



2011 Annual Report

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Watershed District of the Year!

At the 2011 Minnesota Association of Watershed Districts Annual Conference, the Middle Fork Crow River Watershed District (MFCRWD) was named Watershed District of the Year! The award has been given by the DNR's Division of Ecological and Water Resources for 23 years. DNR area hydrologist Ethan Jenzen submitted the nomination for the award. Jenzen pointed to the District's continual commitment to the protection of valuable water resources; this commitment is made evident by the projects installed, the monitoring conducted, and the relationships that continue to be established with local landowners and other agencies. These efforts protect and improve water quality in the lakes and rivers that we all love. District Staff and Board would like to thank Mr. Jenzen and the extensive list of partners and residents who have aided us in completing numerous successful programs and projects since our inception in 2005.



Best Management Practices

To accomplish our mission of protecting and preserving water quality throughout the watershed, the MFCRWD offers technical and financial assistance to landowners and municipalities for the installation of best management practices (BMPs). BMPs improve and protect water quality, act as erosion control, and can improve land productivity.



Before

the District has been working on since the completion of our watershed management plan in 2007. With the implementation of all our BMP projects to date, the amount of sediment entering surface waters has been reduced by nearly 160 tons per year and the amount of phosphorus by nearly 190 pounds per year. As one pound of phosphorus can lead to 500 pounds of

The MFCRWD was busy in 2011 installing great projects in the watershed. Urban stormwater projects were installed in two cities along with seven shoreline and stream restoration projects. The implementation of these projects reduces the amount of sediment entering surface waters by 17 tons per year and the amount of phosphorus by 33 pounds per year. Collaborating with landowners and municipalities to implement effective projects is a task



After

Best Management Practices - Continued

(Continued from page 1)

algae growth in a lake or stream, the reduction in phosphorus from our BMPs means the prevention of **95,000**



pounds of algal growth in local surface waters every year!

In 2011 we had the opportunity to work with the cities of Belgrade and New London to install urban stormwater BMPs. For more than two years we worked with the City of Belgrade, Crow River Organization of Water (CROW), Stearns County Soil

and Water Conservation District (SWCD), Stearns and Kandiyohi Ditch Authorities, and MNDOT to design a project that would mitigate the flooding that occurs in and around the intersection of highways 71 and 55, while improving water quality in the important headwaters region of the watershed.

In the City of New London, we helped fund three hydrodynamic separators. Stormwater runoff is typically high in sediment and phosphorus. The chambers capture much of the pollution found in stormwater before it can reach the receiving surface waters. These two projects are shining examples of collaboration with multiple agencies to solve problems and protect our priceless water resources.

To prevent erosion from occurring to the banks of our lakes and streams, the MFCRWD assisted in restoring about 550 linear feet of shoreline on Nest, George, and Diamond lakes. An additional 300 linear feet of streambank in the

Diamond Lake watershed was also restored. These projects not only stabilize the shoreline and protect against



erosion, but also provide vital habitat for little critters that are so vital for our lakes and streams.

We frequently cooperate with our local partners, such as the CROW, local SWCDs, DNR, cities and lake associations to assist landowners with the installation of BMPs.

Implementation of BMP projects can be cost shared through a federal 319 grant and a state Clean Water Partnership program grant. Both grants are administered through the Minnesota Pollution Control Agency (MPCA).

The MFCRWD is always looking for new BMP projects to fund. Examples include wetland restorations, buffer strips, sediment blocks, manure management, raingardens, shoreland restorations, and many more. If you are interested in implementing a BMP project, please contact us.

Agricultural Incentives Program

In an effort to promote acceptance of best management practices (BMPs) on agricultural land, the Middle Fork Crow River Watershed District Board of Managers adopted a policy of providing financial incentives to agricultural producers for the implementation of agricultural BMPs that improve water quality. Projects that may be eligible for incentives include conservation buffers, wetland restorations, controlled drainage, feedlot upgrades, alternative tile intakes, ditch bank side inlets, sediment basins, nutrient management plans, riparian tree plantings, and streambank stabilization/restoration. Projects not listed may also qualify for incentives; please contact the District office with any questions.

