



# KETTLE MORAINE LAND TRUST

*Serving the Southern Kettle Moraine lakes area in Walworth County, Wisconsin*

## **Progress Report - Delavan Lake Watershed Initiative Network September 15, 2011**

Major highlights and progress of Kettle Moraine Land Trust's work to facilitate the Delavan Lake Watershed Initiative Network (WIN) since the last monthly report are described below.

1. The Delavan Lake WIN Education and Outreach Workgroup meeting was held on August 17<sup>th</sup> at UW Extension offices. Members present included:

Gerri Green	Walworth County Association of Lakes
Josh Clements	UW Extension
Jeff Thornton	Southeastern WI Regional Planning Commission
Charlie Handel	Delavan Lake Sanitary District
Laura Bub	Wisconsin DNR
Tom Oasen	Farm Service Agency – USDA

Visitors included Merle Loomer, Geneva Township Supervisor and Merilee Holst. Discussion centered on strategies to implement an education and outreach program to support the Land Management Workgroup tasks of lake monitoring, urban non-point source pollution abatement, and the installation of buffers and protection of wetlands. Two strategies have been agreed upon: a website geared towards specific audiences with information available from the member organizations and other sources; and on the ground tours in 2012 targeting municipal employees and elected officials, and the general public. Milestones and schedules were set to successfully implement the strategies. The next Education & Outreach meeting is November 16, 2011 when the draft website layout will be reviewed and planning details worked out for the 2012 tours.

2. The Land Management Workgroup met on August 18<sup>th</sup> at KMLT offices. Members present included:

Jeff Thornton	Southeastern WI Regional Planning Commission
Tom Slawski	Southeastern WI Regional Planning Commission
Greg Igl	Natural Resources Conservation Service - USDA
Karla Eggink	Walworth County Sewerage District

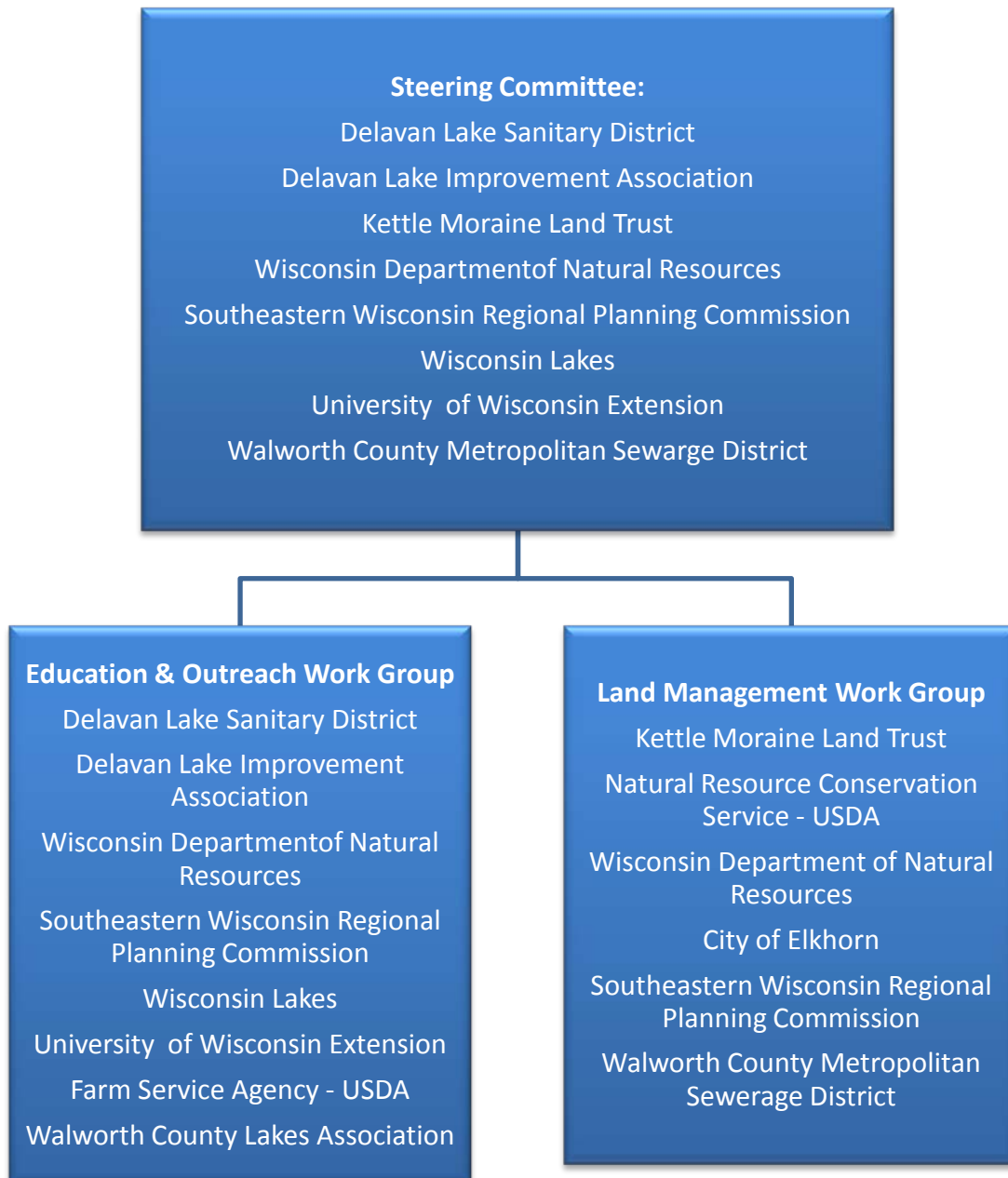
Larry Kulik, Town of Geneva Supervisor joined as an observer for the Town. The group finalized the information and deadlines needed for the lake monitoring program, and agreed upon an approach to draw landowners with potential buffer and wetland properties to Delavan Lake WIN tours in 2012. Site analysis through desktop GIS programs to determine probable filter strip and wetland restoration projects is a priority in order to gain land owner engagement and

