

# Green Lake Breeze

P.O. Box 362 • Spicer, MN 56288

[www.greenlakespicer.com](http://www.greenlakespicer.com)

August 2012

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brett@cdscpa.com  
320.235.6464

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parson@tds.com

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tomjohnson@jmsklaw.com

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slinder@kwlm.com

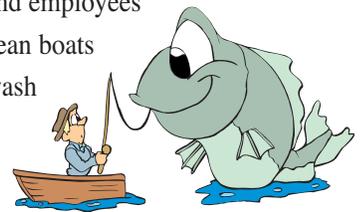
Bob Schemel 320.796.0093  
drschemel@yahoo.com  
320.894.8555

Valerie Sechler 320.796.0765  
jvsechler@tds.net



It is disappointing to inform you that in July zebra mussels were found in Lake Minnewaska. To make matters worse Lake Minnewaska is only 42 miles northwest of Spicer.

Now for the good news: Green Lake Property Owners Association (GLPOA) continues to do all we can to keep zebra mussels out of Green Lake. This summer we have partnered with the Minnesota DNR and have had their decontamination units and employees available during many of our busy weekends to wash and clean boats before they enter the lake. We have hired contract labor to wash boats during fishing tournaments and we have continued to work with state, county and local officials on containment plans for Green Lake. Recently we have developed a questionnaire that has been sent out to all potential candidates running for public office that would represent our area. In this questionnaire we are asking what the candidate's views are on aquatic invasive species (AIS) and how they would seek funding if elected. We will be publishing the results in an upcoming issue of the breeze.



We recognize that our lakes are owned by all residents of the state of Minnesota and we are trying to balance that with a plan that gives us the best chance to keep zebra mussels out of

Green Lake. One option that has been gaining momentum

in the metro area is temporarily limiting access on lakes. How could this work on Green Lake? If we can gain the commitment from local and county

officials to temporarily close two of the six public accesses on Green Lake. Then we can funnel all lake users to the four remaining

public accesses. This would greatly increase our ability to check and if needed decontaminate boats before they enter the lake.



Zebra mussels are spreading to more and more lakes every year. We all need to work together to prolong them from entering into more lakes as long as possible. As always we appreciate your support on the issues of today and tomorrow facing Green Lake.

A handwritten signature in black ink that reads "Jamie Duinick".

Jamie Duinick



# Zebra Mussels in Lake Minnetonka: Lessons Learned



Dick Osgood has been a good friend for over 15 years. We have served together on the Minnesota Lakes Board, as well as the Minnesota Waters Board. He is the Executive Secretary of the Lake Minnetonka Association. As you read his article you will learn of his view point on how they struggled for over three years to educate the residents to identify this aquatic species and to realize that it was too late for their lake. Dick wants Green Lake residents to know and understand the justifiable worry of ever getting zebra mussels. He wants all of us to take the positive steps in what can and should be done before the first veligers are ever detected.

Terry Frazee

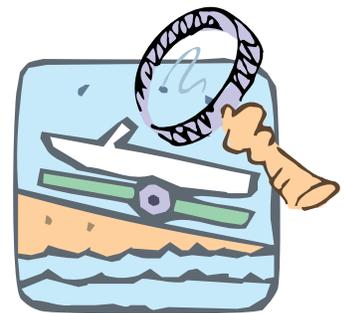


Zebra mussels were discovered in Lake Minnetonka two years ago, July 2010. The first discovery was in Wayzata Bay, near the lake's outlet and within a month zebra mussels were documented throughout the Lower Lake. By 2011, zebra mussels were documented throughout the entire 14,000 lakes.

The main lesson learned is this: put all of your efforts into preventing zebra mussel introductions because once they are discovered, there is NOTHING you can do.

Other lessons:

1. Early detection/rapid response plans for zebra mussels sound good in concept, but as a practical matter early detection/rapid response plans are not effective. The simple reason is with the first discovery; zebra mussels have probably been in the lake for one or two seasons and have a well-established reproducing population. By all accounts, zebra mussels were discovered very early in Lake Minnetonka (see #2).