This program was designed to work with existing federal, state, and county programs so that producers may be eligible for incentives from multiple programs. The cost-share or incentive payments provided may be from grants, the District's general fund, or a combination of funding sources. Funding is dictated by the availability of grant and general funds and is at the sole discretion of the MFCRWD Board of Managers. Incentives must be approved by the Board prior to project implementation. A list of projects, descriptions, and incentive options is available at the District office.



Education

Because today's students will soon be tomorrow's decision makers, the MFCRWD Board and staff feels it is imperative to help students develop an understanding of the relationships between land use and its impacts on water quality. To this end, the MFCRWD launched an education campaign in 2009 called STREAM (Student-Targeted Resource Education, Awareness, and Management). This program is a great opportunity for District staff and area teachers to team up on important education topics such as: water and watershed basics, erosion, non-point source and point-source pollution, stormwater, cumulative effects, water chemistry, and aquatic biology, among others.

In the three school years that District staff have been working with area teachers, our partnerships with the schools have grown. One of the reasons this collaboration has been so successful is that the activities are designed to fit with and enhance existing curricula, rather than requesting teachers to take time away from required topics. Fun and engaging lessons allow students to enjoy the program while learning very important concepts of water quality.

In 2011, the STREAM program educated over 700 students from the BBE, NL-S, and ACGC school districts on how their actions can impact our watershed.



These lessons were funded in part through the MPCA's Clean Water Partnership program. Some activities are carried out with the North Fork Crow River WD.

We look forward to another great year of learning and discovering with students in our STREAM program in 2012. The staff enjoys the opportunity to watch the "light bulb turn on" during the different education activities. We hope that these collective light bulbs will lead to a brighter tomorrow!

Outreach

In 2011, the District made a concerted effort to 'get the word out' on the many great activities we undertake. In addition to more regular communication with local newspapers, local leaders, and legislators, we were involved in many community activities. Some of the events included the Crow River Organization of Water's Clean Up the Crow River event, the West Central Ag Show in Willmar, the Earth Day celebration at Prairie Woods Environmental Learning Center, and our annual open house. All of these events were very well attended with a positive response from attendees. Additional highlights:

Our Citizen Advisory Committee (CAC) has offered very productive feedback on projects and programs, many of which have led to positive changes and great new experiences for the Watershed District.

This fall we teamed up with the Freshwater Society to organize a Community Cleanup day in Belgrade and New London. The goal of the event was to reduce phosphorus loading into lakes and rivers by removing leaves and yard debris from city streets. A great effort by many volunteers resulted in 47 bags of leaves being collected in Belgrade and 20 bags in New London. These efforts prevent an estimated 13 pounds of phosphorus from reaching surface waters and prevent approximately 6,500 pounds of algae from growing in our lakes and rivers. We hope to expand these efforts to additional communities in 2012.

Development on shoreland property has a direct impact on water quality in lakes. The District encourages shoreland property owners to reduce their footprint by restoring their shoreline with native plants. To assist shoreland owners with this concept, we held a Healthy Shorelines for Healthy Lakes workshop. The workshop was a success and resulted in at least one new shoreland restoration project.

For five years, the MFCRWD has contributed to the Gary and Cindy Westby internship. The internship is a great opportunity for a New London-Spicer high school student or alumni to gain experience in the field of natural resources management. The intern receives hands-on training with the Department of Natural Resources, Kandiyohi Soil and Water Conservation District, Shakopee Creek Headwaters Project, and the MFCRWD. For many students, this experience has directly led to job opportunities.



Monitoring

As in previous years, the MFCRWD conducted thorough monitoring throughout the watershed in 2011. Our Volunteer Monitoring Program was instrumental in these efforts, the results of which are used to evaluate water quality trends and guide water quality improvement projects.

