The Great Blue Heron

Mitchell Lake Association

Restoring Our Shoreline/Capturing the Runoff

Efforts to improve the water quality of Mitchell Lake need to come from a variety of approaches if the clean water results can be achieved. At the same time shoreline naturalization and beautification can be a plus as well. Mitchell Lake Association is actively involved in both. We are partnered with the City of Eden Prairie, the Riley Purgatory Bluff Creek Watershed District and Dept. of Natural Resources to achieve both ends. This past summer my wife and I completed a significant pair of projects along our shoreline to do what we can to both protect Mitchell Lake and improve the beauty and functionality of our 160 ft. of lakeshore.

Water run off is captured in a series of rain gardens where water is filtered before it enters the lake.

Our lot is on the SW shore of the lake and when we moved in we found our shoreline choked with 16 ft. buckthorn, barbed wire, metal fence posts and significant amount of rough debris. In addition the builder carved a deep "V" ravine into the back of the lot to direct water runoff from our lots plus the adjoining two lots just north of ours. A total of 2 acres of lawn and roof drain through this steep back ravine into Mitchell Lake each heavy rain. The cove we live on borders a shallow cove that has significant weed problems in July and August. We know ours is not the only lot on the cove, but we have the inconvenient situation of allowing the run off from acres of lawn through the back of our yard. No doubt the weeds and poor lake water quality and the runoff are connected.

Over the decade since then the buckthorn was brought under control, the posts and barbed wire and rough debris removed but the water runoff remained a perplexing problem. We involved ourselves with the Mitchell Lake Association Board of Directors and I became a Citizen Advisor representing Mitchell Lake to the local Watershed District. We also attended three Enviro-Fairs put on by Leslie Stovring, Environmental Coordinator of the City of Eden Prairie. Lake shore restoration and water run off control were big parts of the educational process and a lot of fun to learn about. The frequent presenter was Fortin Consulting out of Hamel. Shoreline restoration and rain garden design are specialties of theirs.

Cheri Nehl representing Mitchell Lake Association applied for a DNR shoreline restoration grant and it was approved. With the assistance of many Mitchell Lake Association members and Timber Lakes Townhouse Association and their families a large commons area along Island Road was planted both in the water and along the shoreline under the guidance of Fortin Consulting.

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"Efforts to improve water quality….need to come from a variety of approaches"

A BREAKDOWN OF MITCHELL LAKE ACTIVITIES

Submitted by Mark B. Enochs, P.E., Vice President, Operations Manager
CH2M HILL

There were five District projects in Mitchell Lake in 2009: sampling and evaluation of the amount of oxygen the sediment takes in (a.k.a., Community Oxygen Demand [COD] sampling), adding oxygen to the bottom layer of the northern deep section of the lake (a.k.a., hypolimnetic oxygenation pilot project); application of food-grade calcium peroxide to the sediment in the middle section of the lake; plant harvesting in June and late July;, and a continuation (at no cost to the District) of the SolarBee testing in the southwestern lobe of the lake.

The intent of the 2 pilot projects is to evaluate how effective adding oxygen to the lake bottom is at keeping phosphorus from being released from the sediment. The presence of phosphorus in the water is the main culprit behind the poor water quality Mitchell Lake experiences at various times of the year. The COD sampling provided the information and data needed to plan/design the 2 pilot projects.

The hypolimnetic oxygenation pilot project was a successful test of technology for deeper lakes, ones that have a top and bottom layer. The technology was being evaluated for use in other lakes and will be used in the future, but not on Mitchell Lake.

The calcium peroxide pilot project was designed to prevent phosphorus release from shallow sediments. The results were not as clear as we had hoped. Sediment conditions progressed after the application. However, the rest of the lake appeared to benefit from the plant harvesting: approximately 1,500,000 pounds(750 tons!) of curly leaf pondweed was harvested and composted at the Minnesota Arboretum instead of dying and rotting at the bottom of the lake later in the summer. The SolarBees did not demonstrate any effect on water quality. For 2010, plant harvesting will continue as the sole pro-

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"Water plants act as erosion control instruments..."

