

Mississippi River Basin Healthy Watersheds Initiative

Kettle Moraine Land Trust Cooperative Conservation Partnership Summary Report



Delavan Lake in Walworth County, Wisconsin



KETTLE MORaine LAND TRUST

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

Mississippi River Basin Healthy Watersheds Initiative

Known as “America’s River,” the Mississippi River is North America’s largest river, flowing over 2,300 miles through America’s heartland to the Gulf of Mexico. It is the centerpiece of the 2nd largest watershed in the world. The watershed not only provides drinking water, food, industry, and recreation for millions of people, it also hosts a globally significant migratory flyway and home for over 325 bird species.

Natural Resources Conservation Service (NRCS) is helping to improve the health of the Mississippi River Basin. Through the Mississippi River Basin Healthy Watersheds Initiative (MRBI), NRCS and its partners are helping producers in selected watersheds in the Mississippi River Basin. Financial and technical assistance is helping landowners install conservation practices to minimize runoff and reduce the deposition of excess nutrients into nearby streams. This effort also helps control soil erosion, improve soil health, and benefits wildlife by restoring and managing wetlands and upland habitats.

Kettle Moraine Land Trust



Conservation Partners: Brian Smetana (left) - Walworth County Land Use & Resource Management Department, Greg Igl - NRCS District Conservationist and Maggie Zoellner - Program Manager KMLT.

Kettle Moraine Land Trust

Kettle Moraine Land Trust (KMLT) is an accredited, 501C(3) non-profit organization created “to preserve the natural heritage of the Kettle Moraine lakes area and nearby lands in Walworth County, Wisconsin through partnerships in land conservancy and resource management.”

Watershed Initiative Network (WIN)

The Kettle Moraine Land Trust has a long record of forming valuable partnerships to protect and improve natural resources in Walworth County, Wisconsin. One of these partnerships is the Delavan Lake Watershed Initiative Network (WIN). Partners such as KMLT have a crucial role in encouraging and supporting producer participation. Addressing resource concerns are considered a priority for the Initiative which include water quality, soil health and fish and wildlife habitat.

Family Farms help to improve water quality in Delavan Lake

The Kettle Moraine Land Trust recognized the importance of working with both the urban and farming community to tackle water quality challenges affecting Delavan Lake in Walworth County. To improve the quality of water leaving agricultural lands in the Delavan Lake watershed, KMLT asked the Natural Resources Conservation Service to become a partner of the Delavan Lake WIN. NRCS agreed and through the Mississippi River Basin Healthy Watersheds Initiative, KMLT was able to request and receive funds to help local farmers implement conservation practices that improve the quality of water draining to the Mississippi River and the Gulf of Mexico.

MRBI Cooperative Partnership

The success of the Mississippi River Basin Healthy Watersheds Initiative lies in building a foundation of partnerships. Through MRBI, NRCS has entered into a cooperative partnership agreement with the Kettle Moraine Land Trust to provide financial and technical assistance to agricultural producers in the Delavan Lake and Jackson Creek Watershed. The goal is to implement conservation practices that reduce soil erosion and improve surface water quality by reducing sediment and nutrient loads within local streams

Because of the cooperative partnership and the encouragement and support given to agricultural producers, additional conservation practices were also implemented in the watershed and funded through other local organizations or separate NRCS programs.

Conservation Systems Approach

Through MRBI, NRCS and its partners use a “conservation systems approach” to help producers avoid, control and trap nutrients and sediment to address water quality concerns. This is accomplished by optimizing nitrogen and phosphorus efficiency in agricultural fields, minimizing nutrient and water runoff and improving soil health.

Conservation practices installed in the in the Delavan Lake and Jackson Creek watersheds in Walworth County are funded by the Environmental Quality Incentives Program, which provided over \$200,000 in financial assistance.