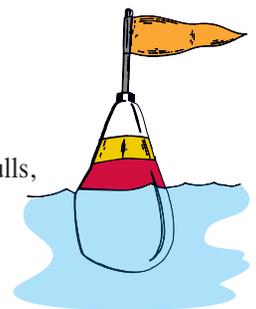
2. Efforts to find the reproducing population are futile. Within one month of the first discovery in Lake Minnetonka, professional and volunteer SCUBA divers spent over 200 hours searching for 'the' reproducing zebra mussel population in an attempt to locate it, isolate it, then eradicate it. Such an effort serves more of a public relations function (we tried) than a realistic attempt to eradicate zebra mussels. Once discovered, zebra mussels are in your lake for good.



3. Don't grasp at straws. With a new discovery, you will have numerous people come forward with their 'solution.' The community around Lake Minnetonka went through the five stage of grief/denial, anger, bargaining, depression and acceptance. These innovative solutions exploit the community's bargaining needs, but you will get through that. Following the discovery of zebra mussels, the community goes through these stages in quick succession and within a couple months, will reach the acceptance stage — simply, you will cope.

Zebra mussels have been in Lake Minnetonka for three years. At this time, the impacts include:

- They have rapidly spread throughout the lake.
- They can be readily found in most places and encrust (from very low to very high densities) dock posts, boat hulls, marker buoys and other hard surfaces.
- They clog irrigation systems that use lake water.
- In some areas, they are causing cut feet for swimmers.



Many people around Lake Minnetonka are sitting back and saying, "OK, this isn't so bad." While no one knows how bad an infestation will be on any lake, I think it will take a full five to ten years to fully realize the impacts of a zebra mussel infestation. Zebra mussels increase exponentially and it is likely that by the third year we have not yet seen the full-blown infestation.

What we have not yet seen is the clearing of the water. In some lakes, zebra mussels have cleared the water due to their great filtering capacity. Much of Lake Minnetonka is clear to start with, so any clearing may be difficult to discern. Those bays that have poor clarity appear to be the last to have had zebra mussels established, so I think it is too early to tell.



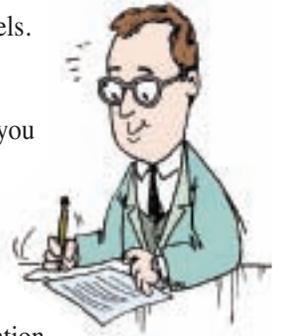
While clear water sounds like a good thing, in this context, it is not. Zebra mussel filtering (and clearing) will likely have the effect of transferring algae growth from open water to bottom water.

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# Zebra Mussels in Lake Minnetonka: Lessons Learned continued

In addition, some lakes have seen an increase in toxic-forming algae, as these are avoided by filtering zebra mussels.

Repeating my main message - put all of your efforts into keeping zebra mussels out of Green Lake (as well as tributary lakes.) Also, while zebra mussels are the AIS du jour, focus your prevention message more generally. If you get zebra mussels, there will likely be a year or two when community support for prevention wanes - "well, now we have them, I guess the efforts did not work." There are at least two dozen other AIS near enough to be a concern. Serious prevention efforts will be needed into the foreseeable future.



I recommend developing and implementing a plan to keep all AIS from being introduced and established in the lake. Any goal short of this (for example to minimize the risk) will fail. To that end, the Lake Minnetonka Association has recently adopted a policy that includes:



