

# Osakis Lake Newsletter

*Sponsored by Sauk River Watershed District*

## Special points of interest:

As of the April 3, 2001 board meeting, the SRWD board approved the alum treatment on Faille and Clifford Lakes. Project will be funded by a 70% ad valorem and 30% by benefiting property owners. More information will follow in next newsletter.

SRWD is waiting approval from the Board of Water and Soil Resources for a grant on a sedimentation reduction project on JD2. Word is expected in midsummer.

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## Getting to the Roots of Lake Quality: A Lake-Lover's Quiz\*

The University of Minnesota Extension Services has information available for shore land owners on how to customize your shore land for wildlife, view, recreation and water quality. What can shore land owners do? Take the quiz and find out.

- 1.) Name the three things people enjoy most about Minnesota lakes.
- 2.) What areas of the lakes provide the best fish habitat?
- 3.) Where are people most likely to see birds and other wildlife?
- 4.) What causes the green scum ("pea soup" or "dog days") on the lakes?
- 5.) What is a common cause of shore land

erosion?

Read on to find the answers...

Wildlife, recreation, and a beautiful view are among the most common lures of any lake (answer to #1), yet current shore land practices are threatening these very things. One of the practices which is very damaging to our lakes is the removal of native shore line vegetation. Both on land and in the water, native shore line vegetation provides food, cover, and nesting sites for wildlife (answer #3) and fish (answer #2). The equation is simple: No native vegetation= No wildlife + No fish.

In addition to supporting fish and wildlife, shore line vegetation provides "soft armor" against erosion. The fibrous and often deep roots of native plants are more effective than a shallow-rooted turf grass in protecting shores from the erosive powers of water and ice. Aquatic plants provide additional shoreline protection. They serve as a natural wave break, dispersing wave energy before it reaches the shore. Without them, soil particles and lake sediments not anchored firmly in place by roots can enter the lake, add nutrients and produce murky water conditions (answer #5).

The green scum of algae blooms can destroy the enjoyment of a lake. Both aquatic and upland plant roots absorb nutrients that fuel algae blooms. These nutrients are then stored within the plant during the growing season. Lawn fertilizers, yard and pet wastes, and effluent from failing septic systems are common sources of excess nutrients that are readily transported in runoff. Algae blooms become a problem when nutrient-rich runoff is not intercepted by shore land plants and enters the lake (answer #4).

There are beautiful plant species native to northern Minnesota. Trees and shrubs do not have to obstruct a shore land owners view...they are part of the view. Replacing native shore land vegetation with lawn may provide a clear view for the owner, but it reduces privacy and compromises the natural beauty of that part of the lake for others.

For more information on how to customize your shoreline for wildlife, view, recreation and water quality, contact: Mary Blickenderfer -UofMN-Extension (218) 327-4616. E - m a i l : mblickenderfer@extension.umn.edu \*(article borrowed from U of MN -Extension).



Water quality monitoring will continue on Osakis Lake and

## Cash Incentives to Improve Your Land

Cash incentives are available to river and lakeshore owners who plant buffer strips or restore eroding or altered shoreline, between their property and the water.

- Riparian Buffer Sign up Program
- National Conservation Buffer Initiative
- Conservation Reserve Program (CRP)
- The Wildlife Habitat Incentives Program (WHIP)
- Wetlands Reserve Program (WRP)
- Environmental Quality Incentives Program (EQIP)
- Stewardship Incentives Program (SIP)

For information on these and other programs available contact your county offices.

Douglas County– SWCD  
Jerry Haggemiller  
900 Robert St.  
Suite 102  
Alexandria, MN 56308  
(320) 762-0207

Todd County SWCD  
Gregg Ostrowski  
720 Commerce Rd So.  
Long Prairie, MN 56347  
(320) 732-2644

## Sauk River Watershed District Continues Water Quality Monitoring on Osakis Lake

The SRWD received funds from the Minnesota Pollution Control Agency for a Phase II continuation project entitled Phase II-B. The Phase II-B Clean Water Partnership project will not only monitor Osakis Lake, but also focus on Judicial Ditch 2 (JD2) and Faille Lake.

From 1970-1989 a rapid degradation in Osakis Lake transparency prompted residents to petition for a Phase I diagnostic Study. WRM Consulting Company monitored and evaluated the lake from 1989-1993.

The Diagnostic Study conclusion was that Osakis Lake was eutrophic (biologically productive) and that if corrective measures were not taken, degradation would occur at alarming rates.

Typically, rates in the North Central Hardwoods ecoregion have in-lake total phosphorus levels ranging from 23-50 ug/L. Osakis Lake in 1990 was at 62 ug/L (Table 1).

The study also found that JD2 and Faille Lake are the primary source of the total phosphorus entering Osakis Lake. This increase in nutrients and algae growth prompted the Watershed District to take action.

