

# BIG SAUK LAKE NEWSLETTER

A SAUK RIVER WATERSHED DISTRICT PUBLICATION

## Sauk Lake's First Year of Monitoring

The Sauk River Watershed District (SRWD) started monitoring Sauk Lake and its tributaries Spring 2001 after receiving a MN Pollution Control Agency's clean water partnership grant.



Sauk Lake has experienced decreasing water quality for years. After receiving a petition from area residents and

organizations, the SRWD applied for and received a MPCA grant to monitor and

provide funding for local residents to improve the water quality of Sauk Lake by applying best management practices (BMP's) to their property.

Over the past year sites on the lake were monitored monthly during the open water season and tributary sites were visited

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### Special points of interest:

- **SRWD wants to thank local landowners who volunteered their time, energy and equipment during the 2001 monitoring season. HATS OFF TO YOU!**
- **Big Sauk Lake Association's Newsletter inside.**
- **Volunteer Planters needed at the Sinclair Lewis Park in June.**
- **Loan and Cost Share Dollars available for many Improvement Projects (BMP's) within Sauk Lake Watershed. Stop in the SRWD to apply while funds last.**
- **Phosphorus-free fertilizer available, ask at stores and protect water quality! (Coupon inside)**

## Sinclair Lewis Park Shoreline Re-vegetation Project—Volunteers Needed in May & June, 2002

The Sauk River Watershed District received a Department of Natural Resources: Division of Fisheries Grant in January 2002.

The Sauk River Watershed District (SRWD) will work with the City of Sauk Centre, Department of Natural Resources (DNR), Stearns County Soil and

Water Conservation District (SWCD), and local residents to re-vegetate and stabilize Sinclair Lewis Park Shoreline.

The shoreline along Sauk Lake is deteriorating quickly. This is due to the removal of vegetation and their root systems which hold the soil in place. Artificial erosion control structures (e.g. rip-rap/concrete blanket) often take the place of the natural bank stabilizers.

A concrete blanket and rip-rap have both been

the form of erosion control over the past years along the sandy beach area of the Sinclair Lewis Park. Unfortunately, water and ice have dispersed the rip-rap into the lake, undercut the concrete, and scoured away the banks.

The SRWD, City of Sauk Centre, and cooperating partners will work to remove the concrete blanket, re-slope the banks and re-vegetate the area, providing a natural, low maintenance erosion control method.

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## **Monitoring Equipment Installed on Sauk Lake**

The SRWD and Minnesota Pollution Control Agency installed monitoring equipment throughout the year on Sauk Lake tributaries. This equipment is primarily measuring rain-fall, flow and water levels to determine the velocity and amount of sediment and nutrients entering Sauk Lake.

The equipment will also provide the City of Sauk Centre information to help regulate water levels with the dam.



In addition to continuous monitoring, the SRWD routinely visits each site to collect lab sam-

ples and download important data from the electronic equipment.

The SRWD also monitors the water within Sauk lake. In-lake data is collected once per month in various spots.

Anyone interested in learning more about the environmental monitoring program,

please call the SRWD office at 352-2231.

## **Rain Gardens Gaining in**

Rain Gardens are gaining popularity all over the nation. They are environmentally valuable and aesthetically pleasing. Landowners are attracted to rain “water” gardens because of the natural beauty they add to existing landscapes while filtering runoff from the land

Rain Gardens consists of flowers, shrubs, grasses and trees that can withstand both wet and dry conditions. Rain garden location, size, and shape can vary from location to location. They are located on a property in an area that seems to collect the most rain water. Regardless of the shape or size, the garden will act like a filtering system which will benefit water quality in the area.

It is simple to create a rain garden. Once you find your location, and determine the size and shape, you can remove the grass and create a dip in the center to collect rainwater, runoff and snowmelt from the surrounding property. Once the plants are in place and root systems established, a natural means of filtering begins.

This design filters or purifies storm water by trapping impurities like pesticides, fertilizers, oil and gas within the plants and root systems in the garden while recharging the groundwater supply.

