Green Lake Breeze

P.O. Box 362 • Spicer, MN 56288

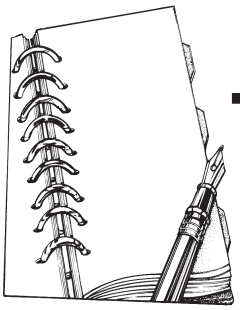
August 2003

BOARD OF DIRECTORS

Dear Green Lake Property Owner,

Now that the Annual Meeting is over, we start a new year with some new Board Members and new officers. The listing on the left of this page has the necessary information for you to know who is on the Board of Directors and how to reach them, if you wish. We acknowledge, with appreciation, the completion of terms for Rolf Figenskau and Steve Peterson. And we welcome new Board Members Jill Nelson, Tom Broman, and Marlin Walholz for another term. Over the past 4 years, or so, we have had a lot of changes taking place around Green Lake. The completion of the Water/Sewer Project and the new Road Construction of the north and east shore has probably tried your patience at times. I think we ended up with a very nice project that should serve us well for many years. The beginning of the Hwy 23 project has now begun and will be with us through 2004 and maybe into 2005. The completion of these two major projects is going to lead to significant development around Green Lake and its watershed area. As this happens the potential impact on Green Lake could be very profound and of greater magnitude than the Hwy 23 project. For the last year, or so, the Board of Directors has discussed what the GLPOA role should be concerning future development around Green Lake. In my opinion, this needs to be our major focus for the next year or two, until we have in place a formal system that allows us to be pro-active in all future development. Shortly, we will begin discussions with the Spicer City Council on how we should work together in this area. Following this, we will need to hold discussions with the County Commissioners on a formal system for our involvement. We will keep you informed of future happenings in this area through the newsletter and the web site. If you wish to share any thoughts you may have in this area, please forward them, in writing, to a Board Member of your choice. I hope the balance of your summer continues to go well.

Gary Broman
President, GLPOA

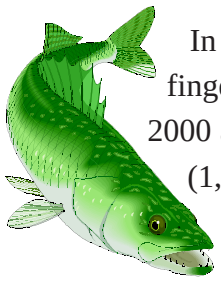


Update on DNR Activities

The following is an update on some DNR activities related to Green Lake. IÕve provided a relative abundance of various fish species sampled in annual Green Lake nettings as a reference.

Green Lake (Gillnet Catches)

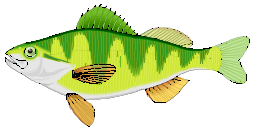
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Walleye	7.6	9.0	9.3	9.6	11.4	12.1	13.5	9.4	15.6	9.9	7.8	6.25
Northern Pike	2.78	2.58	3.08	1.75	3.0	3.67	3.42	2.58	4.0	3.83	3.83	2.67
Smallmouth Bass	0.9	0.3	1.2	0.6	0.4	1.8	2.2	4.7	9.0	3.6	2.8	3.17
Yellow Perch	12.67	13.83	32.67	23.58	22.67	17.58	19.33	32.33	33.42	9.17	17.14	21.08
Rock Bass	8.11	3.08	10.08	8.42	1.58	3.42	5.25	2.92	5.83	5.5	10.42	13.67



In response to low recruitment and declining walleye abundance in recent years, walleye fingerlings have been stocked into Green Lake. 100,455 walleye fingerlings were stocked in fall 2000 and 144,386 fingerlings in 2001. Walleye fry were also stocked as 10% of the eggtake in 2000 (1,701,310 fry) and 2001 (1,039,440 fry). Walleye fingerlings (5,976 fish) and 12,617 walleye yearlings were stocked in fall 2002. There were 11,481 walleye yearlings, 94 adult walleye, and 1,768,781 walleye fry stocked into Green Lake in spring 2003. Early season walleye fishing reports for 2003 have been that fishing is good.

Northern pike abundance has remained relatively stable during the experimental regulations period from 1997 to the present.

Yellow perch, a forage species for walleye, declined in 2000, however,



they are increasing to desirable levels. Rock bass, an indicator of good water quality, has shown significant increases in abundance in recent years. Smallmouth bass showed a dramatic increase over most pre-regulation nettings beginning in 1996, the year before the regulations took effect. They began a slow decline in abundance after 1999, but remain above goals initially set for the regulations. The annual netting of Green Lake will occur in the first two weeks of August 2003 (similar to previous years).

Jeff Bredberg, Kandiyohi County Environmental Services, and I plan to sample for Eurasian watermilfoil in July. Preliminary observations indicate a low abundance of this exotic species in Green Lake.