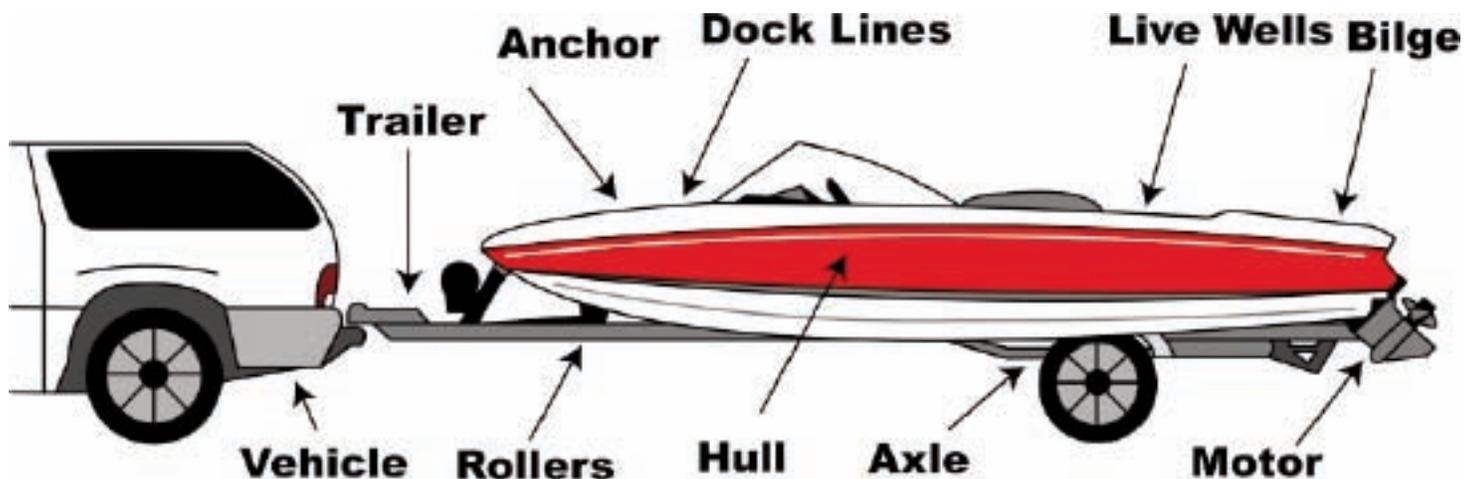
Lacking a comprehensive AIS prevention system, our goal of preventing additional AIS from being introduced into Lake Minnetonka will not be met. Therefore, we recommend strident, serious prevention measures be implemented immediately, including:

- Comprehensive 24 hour/7 day control of public accesses, private accesses and special events. Examples of 'control' measures include consolidating accesses, hours of operation, electronic boat monitoring or mandating inbound inspections (or decontamination) of all watercraft.

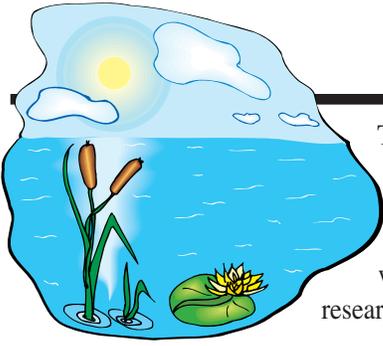
- To pay for increased prevention and control costs, fees for watercraft using Lake Minnetonka.
- Substantially increase penalties or fines and mandatory enforcement for AIS violations.
- Any and all additional prevention measures addressing the goal of keeping additional AIS out of Lake Minnetonka.

We wish the Green Lake Association well in your efforts to keep zebra mussels out of your beautiful lake.

*Dock Osgood*  
*Executive Director, Lake Minnetonka Association*



# AIS Dry Times: Research and Risk



This summer a variety of new laws are in place to help prevent the spread of aquatic invasive species (AIS). These, along with our existing laws and recommended actions for water users, are designed to prevent the spread of AIS while maintaining public access to the water resources of the state. However, with numerous new laws and recommendations, it can be difficult to understand how and why these enhance AIS prevention. The state established a set of laws and recommendations based on research, risk and reasonableness that in combination build a comprehensive AIS prevention program.