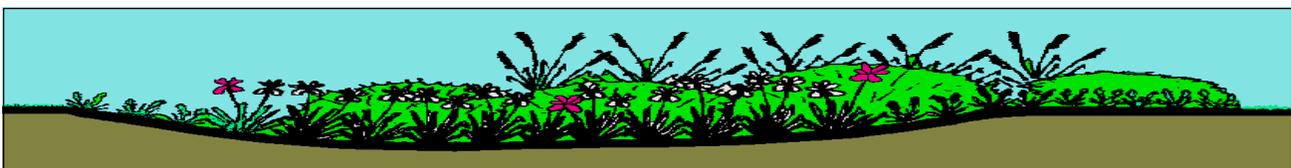
The water trapped within the rain garden, would normally travel down the street, into the

storm water system, carrying pollutants with it into nearby rivers or lakes. Many people believe runoff water from the streets travels down the “man-hole” and into a “purifying system, when in-fact, the water runs directly into a lake or nearby river.

This common practice of direct discharge into lakes and rivers is seen throughout the nation and its adverse impacts are apparent.

Residents in the Sauk Lake Watershed must work together to keep our lake and streams clean for social, economical, and environmental reasons.

For more information on rain gardens contact our office, 352-2231.



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bi-weekly and after each rainfall event.

The water quality of streams and creeks is important to the overall environment and appearance of the lake they empty into, specifically when streams are the major source of water for the lake. With the incoming high volume water supply, excessive nutrients (i.e. phosphorus/nitrogen) and pollutants are carried into the lake.

One of the most important measurements taken throughout the year is total phosphorus (TP), which is an indicator of water quality. This key element is linked to nuisance algae growth and weeds in the lake.

Total phosphorus enters the lake in many different ways, by both natural and human induced meas-

ures, for example: decomposed vegetation and animal remains, spring and fall turn-over, human and animal wastes, and run-off from lakeshore lawns, farmlands, and city streets.

Phosphorus attaches itself to soil particles and often enters and stays in the lake until these particles are flushed out. Graphs 1 & 2 reflect the total phosphorus averages for 2001 on Sauk Lake and in its tributaries.

Graph 1 shows the differing phosphorus levels in Hoboken, Ashley and Silver Creeks. In the first year of monitoring the SRWD has found the tributaries to Sauk Lake contribute high total phosphorus concentrations.

Graph 2 depicts the difference in phosphorus levels between the northern and southern basins of Sauk Lake. The majority of the

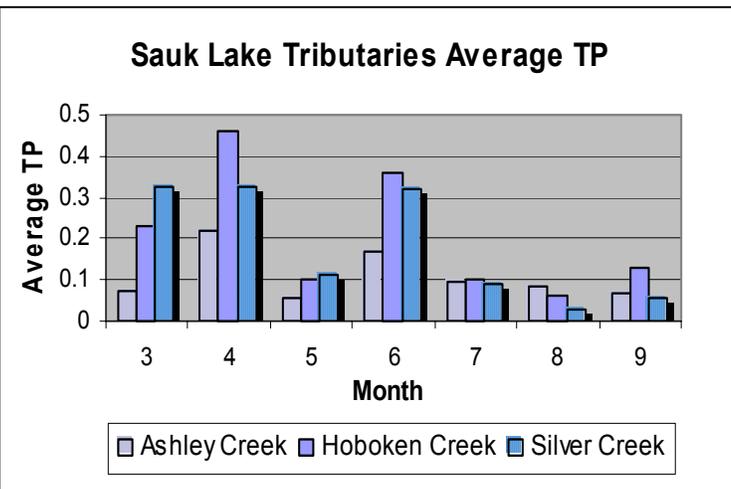
year the southern basin exhibits elevated levels of total phosphorus.

The first step in resolving water quality problems, once base data is collected, is to evaluate and manage human activity within the watershed. Once the nutrients and sediment levels are controlled, water quality improvements within the lake will be evident.

