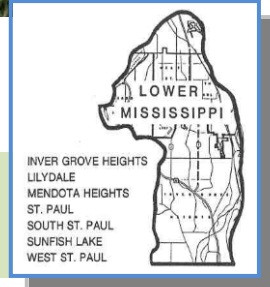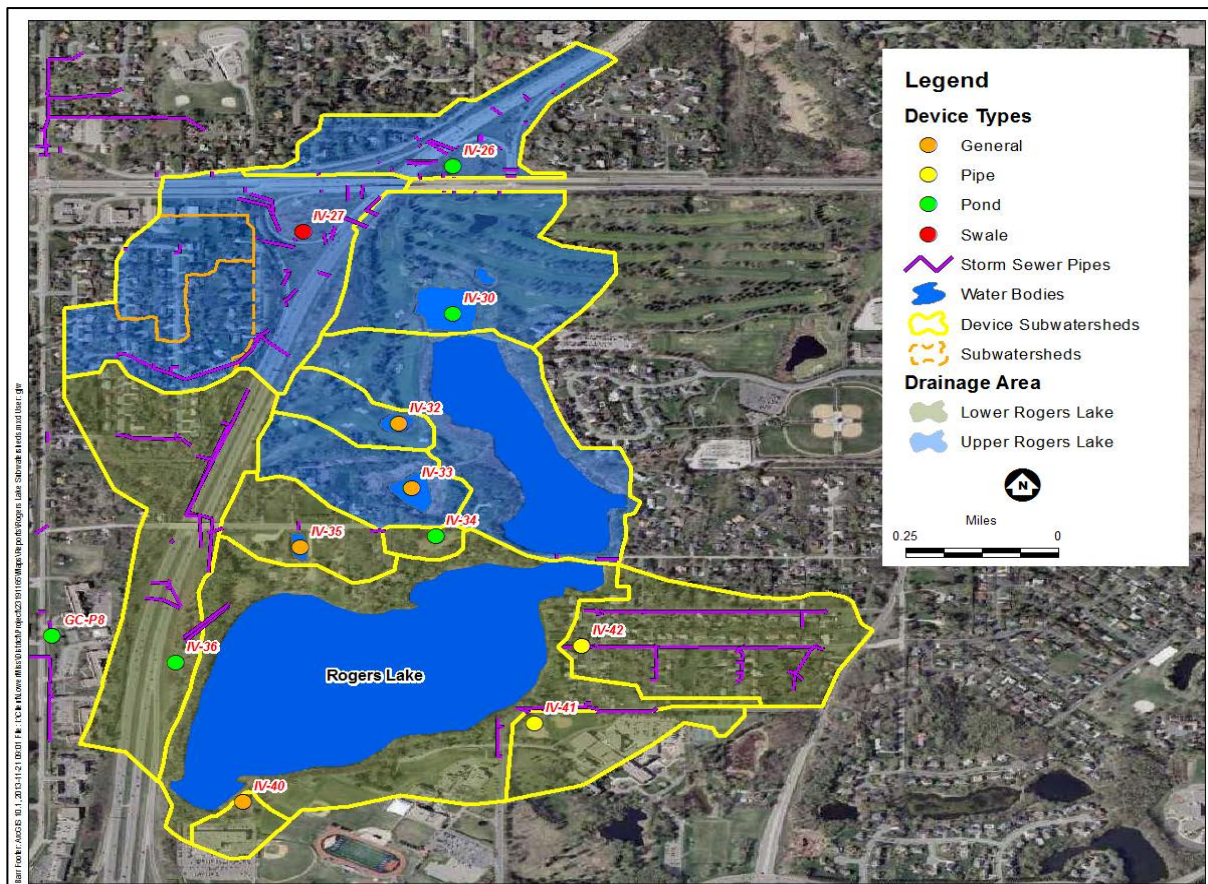# Rogers Lake

Results of a Water Quality Study on Rogers Lake in Mendota Heights

Sub-watershed Area: 470 acres   Lake surface area: 107 acres   Maximum lake depth: 8 feet
Lake condition: Good water quality

LOWER MISSISSIPPI

INVER GROVE HEIGHTS
LILYDALE
MENDOTA HEIGHTS
ST. PAUL
SOUTH ST. PAUL
SUNFISH LAKE
WEST ST. PAUL

In 2012 and 2013, the Lower Mississippi River Watershed Management Organization (LMRWMO) studied five lakes, including Rogers Lake, to gain a better understanding of their water quality, sources of pollution, and the pollution reductions needed to improve the water quality and meet State standards. The Minnesota Pollution Control Agency funded the project through the Clean Water Land and Legacy Act. The project, called a "Watershed Restoration and Protection Strategy (WRAPS)" resulted in restoration plans for lakes with poor water quality and protection plans for lakes with good water quality, like Rogers Lake.