There are different ways that zebra mussels can spread to uninfested waters: 1) the larval stage (veligers) in water, 2) juvenile and adult mussels attached to watercraft, docks, boat lifts, and other equipment placed in infested waters, and 3) mussels attached to aquatic plants, 4) in mud attached to anchors. The research shows that the risk of spread by veligers in compartments holding water, such as live wells, is high due to the amount of water in these compartments and the number of veligers found in the water. Because veligers require immersion in water to survive and they are a very fragile life stage, the risk of spread associated with damp objects is very low. When the veligers settle on objects in the water they attach using byssal threads. These tiny fragile mussels will dry out and die within hours or less after objects are removed from water. In contrast, the adult zebra mussels can survive much longer out of water. As boats or other gear sit in infested waters, the tiny settled mussels on such objects grow bigger and become more resistant to drying. Attachment to boats, equipment and aquatic plants on trailers present a high risk of movement of the zebra mussel. Equipment such as docks and lifts removed from infested waters also pose a high risk of transport. This equipment often has areas that are difficult to adequately inspect, pressure wash and treat with hot water.



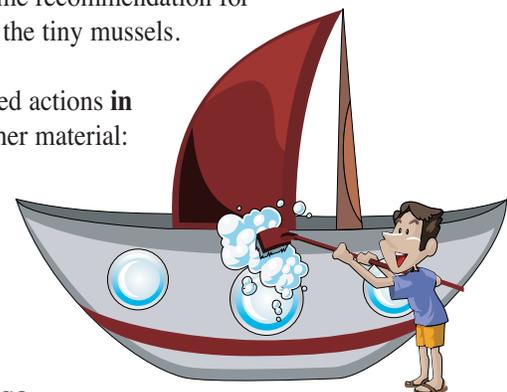
Based on zebra mussel life history information and the risks associated with moving boats and equipment from infested waters, air drying (versus towel drying) has become one of the recommended tools to help prevent the spread of zebra mussels. Studies indicated 100% mortality of adult zebra mussels after 15-day exposure at an optimal survival temperature and humidity of 50° Fahrenheit and 95% humidity. Researchers further found that smaller zebra mussels lose water quicker when drying, due to thinner shells and smaller body mass, and that warmer temperatures and lower humidity can kill larger mussels quicker than 15 days. For example, in summer temperatures over 85° Fahrenheit, mussels will die in 3-5 days.

The Great Lakes Panel on Aquatic Nuisance Species (ANS) adopted drying time recommendations that include a drying time of 5 days or longer based on research, risk, and reasonableness. The DNR has advocated drying times of 5 days or more when moving boats from an infested water body to another. This recommendation reflects a combination of considerations including, risk and life history and is not advocated as a sole solution (Table 1). The recommendations are also based on compliance with existing laws that require draining of water, removal of aquatic plants, zebra mussels and other material before leaving any water body.

‘Day use’ watercraft are unlikely to have any large or even visible mussels attached (if they are present they should be removed prior to transportation during the normal boat inspection). Anything that has settled within the day or two is extremely small (often less than 1 mm in size). Thus, the drying time for mortality of such small fragile mussels would be extremely short, and likely would not exceed even a day during normal summer conditions. ‘Moored’ watercraft that sit in infested waters for the summer will often have larger zebra mussels attached that can be seen and physically removed. It is important to remember that the drying time recommendation for watercraft is **not** a substitute for removal of visible larger mussels, but **an added** precaution for the tiny mussels.

The DNR’s current message encourages boaters to do one or more of the following recommended actions **in addition to** the requirements of draining water and physically removing plants, mussels, and other material:

- Rinse with hot water to kill the AIS,
- Spray with high pressure to remove the AIS, and/or
- Dry for 5 or more days before transporting to another water body.



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# AIS Dry Times: Research and Risk continued



As mentioned previously, equipment such as docks and lifts are often harder to clean with high-pressure spray or treat with hot water due to internal areas that are hard to reach. Because they are in the water for longer periods of time they can have larger adult mussels attached. The newly enacted law (2012) requiring a 21-day drying time for such equipment is designed to address these issues. The 21-day drying period is longer than the times that researchers have found to be necessary for complete mortality of larger mussels in any weather. This provides a safety margin to ensure that any mussels missed or unreachable will be dead prior to any movement to new waters.

