



Annual Flagstad Farm Celebration

Hosted by the Deer Lake Conservancy

Join your Deer Lake friends and neighbors for refreshments, live music and appetizers at the Flagstad Farm.

Saturday, July 28, 2012
6-9 PM

ENJOY A PRAIRIE TOUR!!
See the best view of Deer Lake!
All ages and guests are welcome.



2012 Annual Meeting

Please join us for our Annual Meeting

Saturday, July 14th
9:00 a.m.

Trollhaugen
Convention Center

2012 CONSERVANCY OFFICERS AND DIRECTORS

Phillip Foussard, President

Mark Boyken

Tom McBride

Jim Miller, Vice President

Cal Dinham

John Patterson

Tom Pesek, Secretary/Treasurer

Mollie Keys

Tom Walther

John Marinovich

John Wright

Dedicated to the Preservation of Deer Lake

The Deer Lake Conservancy is a tax exempt organization incorporated in the state of Wisconsin and also registered in Polk County. The purpose of the organization is to preserve Deer Lake and the surrounding land that contributes to its natural, scenic and recreational value. As a 501C (3) corporation, any contributions are fully deductible from federal and state income tax. Contributions may be in the form of cash, securities, property and land easements.

Contributions should be sent to
Deer Lake Conservancy

P.O. Box 1139
St. Croix Falls, Wisconsin 54024

Interested individuals may also contact Jim Miller by phone at 715-483-3338

Deer Lake Conservancy Report



Summer Edition



JULY 2012

Deer Lake Water Quality Improvements

With almost 25 years of measurement and over 15 years of Conservancy projects, a significant trend in water clarity is demonstrating the success of Deer Lake Conservancy projects! Algae growth and water clarity fluctuate from year to year because of rainfall, temperature, and other factors. As a result, it can be difficult to show changes in the span of a few years. The graphed line smoothes out these fluctuations and a distinct trend of water clarity improvement emerges since the Conservancy began!

Deer Lake Improvement Association volunteers have tracked water clarity in Deer Lake since 1987. Water clarity is measured using a Secchi disk. A Secchi depth measurement is recorded when the black and white disk is no longer visible as it is lowered toward the lake bottom. Dave Boumann and his family are currently taking Secchi measurements in the East and West Basins of Deer Lake.

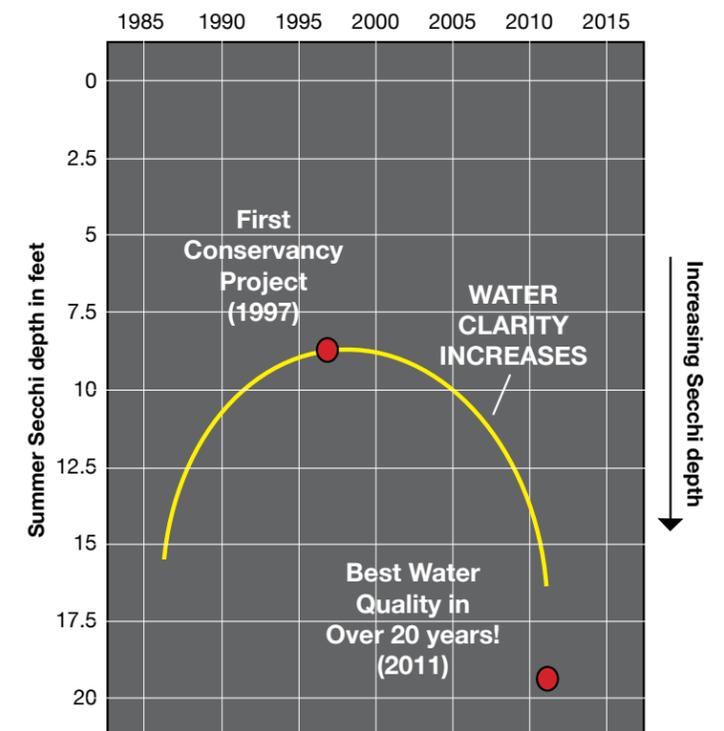
The graph shows the trend in secchi depth measurements from 1987 to 2011. For best comparison between years, only average July and August measurements are used. Higher numbers mean greater water clarity – the disk descended deeper before it was not visible.



The graph is striking in that it shows that the trend in water quality improvement began in about 1997 when the first large project was completed in Watershed 2. This trend continues to 2011 when the highest water clarity was recorded in Deer Lake!

(cont'd page 3)

Deer Lake Secchi Depth Trend



Water clarity in Deer Lake broke all previous records with an average July and August Secchi depth in the East Basin of almost 20 feet! The West Basin was close behind with an average depth of 17.5 feet.

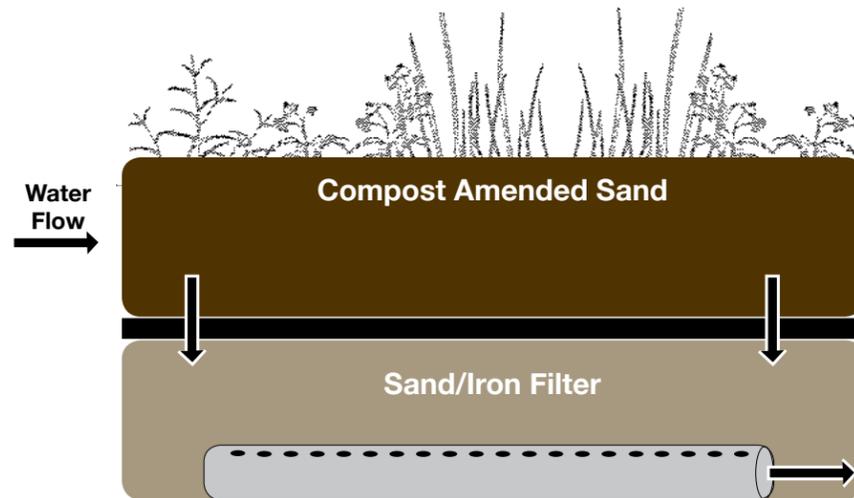
Watershed 1 Project to Treat Farm Runoff

Drainage from Watershed 1 on the northeast corner of the lake has been a difficult problem for the Conservancy over the years. Nutrients from animal wastes and associated fecal coliform, flow to the lake from this watershed. Measures taken in the past have resulted in some improvements, but high amounts of dissolved phosphorus and bacteria still enter the lake from a small stream.