Environmental Quality Incentives Program Highlights

- \$211,000 obligated over a three year period (2010-2012) in nine projects
- Total contract acreage = 1807.6 acres

Conservation Practices Installed in Delavan Lake and Jackson Creek Watersheds (2010-2012)

Conservation Practice	Unit	Amount	Funding
Cover Crop	acres	299.3	\$9,278
Diversion	feet	3,300.0	\$7,887
Fence	feet	1,932.0	\$2,067
Grade Stabilization Structure	number	1.0	\$3,151
Grassed Waterway	acres	17.3	\$46,043
Lined Waterway or Outlet	feet	30.0	\$780
Mulching	acres	8.2	\$63,059
Nutrient Management	acres	590.1	\$15,000
Prescribed Grazing	acres	7.0	\$1,188
Residue Management - No Till	acres	287.6	\$15,000
Subsurface Drain	feet	5,279.0	\$13,443
Terrace	feet	4,200.0	\$10,500
Underground Outlet	feet	9,013.0	\$24,461
		Total	\$211,858

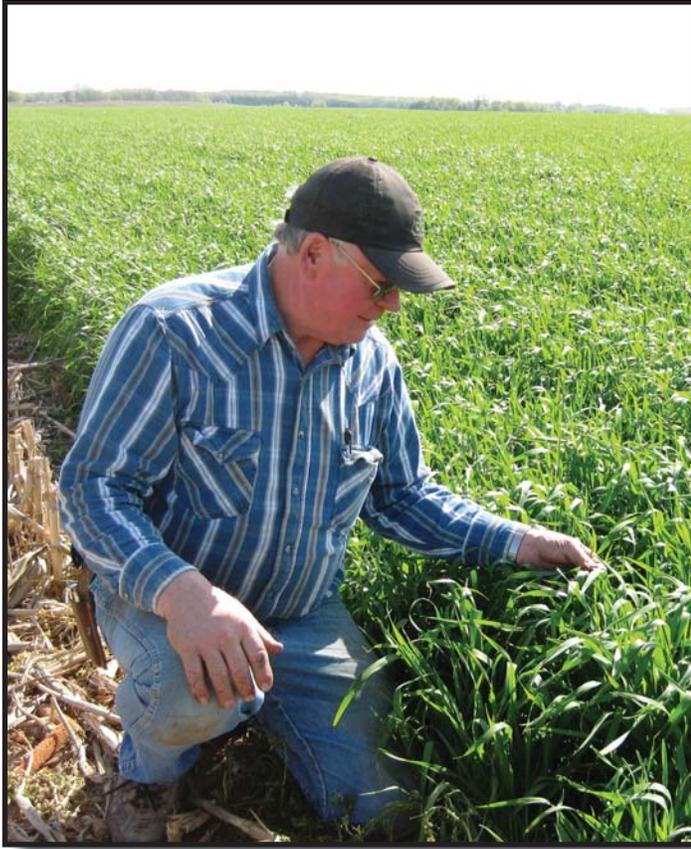


Structural practices such as this grassed waterway and underground outlet capture the runoff from the surrounding fields, preventing erosion and improving water quality.

Nutrient and Sediment Reductions

Watershed	Nitrogen Reduction (lbs/year)	Phosphorus Reduction (lbs/year)	Sediment Reduction (tons/year)
Delavan Lake	1,122.3	402.8	163.3
Jackson Creek	97.4	37.2	30.2
Total	1,219.7	440.0	193.4

The Spreadsheet Tool for the Estimation of Pollutant Load model (STEPL) identifies that 1,220 lbs of Nitrogen, 440 lbs of Phosphorus, and 193 tons of sediment will no longer reach surface waters annually as a result of the implementation of the conservation practices funded through the MRBI project. Studies have shown that as little as one pound of phosphorus can cause 500 pounds of algae growth.



Charles Pearce inspects the cover crops on his farm in the Delavan Lake Watershed.

Conservation Steward - Charles Pearce

Many farmers realize the advantage of protecting water quality and Charles Pearce of C & C Farms LLC is one of them. Charles has lived and worked on his family farm south of Delavan Lake for decades. He and his son Charlie now farm together and look for ways to improve the health of the lands they own. The Pearces place fields that are prone to erosion in hay to keep soils from washing down hill. Because of additional funding available in the Delavan Lake Watershed through MRBI and the Environmental Quality Incentives Program, Pearce planted a cover crop on several of his fields to help reduce soil erosion. "If we get a hard rain in the spring the soil stays where it is," says Pearce. After the cover crop is removed, corn or soybeans are planted directly in the ground without tilling the soil. The roots of the cover crop continue to hold on to the soil, and residue left behind from harvesting helps hold soil in its place as well.

For more information contact your local NRCS office at the nearest USDA Service Center or www.nrcs.usda.gov



Conservation practices implemented in the watershed will improve the water quality of Delavan Lake. Surface waters from Jackson Creek drain into the lake, and lake outflows join a tributary of the Rock River. All this water eventually ends up in the mighty Mississippi River.

The USDA is an equal opportunity provider and employer.