Table 1. Indicates how life history information and risk are pulled together to develop the AIS prevention laws and recommendations.

For more information on AIS please visit the DNR website at <http://www.dnr.state.mn.us/invasives> or contact Ann Pierce, Supervisor Invasive Species Program, 651-259-5119. For reference material regarding the studies cited in this article please see:

McMahon, R. F., T. A. Ussery, and M. Clarke. 1993. Use of emersion as a zebra mussel control method. Contract report EL-93-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

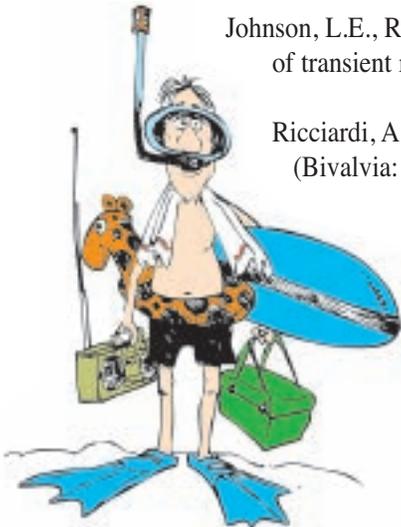
Morse, J.T. 2009. University of Texas at Arlington Assessing the effects of application time and temperature on the efficacy of hot water sprays to mitigate fouling by *Dreissena polymorpha* (zebra mussels Pallas). Department of Biology, University of Texas at Arlington, Arlington, Texas, USA

Organism/life stage	Life history	Risk	Recommendations/laws that in combination address the risks
<b>Zebra mussel larvae (veligers)</b>	<ul style="list-style-type: none"> <li>Extremely small &lt; 1mm</li> <li>Fragile</li> <li>Thin shell</li> </ul>	<ul style="list-style-type: none"> <li>Potential to attach on day use boats and be contained in water in livewells, bait, bilges, and ballast tanks</li> <li>Due to small body size will rapidly dry and die once equipment is removed from water</li> <li>Does not survive on damp material such as life jackets</li> <li>Removed with high pressure spraying or hot water</li> </ul>	<p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>High pressure spray or hot water wash/flush</li> <li>Dry for 5 or more days</li> </ul> <p><b>Laws</b></p> <ul style="list-style-type: none"> <li>Remove all vegetation, mussels and other material</li> <li>Drain all water from boats (remove drain plug and empty live well)</li> </ul>
<b>Adult Zebra mussel</b>	<ul style="list-style-type: none"> <li>Larger</li> <li>Thicker shell</li> </ul>	<ul style="list-style-type: none"> <li>Removed with high pressure spraying or killed with hot water</li> <li>Can be seen or felt unless inside equipment.</li> <li>Can be present on objects in infested water for longer periods of time (equipment, plants, rocks, etc)</li> <li>Longer drying times needed to kill adults</li> </ul>	<p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>High pressure spray or hot water wash</li> </ul> <p><b>Laws</b></p> <ul style="list-style-type: none"> <li>Remove all vegetation, mussels and other material</li> <li>Drain all water from boats (remove drain plug and empty live well)</li> <li>Dry seasonal equipment (docks, swim rafts, lifts) for 21 or more days before transport</li> </ul>

Johnson, L.E., Ricciardi, A. and Carlton, J. 2001. Overland dispersal of aquatic invasive species: a risk Assessment of transient recreational boating. *Ecological Applications*, 11(6), 2001, pp. 1789 - 1799

Ricciardi, A., R. Serrouya, and F. G. Whoriskey. 1995. Aerial exposure tolerance of zebra and quagga mussels (*Bivalvia: Dreissenidae*): implications for overland dispersal. *Can. J. Fish. Aquat. Sci.* 52: 470 - 477.