Rogers Lake is located in Mendota Heights just east of interstate 35E. Land use in its watershed includes highway, low-density residential, institutional, and park land. Although there is no public boat ramp, Rogers Lake City Park on the lake includes a fishing pier, picnic grounds, trails, play areas, and places where a canoe or kayak could be launched.   The lake outlet drains to Friendly Marsh in Mendota Heights and then into Interstate Valley Creek, eventually reaching the Mississippi River.

Water Monitoring Results

Rogers Lake is a shallow 107-acre lake with a maximum depth of 8 feet and two basins that are connected by culverts beneath a roadway. The lake has good water quality and is meeting the shallow lake standards set by the State (see graph below). Water quality measurements were collected in the larger, southern basin. Data from 2007 – 2012 were analyzed for this study.

As would be expected for a shallow lake with good water clarity, the lake has dense aquatic vegetation throughout. In addition to an assortment of native vegetation, a recent aquatic vegetation survey found curlyleaf pondweed, a non-native species. Curlyleaf pondweed can have a negative effect on water quality due to its growth cycle – it grows earlier in the year than native aquatic vegetation, and will die off earlier, releasing phosphorus into the water column in the first half of summer.
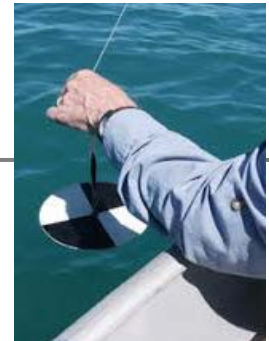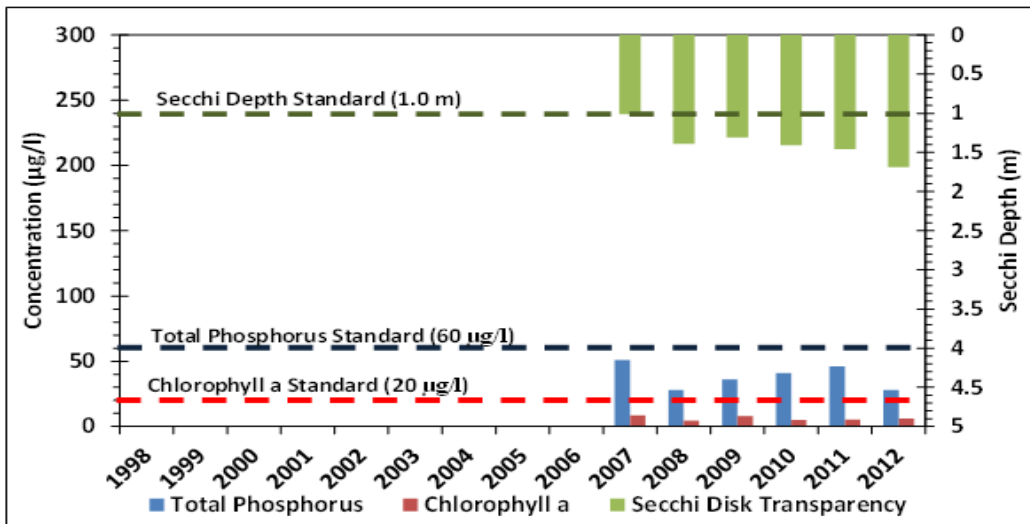

Water clarity, or transparency, is often measured with a **Secchi disk -** a black and white disk that is lowered into the water until it disappears from view. The depth at which it is no longer visible is measured numerous times to get an average for the summer.

Phosphorus is the plant nutrient that most often stimulates the growth of algae. A lake that is rich in phosphorus has the potential for abundant algal growth, which can reduce water clarity.

