



# 2014 ANNUAL REPORT



## 2014 MFCRWD PROJECT OF THE YEAR

*The* Middle Fork Crow River Watershed District (MFCRWD) Board of Managers has instituted a program designed to confer special recognition upon those individuals and groups who have demonstrated a desire and willingness to protect and improve local water resources.

The Board of Managers unanimously selected the Koch River Revetment as the 2014 MFCRWD Project of the Year. The Koch project is an excellent example of reinforcing an eroding riverbank by using a natural buffer made from cedar trees. More than 300 ft of Mr. Koch's riverfront property was preserved, while eliminating 24.75 tons of soil/sediment runoff into the Crow River. In addition, an estimated 21.04 lbs. of phosphorus will be kept out of the water due to Mr. Koch's stabilization project. Over the next few years, the District will monitor and report on the effectiveness of the cedar trees. With proper management and care, the Koch project will not need replacement until 2030 at the earliest. The Middle Fork Crow River Watershed District hopes to significantly increase the number of streambank stabilization projects in the future.

Congratulations to Mr. Koch for being awarded the 2014 MFCRWD Project of the Year!

*"The mission of the  
Middle Fork Crow River  
Watershed District  
is to protect and preserve water  
quality in the watershed."*



PROJECT SITE AFTER INSTALLATION

**COST-SHARE  
ELIGIBLE  
AGRICULTURE  
BEST  
MANAGEMENT  
PRACTICES:**

- conservation buffers
  - wetland restorations
  - nutrient management plans
  - riparian tree plantings
  - alternative tile intakes
  - ditch bank side inlets
  - controlled drainage
  - feedlot upgrades
  - sediment basins
  - animal exclusions
  - stream bank stabilizations/restorations
- \* projects not listed may also qualify for incentives

**CONTACT US TO  
LEARN MORE  
ABOUT OUR  
COST-SHARE  
PROGRAMS:**

**MFCRWD  
189 County Rd. 8 NE  
Spicer, MN 56288**

**320-796-0888**

**Web: [www.mfcrow.org](http://www.mfcrow.org)**

# RIVER STABILIZATION PROJECT

In 2014, the Middle Fork Crow River Watershed District worked with Charlie Koch in revamping a bend in the Middle Fork Crow River. Mr. Koch was losing an estimated 24.75 tons of soil at a rate of approximately 15 feet of property each year.

## practice

Riverbank Revetment is a stabilization practice used by many organizations. Revetments are used to hold the river in desired alignment by stabilizing the banks. The revetment used on Mr. Koch's property was reinforced with a natural buffer and anchored directly to the bank. Cedar trees were used for this project because their chemical composition makes them slow to deteriorate, even in water.



**BEFORE**

## benefits

Revetment projects, like the one installed on Mr. Koch's farm, are relatively inexpensive and require very minimal maintenance over the project's lifetime. Amazingly, the Koch Revetment project cost a mere \$46.72 per ton of soil sediment prevented. It is not uncommon for projects to exceed \$1,000 per ton of soil sediment prevented, so MFCRWD is proud of the efficiency and benefit Mr. Koch's revetment project will provide for years to come.



**BEFORE**



**AFTER**

## longevity

Generally revetment projects last around 15 years. However, the longest standing projects in the state are currently surpassing 18 years. It is the goal of MFCRWD to help Mr. Koch's project reach, and hopefully exceed, the 15-year mark.

# DIAMOND LAKE TMDL RECOMMENDATION IMPLEMENTATION

## HUBBARD, SCHULTZ, AND WHEELER CHAIN OF LAKES PROJECT

The approved Total Maximum Daily Load (TMDL)\* study for Diamond Lake recommended a project to improve the water quality in the Hubbard, Schultz, and Wheeler Lake chain. An estimated 74% and 83% of the total phosphorus entering Diamond Lake from surface runoff in 2008 and 2009, respectively, came from the chain of lakes. \*TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards.

In 2011, Ducks Unlimited partnered with the Middle Fork Crow River Watershed District and the Diamond Lake Area Recreational Association to investigate the feasibility of actively managing water levels on the Hubbard, Schultz, and Wheeler chain of lakes to enhance their condition. Much of this feasibility work was completed with funding from Minnesota's Outdoor

Heritage Fund as recommended by the Lessard-Sams Outdoor Heritage Council.