Ussery, T. A. and R. F. McMahon. 1995. Comparative study of the desiccation resistance of zebra mussels (*Dreissena polymorpha*) and quagga mussels (*Dreissena bugensis*). Technical report EL-95-6, U.S. Army Engineer Waterways Experimental Station, Vicksburg, MS.



Ann Pierce  
Assistant Commissioner, DNR

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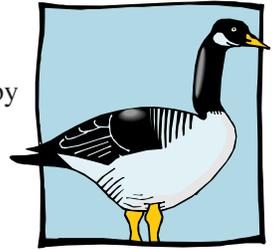
# Nature Observations

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After sporadic periods of dryness and rain, grass, plants and trees were thriving in their emerald glory. Asking for a few more showers at night wouldn't be asking too much though, would it? The thunderstorms that zip through, sometimes in a few moments, or with one brilliant flash with not even a second's pause before a clap that shakes the house, are something else again. I have to think it struck some object, even though I can't see where.

The families of Canada geese grew so fast. It seemed as if all at once three families were swimming by with their goslings. Along the road by the outlet what had been parents with three little ones were suddenly with two little ones, yet the families who swam by were seven and eight apiece - one group, looking like a single parent family. The goslings aren't so little anymore either. I learned recently that Canada geese "baby-sit" for each other - that explains two or three adults with 15 goslings in tow. By now the adults have regained their flight feathers, so we'll soon see families flying overhead.



You might recall that a few years ago I suggested someone write a mystery, *The Loon Calls at Midnight*. We're ready for a sequel: *The Loons Still Call at Midnight*. Has anyone figured out what they are doing at that time of night? I can see that when they first return they are taking roll to see who made it back, but now? They do enjoy cavorting in the lake, solitary ones, couples, small groups. Give me a call and let me know what you see.

Having grown up summers out here with a bluebird family nesting in a dead tree on a vacant lot next door, I've missed seeing them regularly for years. In about a week's time, however, I spotted one, my neighbor spotted one who visited near her feeder another day, and the lady next door to her also saw it later. Now if we could figure out how to coax them to stay, I'd like having a bluebird of happiness nearby. No dead trees left standing is one problem. Yes, I have a bluebird house - for several years a little wren and her mate made it their home. Bluebird houses are deep; the wrens carried in enough twigs and sticks to fill it almost to the entry point. One person has a wren's nest not far from the ground in a fence with convenient plants nearby. Even when he is working the garden a very few feet away, the little birds sing out their hearts in lilting song, unperturbed by his presence. At another home, the wee things built their nest on top of the birdhouse.



Speaking of nests, I had a robin try to build one on top of the light fixture by my door. I put up with that one year but dissuaded it from doing so again. So it moved to an arbor vitae by the door to the annex, where I go in and out several times a day. She flew every time I came out, so I doubt her eggs stayed warm enough to hatch. Had it been in July, they probably would have cooked.

Good news - I've seen the bluebirds nearby several times in the last month. May more happiness come with gentle rains and breezes.



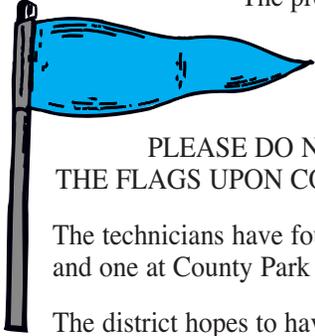
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# Green Lake Water Leak Survey

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Beginning on July 9th, the Green Lake Sanitary Sewer & Water District commenced a special project aimed at detecting and correcting leaks on the district's water system around Green Lake. The water system around Green Lake has been experiencing excessive water loss over the past several years, and the district has engaged a private contractor - Water Conservation Services - to help identify leaks in the system in order to reduce water losses.



The project began on Lake Avenue South - with technicians locating residential curb stops and marking them with blue flags and moved through Indian Beach Road and on to North Shore Drive. Currently, the survey work is approximately 60% completed (through Fire #10010 on North Shore Drive), with completion of the final stretch scheduled to begin on July 30, 2012.