With the help of 13 volunteers, water quality samples were collected and analyzed at 8 lake sites and 12 stream sites.

Lake volunteers collected 65 chemistry samples, along with secchi disk readings and water temperature on Calhoun, Diamond, George, Green, Long, and Nest lakes. Stream volunteers collected 29 chemistry samples, along with transparency tube readings, water temperature, and stream stage information at four stream sites. Precipitation data was also recorded by volunteers throughout the watershed.

Lake monitoring results are shown in the chart below.

Watershed District staff collect chemistry samples and water quality data on Elkhorn and Monongalia lakes and flow, chemistry samples, and water quality data at 7 stream sites.

Funding for our volunteer monitoring program was provided through the MN Pollution Control Agency's Clean Water Partnership Continuation grant as well as from area lake associations.

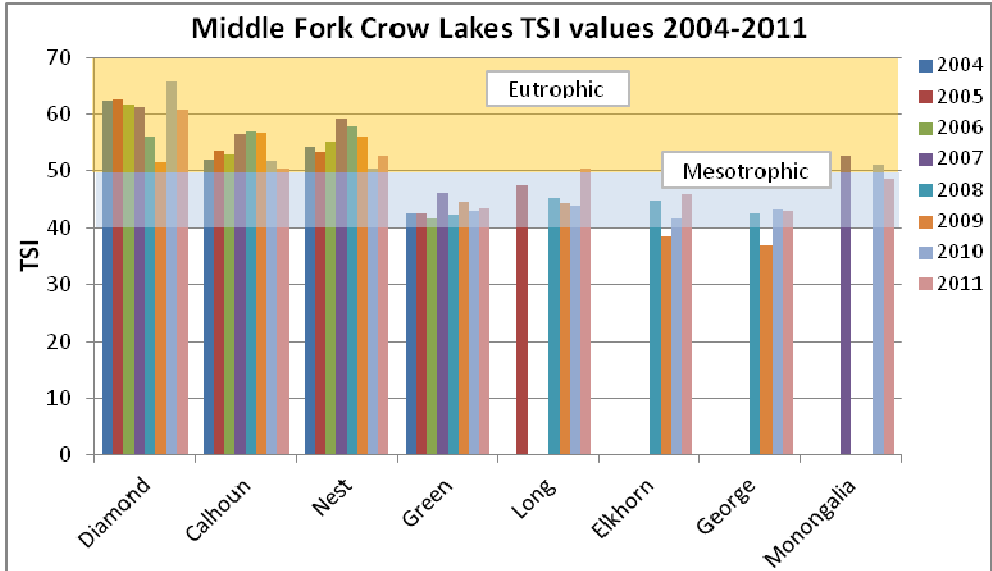
Our sincere appreciation goes out to our 2011 volunteers: Gordy Behm, Bob Dice, Bob Hodapp, Kyle Knudsen, Riley and Jill Nelson, Randy and Mary Jo Patton, LuAnn Rudningen, Ruth Schaefer, Val Sechler, Lee Thompson, and Graden West. You helped make 2011 another successful monitoring season!

Trophic Status Index (TSI) What does it mean?

Mesotrophic (40-50): Water moderately clear; increasing probability of no oxygen in the lowest levels during summer.

Eutrophic (50-70): Decreased transparency, lack of oxygen in lower levels during the summer, weed problems evident, warm-water fisheries only.

Hypereutrophic (70+): Dominance of blue-green algae, algal scums probable, extensive weed problems. Heavy algal blooms possible throughout the summer.



Diamond Lake Total Maximum Daily Load Study

Diamond Lake was the subject of a comprehensive total maximum daily load (TMDL) study to address a water quality impairment for excess phosphorus, from 2008-2011. A public comment period for the completed TMDL was open in June, with the final of several public meetings taking place on June 30th. The TMDL report was approved by the Minnesota Pollution Control Agency and the US Environmental Protection Agency on September 21st.