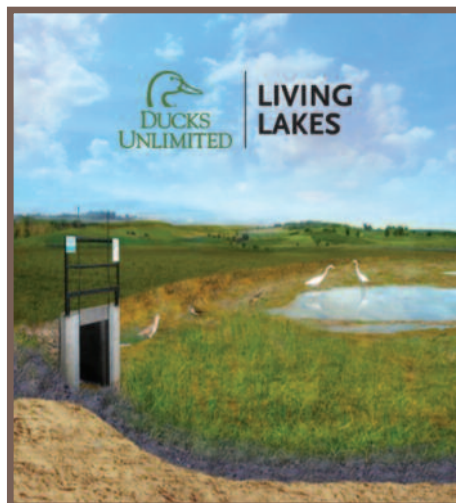


The Ducks Unlimited 2012 Feasibility Report details the viability of a Management Plan for the combined purposes of improving wildlife habitat and water quality.

The project is envisioned as a cooperative action of the MFCRWD, Minnesota Department

of Natural Resources, and Ducks Unlimited for the construction, operation and maintenance of water control structures to allow for temporary draw-down of the lake chain. Through temporary water level draw-downs, basin sediments are exposed, consolidated, and aerated to allow rooted aquatic plants to germinate from natural seed banks that absorb nutrients and help anchor bottom sediments. Through active water level management, shallow lakes can be managed to persist in a clear water healthy condition, whereas deteriorated, turbid water conditions provides little benefit. Just as fire maintains the health of native prairies, we know through science that shallow lakes and wetlands require periods of low water or droughts to stay healthy, productive, and beneficial for water quality, waterfowl, wildlife species, and humans as well. High stable water levels, excessive nutrient inflows, invasive fish, and the lack of natural fish winterkill have led to the loss of aquatic vegetation and invertebrate populations, both of which are key elements to a healthy shallow lake system. Essential to improving the overall health of these lakes is our ability to actively manage water levels.

Moving forward, Ducks Unlimited and the Minnesota Department of Natural Resources will continue working with the Middle Fork Crow River Watershed District, the Diamond Lake Area Recreational Association, and other partners to develop a comprehensive management plan for the entire lake system.