(Continued from page 1)

This was the third major effort to improve Mitchell Lake Shoreline by the Nehl's and Mitchell Lake Association. The first two were tree plantings along the north shore by Hwy 5. Three other properties applied for and were approved for their shoreline restoration efforts. The only enviro-requirement to be eligible for the funds is that the plants chosen be native to Minnesota.

We began our effort with an application for part of the DNR shoreline grant dollars remaining as well as the City of Eden Prairie rain garden grant dollars also available. Fortin Consulting did a plan for planting the 160' X 25' steeply sloping shoreline and the preliminary sketch of the tiered rain-garden plan to control the ravine-water run off. We were approved for the shoreline grant and the City of Eden Prairie was kind enough to pay for the cost of the plans from their rain garden grant funds.

A dry creek bed helps to slow the flow of water into the upper rain garden at the home of Kathy and John Tyler on Mitchell Lake.

Given a choice of shrubs or plants along the steep 25' hillside we chose berry-producing shrubs as a wildlife aid, and for spring flowers and autumn color. In all over 120 shrubs and 300 water's edge plants were installed, and with frequent watering, they all survived the summer drought. In a few years it should be a really beautiful area.

The native plants in the water act as erosion-control instruments and as a means of absorbing pollutants. They also will add native beauty to the shoreline and natural habitat for animals, fish and birds.

The further work on the rain gardens was on our nickel, but we put the information accumulated to work. We settled on Curbside Lawn and Landscaping to build the retaining walls and rain gardens. They built in a "dry creek bed" area to slow the fast pace of the water and an upper garden and a lower garden. The upper drains into the lower as overflow. Boulders were used as retaining walls to frame the areas and black soil and heavy mulch was used to fill the space. The result is filtered water that reaches the lake. We added cut-boulder steps and a stone bench along-side the gardens for esthetic and safety reasons.

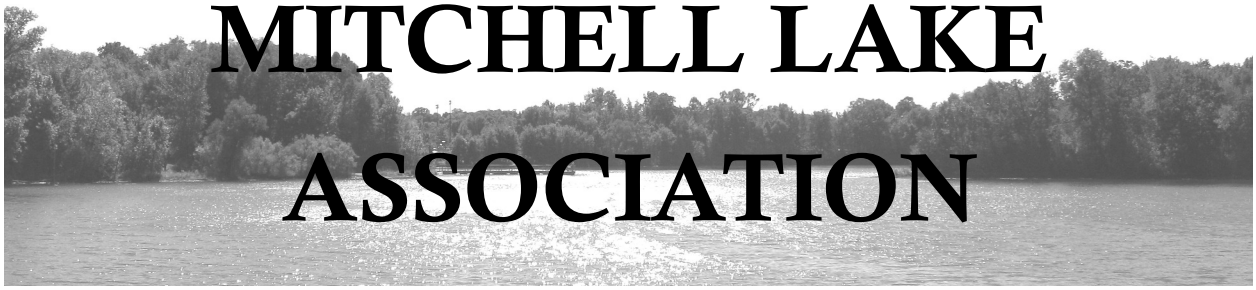
The final touches will be added this spring when we have the plants put into and around the gardens. Photos of the project are available for viewing on the Mitchell Lake Association website @ www.mitchelllake.org. Enjoy!

Please feel free to email me with questions or comments @ kathyjohntyler@comcast.net.

Thank you for all your support of Mitchell Lake Association!

John Tyler
Mitchell Lake Association Board Member

MITCHELL LAKE ASSOCIATION



2010 MEMBERSHIP FORM

Mitchell Lake Association Mission Statement

The purpose of the Mitchell Lake Association is to create awareness, knowledge and appropriate actions with property owners, local government and community agencies to enhance the water quality and thereby the boating, fishing and aesthetic values of Mitchell Lake, as a recreational facility for today and for future generations.

Mitchell Lake Association Board Members:

Jim Nehl, President
jnehl@comcast.net

John Tyler, Vice President
kathyjohntyler@comcast.net

Frank Spahn, Treasurer
taxnsax@yahoo.com

Jule Coughlin, Secretary
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Bob Becker
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Gordon Warner
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Not a member yet?

If you would like to support this important effort…

Visit our website to learn more
http://www.mitchelllake.org

Annual Membership fee is $35

We are strength in numbers, please continue as a founding member or join today. Thank-you!