The existing pond removes phosphorus attached to sediment, and prevents runoff from many small rainfall events from reaching the lake. However, until recently we did not have a good way to capture dissolved phosphorus from animal sources.

We presented a new treatment option for this watershed at the annual meeting last year – a filter made from sand and iron filings. The iron binds dissolved phosphorus, removing over 80 percent in trials. This treatment technology was

tested at the University of Minnesota labs and trialed for stormwater treatment in the Twin Cities. It is being used as a stormwater treatment option more frequently all around the Twin Cities Metro area, and we are pleased to bring it to Deer Lake. We plan to install the project in the fall of 2012, hoping water levels will have receded by this time for easier construction.



Controlling Runoff from Roads

Impervious surfaces like roads and driveways increase the amount of runoff water that flows to the lake. With steep or moderate slopes, soil erosion occurs along the way. Increased water flow results in problems for owners as well. Water can enter buildings and erode foundations, pavement, and landscaping. This flow impacts the lake with the nutrients and sediment it carries. Many of our waterfront projects have captured and treated runoff from roads and driveways.

Deer Lake Circle is a prime example of road runoff concerns. We are working on our fourth waterfront project on Deer Lake Circle this month and have identified additional concerns along this road. With the current project, water will be diverted with an asphalt bump from the roadway to a series of infiltration basins. These basins, separated with rock overflows, will keep water from flowing where it previously went: down the road, through at least three properties, and then to lake. Thanks to Mike and Linda Givens for completing this project on their property!

As the snow was melting this spring, we completed a survey of road runoff. With this survey, we were able to identify several additional properties where road runoff runs toward the lake on the north side. Because of early, rapid snowmelt, it was more difficult to identify similar concerns on the south side of the lake.

These (and other) projects are eligible for technical assistance to troubleshoot solutions for runoff problems. Partial funding is also available for installation. Funding comes from continued support in the form of a new grant from the Wisconsin Department of Natural Resources. This new lake protection grant supports installation of projects in the Direct Drainage area and the new treatment project in Watershed 1.

FREE WATERFRONT SITE VISITS AVAILABLE
 Contact Cheryl at:
 Harmony Environmental
 harmonyenv@amerytel.net

A significant trend in water clarity is emerging to demonstrate the success of our projects!

Deer Lake Water Quality Improvements

(cont'd from page 1)

The main focus of the Deer Lake Conservancy is to improve water quality within the lake by reducing phosphorus in watershed runoff. Phosphorus is the nutrient in the lake that determines how much algae will grow. Algae growth is the most visible detractor from water quality – when algae grows, the water is less clear.

Our 2010 Conservancy Report showed projects installed since the organization began in 1995. These

projects resulted in reductions in watershed phosphorus loading by over 50 percent. Water clarity improvements were also showing up in the lake.

The Conservancy is still working on projects to achieve phosphorus reduction goals and improve water clarity in the lake. Our current focus is on Watershed 1 on the northeast corner of the lake and the Direct Drainage area which includes waterfront properties.

Buckthorn Removal: A Thorn in the Side of One Lake Volunteer

Buckthorn loves the woods around Deer Lake. Jim Miller doesn't love buckthorn. He has spent countless fall hours removing this shrub, supervising work crews, and (in the winter) burning the remains. This work has focused along the Rock Creek Trail north of Hungerford Point Road.

Common buckthorn and glossy buckthorn are two closely related species originating in Eurasia and introduced to North America as ornamentals. They were planted in hedgerows in Wisconsin as early as 1849. Their aggressively invasive growth patterns have created problems in many areas – including in woodlands around Deer Lake.



Common buckthorn (*Rhamnus cartharticus*)

Buckthorn can disperse long distance by seed (with the help of birds) and has wide tolerance to a variety of environmental conditions. Common buckthorn flowers from May through June and fruit ripens August through September; glossy buckthorn blooms from late May until the first frost and produces fruit from early July through September. The exotic buckthorns have very rapid growth rates and resprout

vigorously after they have been cut. Buckthorns leaf out very early and retain their leaves late in the growing season, thereby shading out native wildflowers. Buckthorn can rapidly form dense thickets.

Controlling buckthorn is best done by pulling small plants before they produce seed. However, Conservancy properties had many large, seed-producing buckthorn and seemingly endless small sprouts. Jim and the work crew used a strategy of removing large seed-producing buckthorn first and focused further efforts along the trail and stream. Because cut buckthorn will sprout readily from the stem, chemical treatments were used.

Chemical control methods are best done during the fall when most native plants are dormant but buckthorn is still actively growing. This lessens the risk of affecting non-target plants. The green leaves provide easy recognition and allow for a thorough treatment. The Conservancy hired Landcraft Services to treat buckthorn this year, and we expect their work to continue to tackle its proliferation on Conservancy properties. (plant information from dnr.wi.gov/invasives)