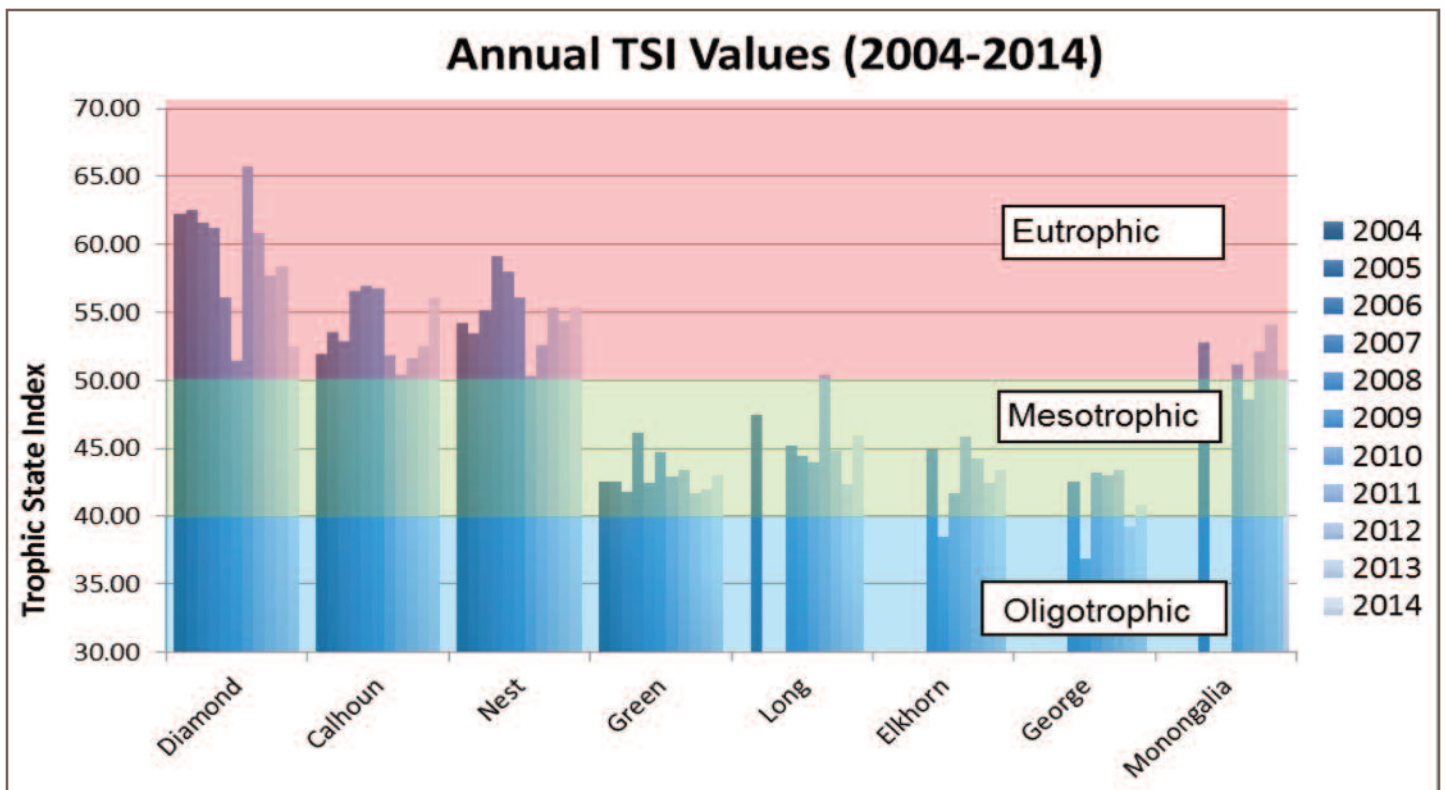


# WATER QUALITY MONITORING

District volunteers and staff collected nearly 200 water samples in 2014. Each sample was packed with ice and sent to a Minnesota Pollution Control Agency certified lab for analysis. In addition to chemical analysis, volunteers measured water clarity with a Secchi disk or tube, and determined physical appearance and recreational suitability of the water. Monitoring water quality within the District is essential for assessing trends over time and for targeting restoration or protection projects.

Five stream sites and eight lake sites were regularly monitored in 2014. Lab analyses were performed for the following water

quality parameters: Total Phosphorus, Total Suspended Solids, Chlorophyll-a, and Total Kjeldahl Nitrogen. To rank a lake's biological productivity Trophic State Index (TSI) analysis may be used. TSI utilizes Secchi depth and water chemistry (Total Phosphorus, Total Nitrogen, and Chlorophyll-a) to classify lakes into categories of either oligotrophic (low algal productivity), mesotrophic (moderate algal productivity), or eutrophic (high algal productivity). Below is a graph of the TSI values for each of the eight major recreational lakes within the District. Visit the District website and click 'Resources' to view the full 2014 Monitoring Report and past monitoring reports.



**TSI 30-40 Oligotrophic** – clear water, hypolimnion oxygenated throughout the year (except in shallow lakes)

**TSI 40-50 Mesotrophic** – Water moderately clear, but anoxia becoming more likely in hypolimnion during the summer

**TSI 50-70 Eutrophic** - Decreased transparency, anoxic hypolimnia during the summer, dominance of blue-green algae, algal scums probable, extensive aquatic plant problems possible.



**THANK YOU VOLUNTEERS!**

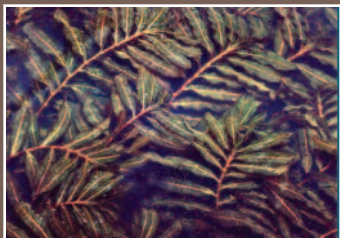
Gordy Behm  
 Robert and Susan Dice  
 Bob Hodapp ◊ Kyle Knudsen  
 Randy and Mary Jo Patton  
 Ed and Mary Rhude  
 Ruth Schaefer and Lee Thompson  
 Graden West ◊ Bruce Wing



## ZEBRA MUSSELS

Zebra mussels are small bivalve mollusks with alternating black and white stripes. Native to the Black and Caspian Seas of Eastern Europe and Western Asia, Zebra Mussels were likely introduced to Lake Superior in the late 1980's via the ballast tanks of shipping vessels. Like many invasive species, a zebra mussel's ability to reproduce rapidly contributes to their success. As zebra mussel populations increase, less food is available for fish and other wildlife. Zebra mussels can affect water quality by altering nutrient cycling and decreasing dissolved oxygen (Arnott and Vanni 1996, James and others 1997, Heath and others 1995, Johengen and others 1995).

In 2014, The Minnesota DNR list of infested waters contained 202 zebra mussel infested lakes and rivers. Sixty-four new infestations in Minnesota increased the number of infested waters during the 2014 open water season. When zebra mussels are introduced to a lake, all lakes within that particular watershed are at risk.