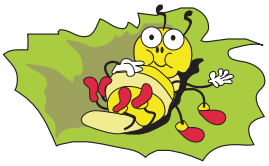
There have been some changes regarding experimental regulations on Green Lake. A modification of the smallmouth bass regulations to allow a one fish over 21Ó will be approved for Green Lake. Creel surveys to monitor fishing on Green Lake will be conducted beginning May 2004, and will be repeated in 2005. The experimental regulation end date has been changed from March 2008 to March 1, 2006. This will allow time to analyze creel and netting data to guide the decision making process. A meeting will be held in late summer or early fall of 2005 to determine whether the regulations will be kept as they are, modified, or dropped and return to statewide regulations.

Sincerely,

Bruce Gilbertson, Area Fisheries Supervisor

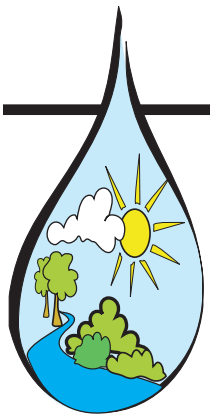
Caterpillar Spraying

On June 3rd the Green Lake Property Owners Association sprayed for caterpillars. The spraying was done by Teryion Aviation. A total of 340 acres was sprayed at a cost of slightly over $8,000. Next year, we will attempt to spray the Wednesday prior to Memorial Day or the Wednesday after. The exact date will be dependent on weather conditions, leave foliage, and evidence of worms on the trees. Residents will be informed of the exact date by announcements on the Willmar radio stations.

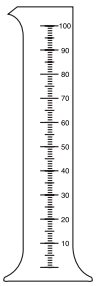


Bruce Halgren, Chairperson

Water Quality



Eutrophication is a process by which lakes become enriched with nutrients - usually phosphorus - that cause an increase in the amount of algae in the lakes. Eutrophication is often a concern because the manifestations of over-fertilization are perceived as nuisances. In the extreme, eutrophic lakes may have persistent algae blooms, which diminish the recreational use and environmental value of lakes.



The degree of eutrophication is relevant to Green Lake because high water quality and clear water are critical to sustaining a healthy and diverse native aquatic plant community.

There are several indicators that are commonly used to track eutrophication and its manifestations:

Indicator	*Significance*
Nutrients	Phosphorus is considered the *limiting nutrient* in most lakes. This means that it is the element in shortest supply relative to the growth needs of algae. Phosphorus is measured from lake water collected in the middle of the lake.
Algae	Algae are microscopic plants that float in lakes. Algae become nuisances when they become abundant. A particular kind of algae - blue-green algae - are a particular nuisance because they form scums. All algae become more abundant as the level of nutrients in the water increases. The level of algae is determined by measuring *chlorophyll* - a green pigment - in lake water.
Clarity	The transparency of lake water is readily observed by everyone. As the level of algae increases, the water clarity decreases. Clarity is measured using a *Secchi disk*, which is an 8-inch white or black-and-white disk lowered over the side of a boat until it disappears.

Normally, as phosphorus levels increase, so does:

- The abundance of algae and the frequency of algae blooms
- The predominance of blue-green (or scum-forming) algae
- A reduction in water clarity
- The depletion of oxygen below the thermocline (where the lake stratifies)

By measuring three water quality indicators and comparing them to user perceptions of lake condition, lakes fall into categories representing norms for lakes. Green Lake lies in the North Central Hardwood Forest ecoregion, which is a geographic area in Minnesota consisting of similar lake types. Lakes in this ecoregion typically have phosphorus concentrations around 35 parts per billion (ppb), chlorophyll concentrations around 10 ppb and water clarities around 8 feet (median values).

The assessment for Green Lake (McComas et al. 2002) measured the three water quality indicators. results are:

Indicator	Value
Phosphorus	18 ppb
Chlorophyll	3 ppb
Clarity	10 feet

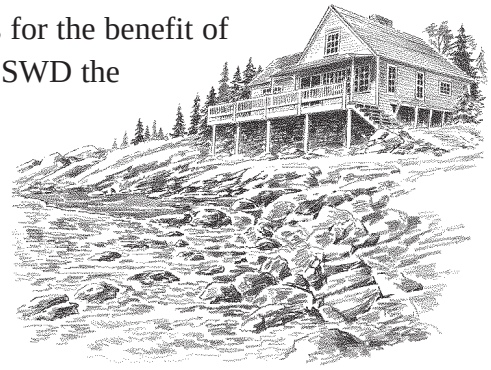
These numbers indicate that Green Lake's water quality is higher than average compared to other lakes in the same ecoregion.