Name: _____

Address: _____

Phone: _____

E-mail: _____

Date Paid: _____ **Check:** _____ **Cash:** _____

Please forward a $35.00 tax deducible donation made payable to *Mitchell Lake Assoc.*:

Mitchell Lake Association
C/O Bob Becker
17734 George Moran Drive
Eden Prairie, MN 55347

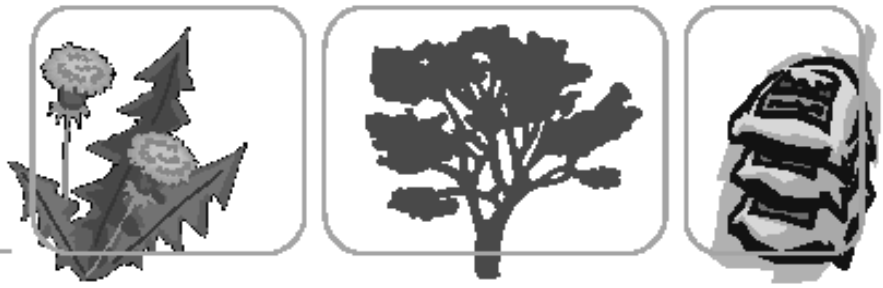
____ I am interested in "light" volunteer activities.
____ I am interested in an "active" role in the association.
____ I am interested in help with a lake "buffer" zone.
____ I would like to make an additional monetary gift of $_____ and would like it to be used for the following

_____
_____
_____
_____
_____

Summer Lawn Care with Reduced Environmental Impacts

CITY OF EDEN PRAIRIE

FOR MORE INFORMATION:
LESLIE STOVRING, ENVIRONMENTAL COORDINATOR
PHONE: 952-949-8327
EMAIL: LSTOVRING@EDENPRAIRIE.ORG



Fortin Consulting will be holding a two-hour workshop on how to make better decisions on managing your lawn. Topics covered will include:

- Testing your soil, what does it mean?
- Fertilizing your yard, what is recommended?
- Lawn watering, how much is too much?
- Mowing, what height will give me the best results?
- Aeration, what does it do?
- Weed control, what are examples of environmentally-friendly choices?

A matrix will be provided to help guide make decisions on basic lawn care activities that are necessary to meet turf grass quality expectations while reducing the impact of your lawn on our natural resources.

Class exercises will include:

- How to read the fertilizer bag
- How to interpret your soil test results
- How to use the matrix.

EVENT: HOME, GARDEN AND LANDSCAPE EVERYTHING EXPO
DATE: MARCH 20, 2010
TIME: 12:30 P.M. TO 2:30 P.M.
LOCATION: GRACE CHURCH, 9301 EDEN PRAIRIE ROAD

Homeowners Can Help In Minimizing Impact of Water Runoff

Living next to a water resource, such as a lake, pond or creek, which receives stormwater, comes with both benefits and responsibilities. Homeowners can work together to help minimize negative impacts by controlling runoff from their yards and streets. This would include actions such as:

- Preserve established trees, shrubs and vegetation
- Plant a natural buffer or filter strip to trap and clean runoff. The strip should have a mixture of grasses, shrubs and trees to be fully effective. *Sod does a poor job of filtering runoff* and should not be substituted for a buffer or filter strip.
- Use only non-phosphorus fertilizer, unless a soil test shows that additional phosphorus is required or during the first year that new sod or seed is installed. This is a State law.
- Limit soil erosion by maintaining healthy sod and grass. Reseed or resod all bare areas to keep stormwater from washing soil particles, which also contain phosphorus, into the storm sewer or lake.
- Do not dump grass clippings or leaves into the buffer or storm drain. All matter that is or was living contains phosphorus, which is the nutrient that plants and algae use to grow.
- Don't pour anything down a storm drain! Storm drains often connect directly to the lake and do not provide treatment for pollutants such as paint, oil or other household chemicals.
- Sweep driveways and sidewalks instead of hosing them off.
- Pick up animal waste and dispose of it in the trash.
- Use biodegradable soaps for outdoor cleaning. Wash your car on the yard if possible.