2014 AREA INTERNS

## AQUATIC INVASIVE SPECIES

The District has worked diligently with stakeholders and agency partners to establish an annual aquatic invasive species (AIS) education and inspection program. The District has also worked with lake associations to manage aquatic invasive plants via mechanical harvesting and herbicidal treatment. In 2014, the partners hired seven watercraft inspectors to help educate lake-users how to reduce the spread of invasive species. Watercraft Inspectors are trained by the Department of Natural Resources, and upon completion of their training have the authority to deny access to a waterbody if aquatic invasive species are found. Watercraft Inspectors do not have the ability to issue citations and are only allowed to inspect watercraft and water-related equipment for AIS. In 2014, MFCRWD AIS inspectors performed 5,519 watercraft inspections on District lakes. Each interaction provided an opportunity for lake-users to learn about the impacts and spread of aquatic invasive species. To date, 7,851 watercraft inspections have been performed by MFCRWD staff since the formation of the program in 2011.



If you plan to transport your watercraft or related-equipment between infested and non-infested lakes, make sure to decontaminate your watercraft with high-pressure hot water (>160°F) and be sure it is adequately drained. Zebra mussel larvae (veligers) float in the water column and are microscopic, while Eurasian watermilfoil can be spread by a single stem fragment. The District will continue to work and seek new opportunities to reduce the risk of a watershed-wide infestation of zebra mussels and other aquatic invasive species. Learn more about aquatic and terrestrial invasive species on the Minnesota Department of Natural Resources' website or the Watershed District website.

# 2014 FINANCIAL REPORT

## SUMMARY OF REVENUES

### Revenues

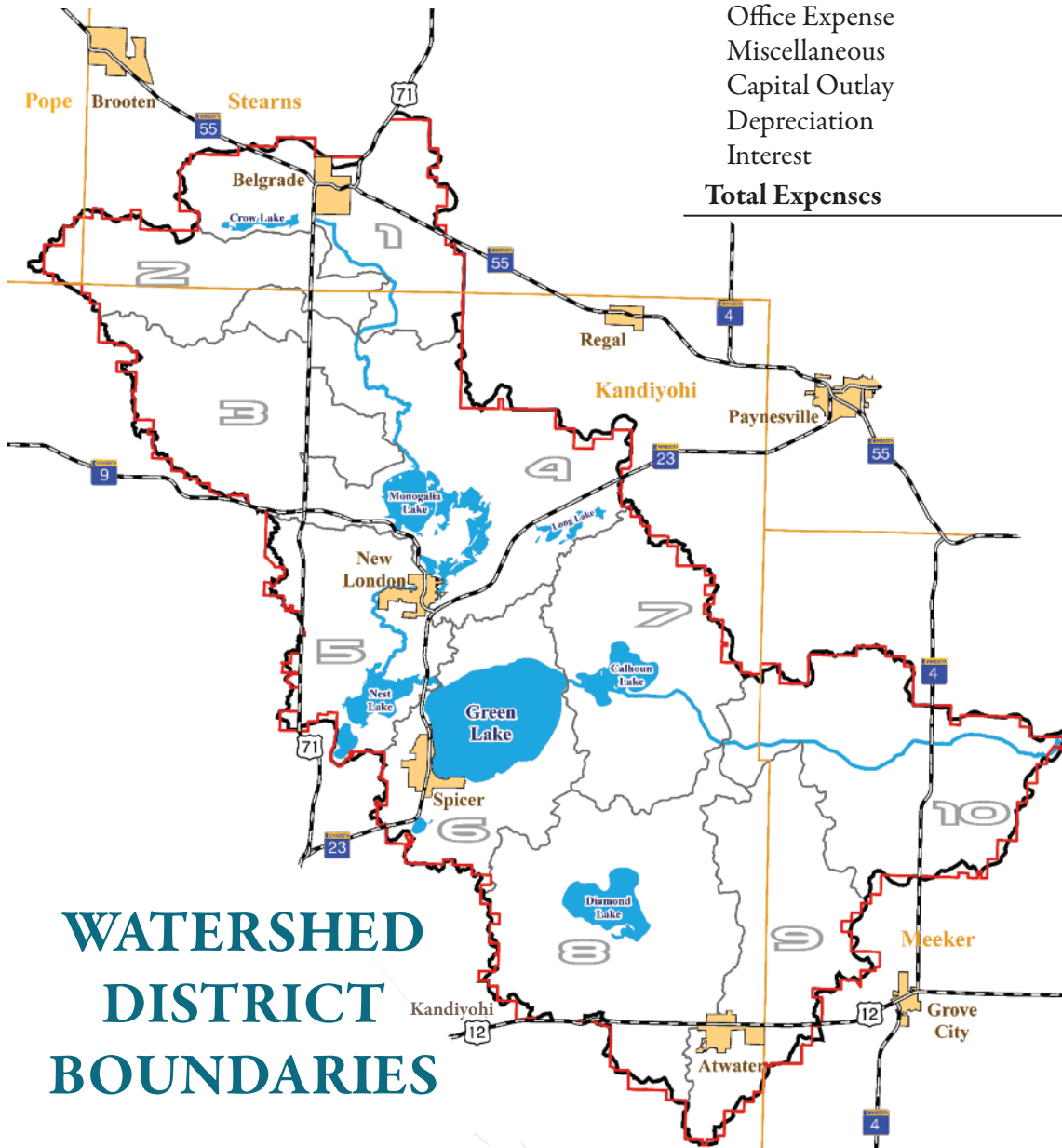
Grants	\$401,722
Clean Water Fund	\$66,606
General Fund	\$252,500
Special Assessments	\$56,738
State Aid	\$1,395
Interest Income	\$1,530
Miscellaneous	\$23,409
Rules	\$1,260
<b>Total Revenues</b>	<b>\$805,160</b>
Net Position - January 1, 2014	\$459,316
Net Position - December 31, 2014	\$605,341