Dick Osgood, The Osgood Group

Green Lake Residential & Commercial Utility Inspections

The Green Lake Sanitary Sewer and Water District (GLSSWD) in association with the consulting firm of Bolton and Menk will be performing Green Lake area utility inspections beginning on July 14, 2003. This will include all residential housing and commercial buildings around Green Lake and elsewhere in the district where water and sewer service is provided outside of the cities of Spicer and New London. Please take a few minutes to show the inspector where your utilities are located so information relative to sump pumps, roof drains, water and sewer service installations and the physical recording of the water meter reading can be accomplished in a short amount of time.

Your cooperation in this matter is appreciated. The information obtained is for the benefit of the homeowners and businesses in the Green Lake area. It will allow the GLSSWD the opportunity to identify items such as water that does not need wastewater treatment or possibly a situation where potable water contamination could occur.



If you have any questions, please feel free to call me at 796-4523.

Ron Hagemeier GLSSWD Director

Why Is the Lake Green? PHOSPHORUS

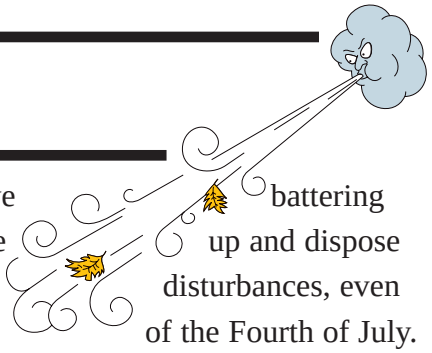
Phosphorus is a necessary and natural element found in soils, rocks and our bodies. An essential nutrient for animals and plants, it is also a common nutrient in fertilizers. However, the phosphorus that makes your lawn and garden green can also make the lake green. Of all elements, phosphorus is the key to managing lakes as Òclean Ó not Ògreen.Ó One pound of phosphorus can produce 500 pounds of algae. Keeping phosphorus out of the lake is one of the most important things that we can do to protect water quality. Here are a few simple ways you can help reduce phosphorus inputs to your lake:

N - Ⓟ - K

Just Say NO to Phosphorus!

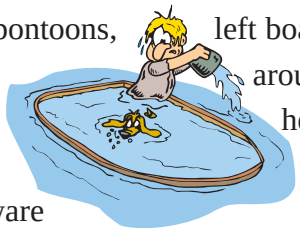
- **Develop and maintain a shoreline vegetation buffer.**
- **Use zero-phosphorus lawn fertilizer.**
- **Limit the use of pesticides and other garden chemicals.**
- **Keep bonfires away from the lake, and clean up all ash.**
- **Use phosphorus-free dishwasher detergents.**
- **Clean up pet waste.**
- **Cover loose soil areas with vegetation and remedy any shoreline erosion problems.**

Nature Notes

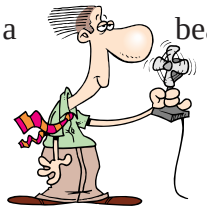


ÒSummertime-and the livinÕs easy. . .ÓOh, really? ThatÕs fine if one doesnÕt have battering winds three nights in a row with the resulting downed leaves and branches to rake up and dispose of as we did the fourth week in June. Those, however, turned out to be minor disturbances, even

with the electricity out for an hour, compared with the early hours of the Fourth of July. Portions of lndian Beach along the east side and more of the south shore endured tremendous straight line winds that wrecked docks, overturned boat lifts and pontoons, left boats atop docks, (one boat not only filled with water but had fish swimming around in it),



toppled large trees, and caused other damage. Some people heard sirens in the June winds and sought shelter on the first floor of their buildings or in basements; others heard no sirens and sat and watched the storms, blithely unaware it was potentially dangerous. Question: Do our sirens work when the electricity is off? If not, that may explain our not hearing the one by the county park. Other cities claimed that problem during that turbulent week. Nevertheless, it has been a beautiful, if strange, summer, going from cool days to extremely hot, humid ones practically overnight; from no rain for three weeks in what is often the rainiest month, to receiving more than that monthÕs worth in a couple days. As a result lawns need mowing every few days, weeds grow prolifically, flowers of all kinds-primroses,



roses, Asiatic lilies, daisies, sedum, geraniums, pansies, petunias,

varieties of hostas-you name it, someone has it brightening up their gardens and landscape. Birdwatchers are having an especially good time with their feeders and birdbaths.