begin project site planning. The next Land Management Workgroup meeting is October 18<sup>th</sup> at KMLT offices.

3. An informational brochure was created and mailed to 2,948 Delavan Lake Sanitary District customers. The purpose of the brochure was to reinforce the need for a network of watershed stakeholders working together to protect Delavan Lake, and the benefits of Delavan Lake WIN.
4. Jackson Creek River Protection Grant work began with the Wisconsin DNR inventorying a wadeable section of Jackson Creek. A backpack shocker was used to sample 120 meters of stream above Hwy 67, 8 species of fish were collected: white sucker, common shiner, horneyhead chub, green sunfish, rainbow darter, bluntnose minnow, central mudminnow and creek chub. The rainbow darter is considered intolerant of pollution and habitat degradation such as siltation, lowered flow, and low dissolved oxygen.
5. A Request for Proposals was developed for the creation and launch of the Delavan Lake WIN website and forwarded to 6 website design consultants. Proposals are due by October 3, 2011.
6. A meeting was held with the City of Delavan administrator Denise Pieroni to advise her of the progress being made by the Delavan Lake WIN. Ms. Pieroni would like to receive future Delavan Lake WIN meeting notices.
7. The City of Elkhorn provided the Delavan Lake WIN project manager a tour of the city's utility sites that discharge water to Jackson Creek. Potential Jackson Creek buffer sites within the city were also toured and probabilities discussed.
8. Mississippi River Healthy Basins Initiative (MRBI) grant administrative work for the past month included developing ranking criteria for applicants eligible for 2012 funds, and analyzing farm fields that could benefit from improved land management practices to help meet water quality goals. The Natural Resources Conservation Service (NRCS) has agreed to conduct additional in-kind work to model sediment release rates for lands of concern adjacent to Jackson Creek.

The next Steering Committee Meeting for Delavan Lake WIN is September 29, 2011, 9:00 am at KMLT offices. The agenda items for this meeting will include review and approval of the

Delavan Lake WIN 2-year work plan, and review of the lake monitoring program budget estimate.



## **PROJECT DEFINITION**

The Delavan Lake Watershed Initiative Network or WIN project is a multi-year partnership effort aimed at the reduction of non-point source pollution entering Delavan Lake. The goal of the WIN is to ensure that the Delavan Lake watershed supports sustainable lake water quality adequate to support the many uses the lake is subject to.

## **HISTORY OF THE NEED**

In the 1960's Delavan Lake was pea soup green all summer due to pollution and heavy algae blooms. The Delavan Lake Sanitary District was formed and septic systems were replaced with sewers at a cost of \$50 million. Yet heavy algae blooms continued into the 1980's as shown below.



Delavan Lake has a huge watershed of over 26,000 acres delivering water to the lake. A watershed captures and directs all water falling within its boundaries to a single water body. Non-point source pollution from the watershed contributes to the nutrient load of the lake.

In 1989 a major rehabilitation project to improve water quality was undertaken on Delavan Lake at a cost of \$7.1 million. The project was successful due to a collaborative approach that included federal, state and regional agencies, and the local community.

The rehabilitation project involved several actions between 1989 and 1993 to reduce algae, rough fish populations and phosphorus in the lake. The result of these efforts was a substantial improvement in the water quality of the lake.

## **CURRENT STATUS**

While Delavan Lake continues to be vital natural resource, scientific data collected since the completion of the rehabilitation project shows that the lake has returned to a nutrient rich state and nuisance algae blooms are increasing, despite substantial efforts to remove sediments from the lake inlet. Nutrients are transported from the land surface to Delavan Lake and its tributaries through surface runoff when precipitation events occur. The water picks up contaminants from urban and rural areas as it travels. This polluted runoff water ends up in Delavan Lake causing water quality to decline.