**PLEASE DO NOT REMOVE THE BLUE FLAGS ON YOUR PROPERTY - THE TECHNICIANS WILL REMOVE THE FLAGS UPON COMPLETION OF THEIR LEAK DETECTION WORK.**

The technicians have found four leaks so far - one on Indian Beach Circle, two on Indian Beach Road, and one at County Park #5. These leaks will be repaired during the week of July 30th.

The district hopes to have the entire project completed by the last week of August.

In addition to their leak detection work, the technicians are installing all curb stop locations on a GPS mapping system which will allow for easier identification of curb stops in the future.

*Brett Aamot*



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# Dedication of Green Lake Observation Deck

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On Friday, June 22nd a new Observation Deck located on the West side of Green Lake was dedicated. The dedication ceremony was conducted by Councilman Troy Block who represented the city of Spicer. Volunteers from the Garden Club, the Design Committee and Beautification Committee, all of whom were instrumental in the success of the project, were recognized at the dedication. Special recognition was also given to Mary

Wohnoutka, a long-time resident of Spicer, for her effective efforts in coordinating the project and in fund-raising.

The Deck is ninety feet wide and is located at the edge of Green Lake facing east. The design makes it possible for individuals to have a panoramic and unobstructed view of Green Lake. The design also provides convenient access for the handicapped. The deck was constructed by local volunteers under the supervision of Ed Pirrotta, an individual who has been involved as a volunteer in a number of other major community projects.



A major catalyst for the project was a lead gift of \$10,000 contributed by the Green Lake Property Owners' Association on behalf of a donor who is honoring the memory of a long-time resident of Green Lake. A plaque recognizing the lead gift will convey the following: "The lead gift for the Observation Deck was given in loving memory of Dean Bryan Anderson, March 24, 1940 - October 23, 2005. The Green Lake Property Owners Association was entrusted with finding an initiative beneficial to all Green Lake residents and visitors. Dean loved this beautiful lake as a child at his parent's cabin and returned as an adult to his summer home. The Observation Deck is a fitting tribute to Dean's enduring love of Green Lake and desire to preserve it for future generations." The lead gift resulted in raising more than a total of \$35,000 which will cover the entire cost of the deck and surrounding landscaping.

The GLPOA is proud to have been part of this project as it will enhance the beauty and potential of the entire area adjacent to and including the park in downtown Spicer. Although a small fee will be charged in most instances, the city is anxious for the deck to be used for various functions. Anyone interested in reserving the deck for an event should call Leslie Valiant at the city office in Spicer (796-5562) or send an email ([lvaliant@cityofspicer.org](mailto:lvaliant@cityofspicer.org)) with an explanation of the purpose for using the deck, date and time being requested.

*Dick Gunderson  
Treasurer, GLPOA*



**The Green Lake Breeze**  
**Green Lake Property Owners Association**  
**P.O. Box 362**  
**Spicer, Minnesota 56288**  
**www.greenlakespicer.com**

**Return Service Requested**

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## Women's Luncheon

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August 8th is our next luncheon at the Little Crow Country Club. Our numbers keep growing as well as our friendships. It's always a treat to enjoy the Castle, as we did last month, surrounded by its history and its unique presentation of our luncheon choices.

Mark Wednesday, the 8th and Saturday, the 18th on your calendars for another fun gathering of Women of Green Lake. Hope to see you there and bring a neighbor!



Women of Green Lake  
we invite you to a  
**Women's Luncheon**

**June--13 Little Crow Country Club**  
*July--11th the Spicer Castle*  
*RSVP by Tuesday the 9th*

**August--8th Little Crow Country Club**  
**August--18 MCKALE'S New London**  
*Sept.--5th Spicer American Legion*

Seating and serving 11:30 A.M.

Any questions - please call  
Linda @ 796-6032  
Kathryn @ 796-2502

Bring a friend  
and meet a new one !