If you find a problem and need assistance, please contact the following departments:

Assistance with stormwater or water line repairs
Utility Division
952-949-8530

Drainage Concerns or Boundary Locations
Engineering Division
952-949-8330

To report dumping of pollutants such as paint, motor oil or yard waste or if you have questions regarding vegetation management activities
Environmental Services
952-949-8327

If you would like to learn more on how to maintain your lawn in an environmental friendly manner, the Conservation Commission will be sponsoring a workshop on "Summer Lawn Care with Reduced Environmental Impacts" on March 20, 2010 from 12:30 p.m. to 2:30 p.m.

The workshop will be held during the **Chamber of Commerce Home, Landscape & Garden Everything Spring Expo**. The Expo will be held at Grace Church from 9 a.m. to 3 p.m. Other seminars, exhibits and children activities on home maintenance, landscaping, garden and recycling-related topics will be held throughout the day.

Leslie A. Stovring
Environmental Coordinator
City of Eden Prairie
lstovring@edenprairie.org
952-949-8327

A Message from the President

I hope this newsletter finds everyone well in this new year. But before we get further into this year's topics I would like to reflect briefly on last year. It was great to see the large turnout for our 3rd annual association meeting last September at the Chanhassen Legion with over 70 attendees. At the meeting we reviewed our accomplishments and 2010 objectives. 2009 was another landmark year for Mitchell Lake with increased focus and spending by the Watershed District on our lake, the completion of four lakeshore restoration projects, the hosting of our 3rd annual spring cleanup and strong participation by our board with our Watershed District.

Watershed District activity in 2009 on Mitchell Lake consisted of multiple efforts with the two primary focus areas being: 1) continued harvesting of tons of invasive weeds, and 2) the implementation of two pilots using two different methods to insert oxygen at the bottom of Mitchell Lake. Oxygen has been used in other bodies of water to form an "oxide" layer that essentially traps accumulated phosphorous on the lake bottom and prevents it from becoming active. As you may recall, phosphorous is one of the key components that causes algae blooms and gives our water the green color as summer progresses. Please read the article by Mark Enochs of the Engineering firm CH2M HILL for further detail on Mitchell lake projects.

On an overall Watershed wide view, the District will begin its implementation of the "One Water" program which essentially starts water quality improvement at the "headwaters" or beginning of each chain of lakes. As Round lake flows into Mitchell, continued efforts in 2010 and 2011 will continue to finish up projects started in this lake. We must keep in mind that the Watershed District is managing an area over 100 square miles and must tackle the overall water quality improvement in a systematic method to achieve sustainable results. We will keep you posted on the date and time of the next Watershed District's "Town Hall" meeting to "keep you in the know."

At this point in time, I would like to once again extend a thank you to all current paid members for your support of the Mitchell Lake Association. Having a high membership percentage continues to be of great importance as decisions are made on projects that outnumber available funds. Also, we continue to welcome your individual contributions and suggestions. Please consider your own lakeshore as a potential for restoration, or install a "rain barrel" to trap and filter excess water run off. Visit our web site, www.mitchelllake.org, for other ideas on how individuals can participate in the effort to clean up our lake. As we have already proved, individual contributions can and do make an impact.

Jim Nehl
Mitchell Lake Association President

Your yard waste hauler will no longer pick up yard waste if it is placed in a plastic bags. Starting January 1, 2010 plastic bags can no longer be used for your lawn waste. Compostable bags are now required. This should improve the quality of compost and reduce labor costs involved in screening out non-compostable items. For information on compostable products, check out the following web sites:
rethinkrecycling.com/residents/throw-buy/materials-name/yard-waste
bpiworld.org (Biodegradable Products Institute)

Upcoming Events

April 17, 2010	**Annual Spring Cleanup** **10—Noon** **Miller Park**
May 5, 2010	**An Evening with the Watershed** **7 PM** **Chanhassen American Legion**
September 23, 2010	**MLA Annual Meeting** **6PM Social** **7 PM Meeting** **Chanhassen American Legion**

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ject in Mitchell Lake. Monitoring will help establish the effect of plant harvesting alone on water quality. Indirectly, a project designed to control phosphorus within Round Lake is expected to benefit Mitchell Lake. Phosphorus in Round Lake eventually ends up in Mitchell Lake. Projects elsewhere in District lakes are applicable to Mitchell Lake. Future projects in Mitchell Lake await results from projects elsewhere in the District before they enter a planning phase.