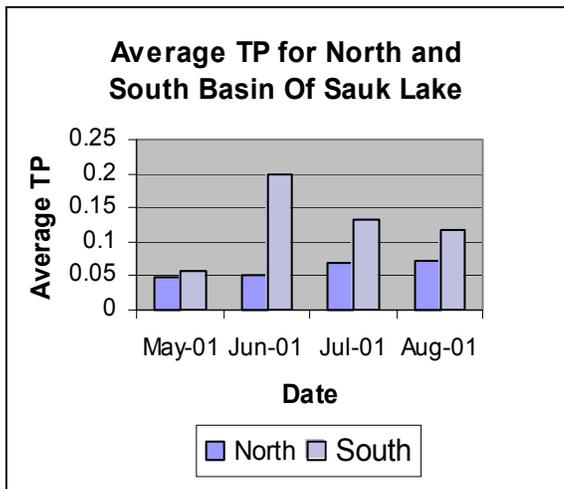
The Sauk River Watershed District offers grants and/or loans to people wishing to make improvements on their land to better water quality. Varying projects qualify, they include, but are not limited to, the following: septic upgrades (loan only), feedlot improvements, conservation equipment, fencing to keep animals out of the creeks, and lakeshore re-vegetation and maintenance.

**Call today to see if your project qualifies, 352-2231.**

**Graph 1: Tributaries to Sauk Lake and Their Phosphorus Content.** Spring run-off brings in a lot of phosphorus, therefore we often see higher levels of TP early in the season..



**Graph 2: Sauk Lake Phosphorus Levels.** The lower basin appears to have a higher phosphorus loading.



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Along with providing beautiful aesthetics, the plants will also provide a natural means to deter ducks and geese from strolling the sidewalks and leaving unpleasant surprises for park users.

The planting process will begin in late-May and many hours of volunteer time are needed. Volunteers are needed to fill many positions such as: planters, labelers, snack organizers, driver. No prior planting experience needed. No

age level requirement.

Anyone interested in volunteering time or knows of any groups/clubs that would like to participate in the re-vegetation process, please contact Amy at the SRWD office, 352-2231.

*Water Quality Is Our Concern*



*Sauk River Watershed District*

**Sauk River Watershed District**

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**WE'RE ON THE WEB**

[www.saukriver-watersheddistrict.org](http://www.saukriver-watersheddistrict.org)

## Sauk Lake on State's TMDL list (MPCA)

Sauk Lake and reaches of the Sauk River are on the State of Minnesota's Total Maximum Daily Load list (TMDL). Total maximum daily load is the "maximum amount of a pollutant that a water body can receive and still meet water quality standards".

The federal government requires states to publish an updated TMDL list of streams and lakes that are not meeting their designated uses because of the excessive pollutants in the waters. The strategy is to restore the lakes and streams on the TMDL list to "state standards by using monitoring and assessment programs". The state will work on local TMDL's through the watershed district.

The federal government believes states need to protect their lakes and streams in order to "maximize their contributions to the state's economy and quality of life and protect them as a resource for future generations".

For more information on TMDL's log onto the MPCA web site [www.pca.state.mn.us](http://www.pca.state.mn.us) or SRWD website.

## Green Lawns, Clean Lakes: You Can Have Both This Spring

(Information From U of MN Extension Service Newsletter)

As the days warm and snow melts, we awake to the promise of budding trees and lush, green lawns. We can't wait to get out with the fertilizer and lawnmower. That's fine— as long as we don't overdo it.

If you're planning to use lawn fertilizer, use only what's necessary. Excessive use of fertilizer is partly to blame for green, algae-laden water in our lakes. Fertilizer in runoff feeds algae. When algae die and decompose, they deplete oxygen in the water, causing fish and other aquatic life to suffer and die.

It's a good idea to test lawn and garden soil before fertilizing. A soil test tells you exactly what type and amount of nutrients your



lawn needs. You don't need to buy or apply nutrients that your lawn and garden already have. Contact your county Extension Service for information about soil testing.

Measure the size of your lawn before buying fertilizer, to make sure you don't purchase (and use) more than you need. Also, look for phos-

phorus-free fertilizer. A fertilizer has no phosphorus if the middle analysis number on the bag is zero. For example, fertilizer with an analysis of 10-0-10 is phosphorus-free. In most cases, your soil already contains ample phosphorus. Phosphorus you add contributes to water pollution

Finally, remember that anything you rake or throw into the street, beach or lake—fertilizer, leaves, sand, salt, animal wastes or soapy water, for example - may end up in your lake, river or stream shortly afterward. Those April showers become storm water runoff, rinsing pollutants into lakes or into storm drains and from there into water resources.