Chlorophyll-a is the main photosynthetic pigment in algae. Too much chlorophyll-a indicates an abundance of algae in the lake.

Sources of Phosphorus

Even though the current water quality of Rogers Lake meets State standards, it's important to identify sources of phosphorus that still impact the lake. Currently, 59% of the phosphorus entering the lake comes from storm water and snowmelt running off roads, streets and yards in the watershed. Phosphorus is also released from lake bottom sediments (i.e. internal loading). Phosphorus and other pollutants entering the lake should be kept to a minimum in order to protect the water quality.

- 20 lbs 26% — Internal
- 45.5 lbs 59% — Watershed
- 12 lbs 15% — Direct Atmosphere
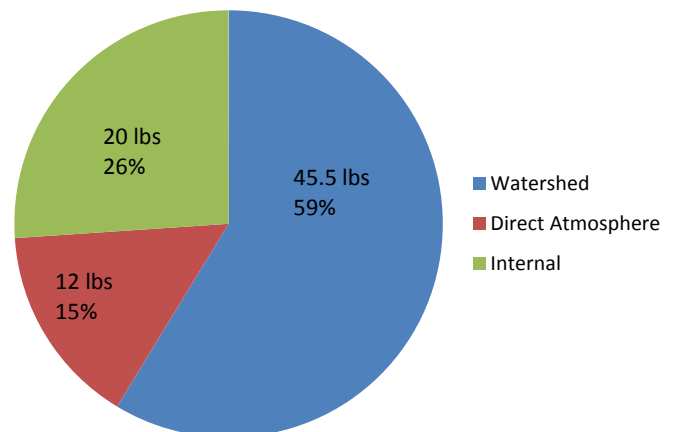
Strategies for Minimizing Phosphorus in Rogers Lake

The WRAPS report and protection plan for Rogers Lake indicates that phosphorus coming from its contributing watershed could be reduced through a variety of methods to help protect its current water quality. Homeowners can lower phosphorus by following lake friendly practices around their homes and yards (see below). City street sweeping (already occurring) also helps reduce pollutants. Other recommended phosphorus reduction strategies for Rogers Lake include implementation of storm water treatment measures associated with future redevelopment projects in the watershed and control of invasive species of aquatic plants.

What Can You Do? Treat Your Curb Like a Shoreline

We all live in a watershed. Sometimes it's obvious our property drains to a particular body of water; sometimes it's not. Those in the Rogers Lake watershed may not be aware runoff from their property eventually gets to the lake. Even if you live several blocks or miles from the lake, runoff from your property drains to the lake through stormsewer pipes under your street – essentially turning every curb into a shoreline.

Stormsewer systems are different from the sanitary sewer systems in which water used *inside* your home is treated at a wastewater treatment plant before being discharged to a waterbody. *Outside* your home, stormsewers collect rainwater and snowmelt leaving your property and convey them to Rogers Lake without treatment.

A storm drain funnels rain and snowmelt into stormwater pipes to prevent flooding. But, they also carry pollutants (like oil, deicers, and fertilizers) along with leaves and grass clippings into nearby lakes, streams, or wetlands.

Pollutants carried in that runoff include lawn fertilizers, nutrients from decaying grass clippings and leaves, pesticides, toxins from coal-tar driveway sealants, oil from leaking cars, pet waste, and salt, sand and other deicers. In the lake, these pollutants result in poor water quality – effecting aesthetics and recreational enjoyment of the lake as well as fish, bugs, birds, and their habitats.

You can be part of the solution by using some easy practices at home.

- ✓ *Sweep up grass clippings, fertilizer, leaves, and extra sand and salt before they get into the storm drain (compost grass and leaves; save fertilizer, sand and salt for reuse)*
- ✓ *Install a raingarden to capture runoff from your roof or driveway and let it soak into the ground (visit www.dakotaswcd.org for information on Blue Thumb classes)*
- ✓ *Clean up after your pet (put waste in trash)*
- ✓ *Install a rain barrel to collect rainwater for use in gardens*
- ✓ *Keep your car in good repair to avoid leaks*
- ✓ *Use asphalt-based driveway sealants (or if using a service, ask the company to use them)*
- ✓ *Wash your car at a carwash rather than on the driveway*