Goldfinches, house finches, purple finches that look like sparrows dipped in raspberry jam, the ubiquitous chickadees and white-breasted nuthatches, the downy woodpeckers, the Baltimore orioles (did you know they were named in honor of Lord Baltimore, an early colonizer, who had chosen orange and black as his family colors?) grace us with their presence. The black oily sunflower seeds bring them all, and the orange halves and grape jelly attract the finches, as well as the orioles. The ruby-throated hummingbirds we see are nesting now with their two inch diameter nests and tiny white eggs the size of peas. According to Jim Gilbert, the babies stay in their nest 20 days after hatching. Unusual sightings this year (for me, anyway) are red-winged blackbirds at the sunflower feeders, hanging onto the tiny ledges with their big feet, and several colorful rosebreasted grosbeaks, dining on the sunflower seeds, too. A pair of cardinals stopped by one morning, and I even hoped for a blue jay for the Fourth of July, but I couldnÕt think of a white bird to join the latter for a patriotic display, unless an albino robin or something similar happened to be in the neighborhood. Ordinary robins and some other species are already raising their second families of the summer. One still hears the plaintive cry of the loons, day and night; sees Canada geese with their young ones trailing behind themÑor swimming between father and mother; observes the pelicans feeding in their clusters or flying overhead, the great blue herons and the graceful white egrets standing silently in the shallows or winging their way overhead. Summertime at Green Lake is really a special time - in spite of storms and high water. May its breezes blow more gently the rest of the season.

Gloria Benson

Green Lake Water Clarity and Level

The clarity and level of the water in Green Lake has been monitored and recorded for a long time by local residents and DNR. Some interesting historical facts have been released by the DNR.

The area of Green Lake is 5,585 acres with an average depth of 21 feet. The deepest part is 110 feet. Green Lake has 11.5 miles of shoreline and is at 1,156 feet above sea level (on the average!) The watershed area draining into Green Lake is mearly 100,000 acres of the Middle Fork Crow River Watershed. The water level records for Green Lake have been maintained by the DNR since 1938. The range is nearly 5 feet from the lowest to the highest water levels during these years. However local newspapers have water levels back to 1932 and the lowest level was in 1936 at 4 feet, lower than any DNR recording. These records show that Green Lake did not return to normal until April of 1939.

The water clarity or Secchi Disc readings started in 1978 by the MCPA Citizens Lake Monitoring program. The lake recordings are done in 4 or more locations about every week - 10 days during May - September. Average depths of clear reading of the disc have varied from 7.2 feet in 1997 to 11.4 feet in 1980. The average in 2002 was over 10 feet and the readings in May and June this year have been good (over 12 feet), but will typically be lower in August and back to cleaner and deeper in mid-September.

These readings have compared very closely to readings taken annually by the DNR. Green Lake remains one of the clearest lakes in Minnesota - let's continue to do all we can to keep it that way!

Marlin Wacholz - GLPOA Water Quality Committee

Eurasian Watermilfoil & Other Aquatic Plants

Comprehensive aquatic plant surveys have been conducted in Green Lake in 1994 and 2001 (Table 1). In addition, less comprehensive surveys have been conducted occasionally since 1946 (Table 2). Because Eurasian watermilfoil is a new occurrence in Green Lake, its spread and impact on native plants has been limited.

Eurasian Watermilfoil - Field surveys conducted in October and November 2001 found Eurasian watermilfoil in 4% (2/50) of the transects around the lake, mainly on the south side of the lake. At this time, the infestation is limited and its potential for spreading has probably not been fully realized. For further evaluation of its potential to spread, see the section on "Potential for Nuisance Milfoil Growth in Green Lake" below.

Other Aquatic Plants - Based on the 2001 survey, there are at least 17 species of submerged aquatic plants in Green Lake. Because the survey was conducted late in the season, it is likely several other species are also found in the lake. In comparing the plant species between the 1994 and 2001 surveys, several plants declined and several increased in occurrence.

Plant Species That Have Increased Since 1994

Eurasian watermilfoil	Illinois pondweed
Largeleaf pondweed (Cabbage)	Widgeon grass

Plant Species That Have Decreased Since 1994

Water moss	Variable pondweed
Naiads	Claspingleaf pondweed
Nitella	Flatstem pondweed
Leafy pondweed	Sago pondweed

Because the surveys were conducted at different times of the year as well as the fact the Eurasian watermilfoil has only recently infested Green Lake, we cannot conclude the changes noted above are a result of Eurasian watermilfoil.

The Osgood Group & Blue Water Science

“It Takes a Whole Community...”

It takes a whole community to keep our lake clean. We wish to thank all who are doing just that, by striving to keep the boulevards and thus the curb/gutters clean of debris. It is so great to see the positive steps taken! Now, we need to go one step further. . . We see the much needed mowing being done, of which we thank you, but the grass clippings in some case are left on the walking path, or even within the curbs/gutter area!

May we ask, as good Green Lake neighbors to take the initiative to sweep Òour little sectionÓ even if it is across the street?

Therefore, like a well trained relay team - passing the baton (or broom) we end with a great finish! A clean Green Lake!

Terry W. Frazee Executive Secretary

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