Action to reduce polluted runoff within the watershed is crucial if the decline in water quality is to be reversed. To date the lake management efforts have not addressed the runoff of nutrients and sediment coming from this very large watershed. Watersheds encompass multiple townships, local governments and communities, so a network of partners working together is essential to watershed management success.

## **INVESTING IN DELAVAN LAKE**

In 2005, a study was published by the University of Wisconsin-Whitewater that conclusively demonstrated the important link between a clean and healthy Delavan Lake and the local economy. This study showed that lake property values increased 273% from 1987 to 2003 which was attributed to the rehabilitation efforts. Property values on other lakes in the county increased about half this amount. In addition, Delavan Lake contributes approximately \$70 million annually to the local economy.

The Southeast Wisconsin Regional Planning Commission (SEWRPC) has completed Lake Management Plans for Delavan Lake using data collected from numerous studies over time. The SEWRPC plans calls for a true watershed approach to pollution control and these plans continue to be the guidance documents for

the lake work being done by the Delavan Lake Sanitary District.

## **EARLY WIN PLANNING**

In the fall of 2009, the Delavan Lake Sanitary District engaged the Kettle Moraine Land Trust (KMLT) in discussions aimed at building a partnership to address the non-point source pollution problem. KMLT drew other consultants to the table and quickly determined that a collaborative network of partnering organizations would result in the greatest benefits to the lake. The partners needed include numerous governmental units and associations. A five year program to build the network was developed and approved by the DLSD in late 2009.

## **DESIGN OF THE WIN PROGRAM**

The majority of the pollution entering Delavan Lake comes from non-point sources: urban development, and farmland in the watershed. The participation of both urban officials and farmers is critical to a viable solution. To effectively coordinate the activities of these stakeholders, the WIN partnership approach was proposed, and a five year time horizon was selected for the initially planned activity.

KMLT realized that to manage the WIN would require a near full time professional for the first few years. Accordingly, candidates were sought nation-wide and jointly interviewed by the KMLT and the DLSD. Maggie Zoellner was selected based on her 20 years of experience with similar environmental project challenges and her family farm background. She came aboard as KMLT's Program Manager and the WIN Project Manager in March, 2010.

Maggie gathered key data and initiated discussions with numerous agencies and units of government. The US Department of Agriculture (USDA) and its National Resource Conservation service (NRCS) were key starting points. The USDA instituted a Mississippi River Basins Healthy Initiative (MRBI) program, and the Delavan Lake Watershed fell within



one of their priority areas. This enabled the WIN to seek significant USDA funding. A grant request was submitted in mid 2010, and a grant was obtained. This was one of only two grants awarded in Wisconsin. Six farmers have already agreed to implement practices to reduce pollution runoff. The below photo shows one that has implemented no-till planting.

- University of Wisconsin Extension
- Walworth County Metropolitan Sewerage District



### SOURCES OF MORE INFORMATION

A detailed project presentation was given to the public at the DLSD offices on July 28<sup>th</sup>. This involved presenters covering three key elements of the WIN story.

- Mary Knipper, KMLT Vice President – Lake water quality history & rehabilitation project
- Dr. Jeff Thornton, Sr. SEWRPC Planner – Science of pollution control and current lake status
- Maggie Zoellner, WIN Project Manager – WIN partnership development & plans

This entire presentation may be viewed on the KMLT web site [kmlandtrust.org](http://kmlandtrust.org), or the DLSD website at [dlsd.org](http://dlsd.org).

### CURRENT FUNDING AND PLANS

2010	• DLSD	\$115,000
	• Grants	119,260
2011	• DLSD	\$106,925
	• Grants	153,955

This is a productive investment, averaging \$35 per property owner annually to protect a priceless asset. Also, local funding is being more than matched with grant support.

Delavan Lake WIN has developed annual work plans that prioritize watershed improvements and guide the work of the WIN members. It is planned to reduce the DLSD funding each year as team participation grows. DLSD needs to continue its leadership role on behalf of the Delavan Lake community as a core supporter and funding source of the WIN.

## Delavan Lake Sanitary District Kettle Moraine Land Trust

**Ed Brien**  
President, DLSD

**Jerry Petersen**  
President, KMLT

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MRBI participant Charles Pearce and WIN Project Manager Maggie Zoellner



Key contacts at Walworth County were made and their pledge of in-kind support obtained. The NRCS currently forecasts that an additional \$73,000 in funding will be available in 2012. Friends at the WDNR encouraged the application for a stream bank protection program grant, and an additional \$10,000 in support was obtained.

### NEAR TERM PLANS

A WIN Steering Committee has been established. Eleven organizations have committed to support the WIN. This group meets monthly to guide the program. Current participants include:

- Delavan Lake Improvement Association
- Delavan Lake Sanitary District
- Kettle Moraine Land Trust
- Wisconsin DNR
- SEWRPC
- Wisconsin Lakes
- USDA Farm Service Agency
- USDA National Resources Conservation Service
- Walworth County Lakes Association