The complete audit report is available at the Middle Fork Crow River Watershed District Office.

## SUMMARY OF EXPENSES

### Expenditures

Meetings	\$27,334
Contract Labor	\$200,844
Administrative	\$5,166
BMP Implementation Expenses	\$178,323
Professional Expenses	\$25,025
Employee Benefits	\$8,584
Dues	\$3,025
Insurance	\$6,137
Payroll Expenses	\$127,283
Payroll Tax Expenses	\$9,407
Utilities	\$8,038
Monitoring	\$6,718
Public Education	\$5,345
Office Expense	\$2,765
Miscellaneous	\$4,443
Capital Outlay	\$3,965
Depreciation	\$19,758
Interest	\$16,975
<b>Total Expenses</b>	<b>\$659,135</b>



## WATERSHED DISTRICT BOUNDARIES

# GRANTS

The MFCRWD continues monitoring, education, and implementation projects with grants expended in 2014. A summary of our 2014 grants and contract agreements follows:

■ **Aquatic Invasive Species Watercraft Inspection Program DNR grant:** This grant allowed the District to hire two interns to inspect watercraft for AIS on area lakes. \$4,000 was spent May 2014—September 2014.

■ **Drainage Water Quality Improvement Project:** This grant provides \$43,505 to implement agricultural BMPs including two large woodchip bioreactors and five rock inlets. It runs through December 2015.

■ **Green Lake Stormwater Quality Improvement Project:** This grant provides \$252,125 to implement stormwater infrastructure around Green Lake to address increased runoff velocities and volumes associated with a higher percent of impervious surfaces. It runs through December 2015.



■ **Middle Fork Crow Watershed Restoration Loan Program:** This allows the District to provide financial assistance to District residents interested in septic upgrades as well as BMPs through low interest loans. \$150,000 is available through October 2014.

■ **Middle Fork Crow Watershed Restoration Enhancement Project:** This grant provided \$350,000 to improve and preserve water quality through implementing best management practices and education programs which engaged citizens in active resource management. This grant concluded June 2014.

■ **Middle Fork Crow Watershed Resource Investigation:** This grant provides \$75,450 for education, civic engagement, monitoring, and analysis to improve the effectiveness of limited implementation funding for Best Management Practices. It runs through June 2016.

■ **Shoreland and Streambank Restoration/Stabilization Program:** This grant provides \$120,000 to implement shoreline/streambank stabilization projects, a rain-barrel program, and water quality education efforts. It runs through December 2015.

■ **Shoreline Enhancement and Stabilization DNR Block Grant:** This grant provides \$50,000 in grant funds to create a workshop focusing on the benefits of natural shorelines and to implement shoreline restorations. This grant was complete in June 2014.





PO Box 8  
Spicer, MN 56288

# MIDDLE FORK WELCOMES

The Middle Fork Crow River Watershed District is pleased to announce a new member to the staff. Laura began January 5th, 2015.



*Laura* accepted an offer to serve as Watershed Technician. She will lead efforts in project management, outreach and education, and assist with water quality monitoring. She is a graduate of Bemidji State University where she obtained a Bachelor of Science degree in Biology with minors in Environmental Studies and Wetland Ecology.



# BOARD OF MANAGERS



(Left to right)

Vice Chair:	Bruce Wing, Stearns County
Secretary:	Ruth Schaefer, Kandiyohi County
Treasurer:	Gordy Behm, Kandiyohi County
Chair:	Robert Hodapp, Kandiyohi County
Vice Treasurer:	Joe Flanders, Meeker County

**Regular Board Meetings:  
First Tuesday of the Month at 7 p.m.**

*10<sup>th</sup> Year Anniversary Open House*

Tuesday, June 2 • District Office • 5 - 7pm