The SRWD conducted a Phase II Implementation project, funded by Environmental Protection Agency in 1994. The Watershed District used the funding to

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make landuse and feedlot improvements within the Osakis Lake watershed to reduce nutrient loading to the lake. However, monitoring and evaluation were not funded by this project.

In 1996, the SRWD was awarded a Clean Water Partnership Implementation Grant/ Loan (Phase II-A) from the Minnesota Pollution Control Agency to provide the funds for water monitoring, education, septic systems upgrades, and administration.

Monitoring and evaluation of Osakis Lake and its tributaries must continue. Working with shore land residents to restore eroding banks or native vegetation and continuing education on lawn and septic system maintenance is recommended (approximately 50% of septic systems are still not in compliance).

The Phase II-B project was granted to the watershed district by the Minnesota Pollution Control Agency in 1999. This is a three year project focusing on water monitoring, education, septic system upgrades and admini-

stration elements for the Osakis Lake Improvement Project.

The SRWD, in partnership with the 'Planning and Zoning' and 'Soil and Water Conservation District' of Todd and Douglas counties, along with the steering committee, have developed a "monitoring and work" plan to reduce loading to Osakis Lake.

The following goals have been set for the 2001-2002 seasons:

- Maintain education programs.
- Average summer total phosphorus concentrations 30-40 ug/L.
- Average Chlorophyll A 10 ug/L (+/- 5).
- Average secchi transparency's >2 meters.
- Achieve 90% compliance with county ordinances of septic systems by 2005.
- Continue to monitor Faille and Clifford Lakes.

The visual aesthetics of Osakis Lake may take 4+ years to fully appreciate. However, the chemical parameters monitored during the Phase II-A project validate improvements.



Water testing will begin in April for the 2001 season on Osakis Lake and it's

# Osakis Lake Water Quality Status

## Picture

The primary focus of the SRWD and for the Osakis Lake Watershed Management Project, is to prevent further degradation of the lake and to improve or maintain its current condition within its subwatershed.

At the beginning of the project, short and long term goals were established to chart progress and establish and maintain desirable conditions for swimming, fishing and other recreational activities.

phosphorus, chlorophyll-A, and transparency values were decided upon to prevent nuisance algae blooms in the summer and decrease non-point and point source pollution.

To achieve these goals it is necessary to reduce the phosphorus loading to the lake by 50%. Cooperation and assistance from the property owners, farmers, and local environmental agencies throughout the watershed is required.

Through monitoring and evaluation, water quality data indicates positive improvements since the initial diagnostic study in 1989.

The short term in-lake goal for total phosphorus is 50 ug/L and the long term in-lake goal is 30 ug/L. These levels were met in Phase II-A (Fig. 1). However, additional monitoring is needed to verify the positive water quality status is due to improvements rather than year to year cli-

mate changes..

Chlorophyll-A had a short term in-lake goal of 15 ug/L  $\pm$ 8, and a long term in-lake goal of 10 ug/L  $\pm$ 5. Figure 1 shows that both of these goals were achieved. However, dry climates may have been a factor.

The transparency goal was to maintain a Secchi disc transparency of 6' or greater. As shown in Fig. 1, the summer average transparency's have reached the desirable in-lake level.

The 1999 data shows a decrease in water quality but because the parameters improved the following year, it is believed to be associated with the dry climate conditions and internal loading (stirring of bottom sediments).

## Citizen Lake Monitoring Program, You Can Help!

Minnesota citizens who want to assist in collecting data on specific lakes may want to participate in the Minnesota Pollution Control Agency's Citizen Lake-Monitoring Program.

Established in 1973, the program provides an easy, cost-effective method of evaluating lake water quality. The program combines the technical resources of the MPCA with the volunteered efforts of citizens who collect water quality data on their favorite lakes.

The MPCA provides each participant with a secchi disc for measuring water clarity—along with instructions for its use.

Participants record the secchi disc readings, which are taken from the same location, each week from June 15 to September 15.

After the data is gathered and reviewed, a summary of the season's information is sent to all participants.

If interested or would like more information, contact the Minnesota Pollution Control Agency  
520 Lafayette Road  
St. Paul, MN 55101

