marie.

Gilbert Dawson, a Clearwater Lake resident, said monitored improvements in his lake still aren't enough.

He's been concerned about the lake's water quality since 1998, when it was determined that gasoline had leaked into the lake for years without being detected.

"Most people take care of their water," he said. "But we should be concerned. I think there's gas still leaking."

A proactive lake

Big Fish Lake is the exception.

For the past 25 years, residents there have monitored water transparency, said Peter Fandel, past president of the Big Fish Lake Association.

In 1994, the Minnesota Pollution Control Agency studied Big Fish Lake. The results were alarming and characterized the lake as hypereutrophic, meaning its water quality was on a downward slide, Fandel said.

The study also noted that Big Fish Lake generally is considered to have better water quality than the average lake in its same ecoregion.

But possible eutrophication was still a serious threat.

A eutrophic lake is aging faster than necessary and is nutrient rich. The lake then is susceptible to algae blooms and weed growth, both of which turn the lake a green color and slowly cut off the oxygen supply to fish, turtles and other

organisms.

"We've had to do what we can to fix everything and anything we can in the lake," Fandel said.

Feedlots were cleaned up in the watershed, shorelines and wetlands restored, septic systems checked and fertilization was discouraged, he said. Since then, the water quality has continually shown improvement.

Matt Peters, a Big Fish Lake resident, is one of three people on the lake who measures the transparency with Secchi disks once a week all summer.

"It's a quick and easy way to check out the water," he said. "But it's not a highly scientific way."

Are Secchi disks enough?

Fandel is more critical of the disks as a gauge of a lake's health.

He compares water clarity to the human pulse. People can have nice, strong pulses but that doesn't mean they're healthy, he said.

Lakes can be nice and clear and still have problems, he warns. "There still could be things growing inside there," he said.

While comprehensive testing on every lake is a nice idea, it's simply too expensive, Voelz said. Monitoring organisms in the lake and water clarity are good ways to determine if comprehensive testing needs to be done.

The real key to keeping water quality in check is getting lake users, property owners and watershed land owners involved and in tune with why surface-water quality is important.

"Right now, it's kind of like when you walk into your house, turn on the light switch and the room lights up," he said. "Unless the room stays black, no one seems to think, 'Gee, I wonder if there's a problem at the power plant.'"

"Really, the land and land use is reflected in the water quality," he said. "It's a partnership and we have to develop it."

The effort to educate

Property owners must be trained to use tactics that divert pollution from lakes, rivers and streams. That's part of a campaign to rebuild natural wetland habitats, Fuchs said.

Besides the soil and water district, the nonprofit Freshwater Foundation of Minneapolis offers information on lake management and best management practices. Best management practices are ways to divert pollution agents from lake water.

Both can help prevent and correct poor lake water quality, said Ann Conrad, a spokeswoman for the foundation, which promotes and encourages water quality assessment and solutions to solve water quality problems.

"We're trying to draw a total picture of the quality of Minnesota Lakes," she said.

Keeping agricultural pollutants out of lake water decreases nutrient levels. Manure management, landscaping, fencing, fertilizer and pesticide management, and controlling animal feedlot runoff all help, according to the Foundation's booklet "A Citizen's Guide to Lake Protection."

Fuchs said his office also promotes best management practices for area farmers and offers planning, programming and financial assistance for farmers and land users who want to employ them.

Maintaining septic systems, using phosphorus-free fertilizers, encouraging shoreline vegetation to prevent and stabilize runoff, leaving alone the natural growth of aquatic plants in lakes and avoiding the deposit of grass clippings and yard debris into the lake can help.

"A lot of it is spread by word-of-mouth," he said.

The response has been good, he said. But making sure people know his office can help is harder, and knowing whether those practices are working is just as difficult.

"You're the first to use your own water quality," he said.