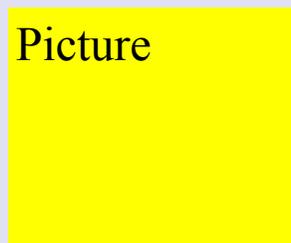
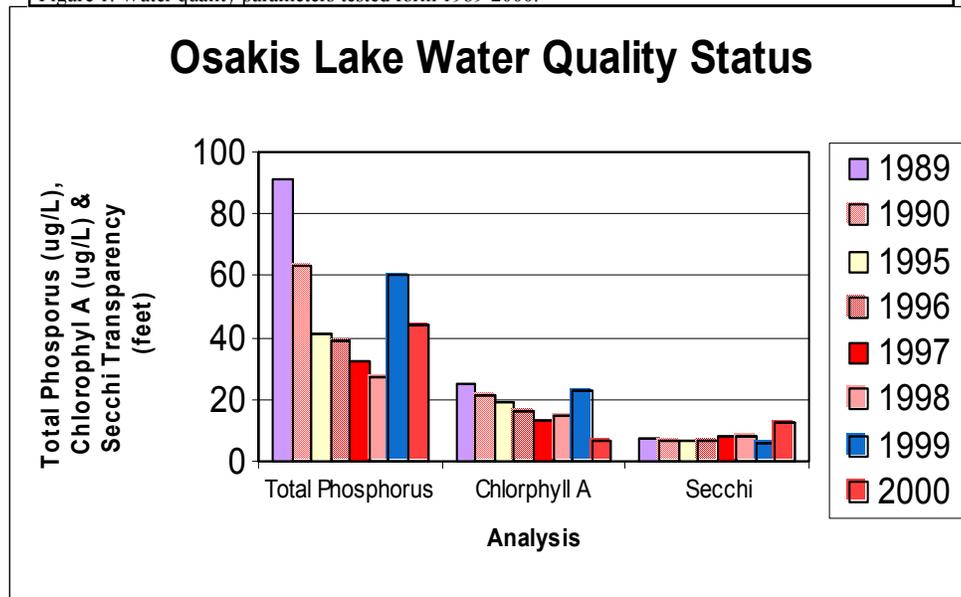


Figure 1. Water quality parameters tested form 1989-2000.



## Sauk River Watershed District

524 Fourth Street  
Sauk Centre, MN 56378

Phone 320-352-2231  
Fax: 320-352-6455  
Email: [srwd@saukherald.com](mailto:srwd@saukherald.com)

### ON THE WEB CHECK OUT THESE SITES

[WWW.MNWATERSHED.ORG](http://WWW.MNWATERSHED.ORG)  
[WWW.BWSR.STATE.MN.US](http://WWW.BWSR.STATE.MN.US)  
[WWW.PCA.STATE.MN.US](http://WWW.PCA.STATE.MN.US)  
[WWW.EXTENSION.UMN.EDU](http://WWW.EXTENSION.UMN.EDU)

*The Sauk River Watershed District was established in 1986 with the purpose to “enhance, preserve, and protect water quality and the natural environment of the district. The District was also formed to eliminate problems associated with water quality and quantity, as well as, recreation, aesthetics and economics.”*

*The SRWD currently has 11 large projects and several smaller work sites along the 119 miles of the Sauk River. The Sauk River Watershed District encompasses an area from Osakis Lake to St. Cloud. Our mission statement is “Water Quality is Our Concern”.*



Let's work together to keep our lakes clean!

## The Lake You Treasure: Are You Giving It All It Needs?\*

Think of the lake you treasure. What drew you to the lake and are those qualities still present? Why are you living on the lake rather than on a city block?

In Minnesota, natural and undisturbed lakeshore is becoming threatened because of the need to subdivide lake lots to accommodate people hoping to live closer to nature.

Typically, nature lovers come to these areas to capture the beauty of wildlife, but they inadvertently destroy what captured their attention in the first place.

Landowners are finding that wildlife prefer a wild habitat in which to exist. Unfortunately, residents in search of the “perfect lakeshore” begin replacing bulrush, cattails and other natural “buffers” with sandy beaches

and blue grass lawns planted to the lakes edge.

Soon after making the alterations, nuisance critters, erosion of banks, and unwanted algae find themselves in many backyards.

Until now, many landowners didn't see the value in the native vegetation they disturbed. These plants are critical for a healthy lake. They remove chloroform bacteria and nutrients from the lake, prevent shoreline erosion and nutrients from entering the lake, provide natural food and shelter for wildlife, and affect chemical, physical and biological parameters in the lake.

Lakeshore owners are now considering restoring their property to natural conditions in search of the wildlife and wildflowers that en-

ticed them to their home site originally.

Best Management Practices to maintain a healthy lake should be considered by all residents on the lake and in the watershed, here are a few.

- Provide natural buffer strips to keep nutrients from entering the water.
- Leave aquatic plants growing, they play a necessary biological and chemical role in maintaining an equilibrium in the lake.
- Maintain your septic systems.
- If you must fertilize, use two small applications, rather than one large one.
- Maintain natural vegetation around your home –not only is it energy efficient, it provides homes for wildlife.
- Manage crops and animals

near the shoreline.

Financial Assistance is available to help restore shorelines. For more information call the SRWD at 320-352-2231.

\*Information used in this article is from DNR and “Lake Talk, Valuable Treasures” handouts. For a copy of the latter contact the Conservation Technology Information Center, 317/494-9555.