The major focus of the TMDL is the implementation plan which includes a framework and general load reduction strategies to reduce the amount of phosphorus entering Diamond Lake. Seven strategies are included in the framework: watershed (external) sources, subsurface sewage treatment systems, chain of lakes management (see p.5), agricultural conservation practices, lakeshore and urban best management practices, internal (in-lake) sources, and public information and education. Next steps will include procuring funding to install projects outlined in the implementation plan.



Nest Lake Aquatic Plant Management Program

In 2010, the Nest Lake Improvement Association (NLIA) presented the MFCRWD Board of Managers with a petition requesting assistance to form an aggressive curly leaf pondweed management program. As part of the petition process, an engineer's report was completed in 2010. The engineer's report presents various treatment options and their anticipated costs. Representatives of NLIA chose to follow a combination of herbicide treatment and mechanical harvesting as the preferred option.

The next step of the petition process was to appoint viewers to determine the benefits and damages to properties affected by the aquatic plant management program. A team of three viewers appointed by the MFCRWD Board studied the affected properties and determined individual benefits and damages. The viewers determined that the project would improve access to the lake and water quality, and that the impact of managing the curly leaf pondweed will provide a similar improved value to all properties having lakeshore



Herbicide is applied in 2010 to treat curly leaf pondweed.



Photo credit: NLIA website

frontage, with some benefits being provided to second tier properties as well.

A final public hearing was held in September for all affected property owners. After hearing the support and concerns of the property owners, the MFCRWD Board voted to officially establish the Nest Lake Aquatic Plant Management Program in October, 2011.

Funding for the management activities will be collected via a special assessment based on the benefits determined by the viewer's report. The special assessment will be collected for the first time with 2012 property tax assessments.

Diamond Lake Chain of Lakes Feasibility Study

In 2011, the District continued its relationship with Ducks Unlimited on a proposed project with the ultimate goal of improving water quality in the chain of shallow lakes that flows into Diamond Lake. Schultz, Wheeler, and Hubbard lakes comprise the main inlet to Diamond Lake. The chain is characterized by high levels of phosphorus, large populations of rough fish, frequent algal blooms, low clarity, and little native rooted vegetation. The proposed project would temporarily draw down lake levels in the chain in an effort to consolidate phosphorus and suspended sediments, kill rough fish, and promote the establishment of native vegetation. Improved water quality in the shallow lakes would have a direct impact on Diamond Lake as well.

Ducks Unlimited worked throughout 2011 to complete aspects of a feasibility study for the project that will determine the alternatives, costs, and likelihood of success of the proposed drawdown. Chemistry samples were collected on the shallow lakes and surveying was completed to determine possible locations for the structures

that would be needed to draw down water levels. The feasibility study is expected to be completed during the latter half of 2012.



New Grants



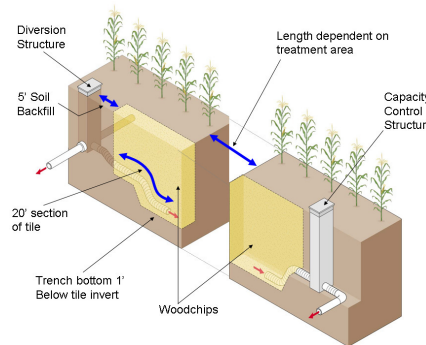
More great news came to the District just after learning we were awarded Watershed District of the Year; three grant proposals to the Board of Water and Soil Resources were awarded funding. Funds for the grants are provided by the Clean Water Land and Legacy Amendment money that was passed by Minnesota voters in 2008.

Green Lake Stormwater Quality Improvement Project:

Development and increased impervious surface coverage around Green Lake contribute increased stormwater runoff that is very high in nutrients and sediment. The Green Lake Stormwater Quality Improvement Project is designed to provide retrofitted solutions to the water quality and water volume issues that are threatening the lake. Five activities will be alleviate the water quality and volume problem: daylighting of a newly developed riffle and pool lined channel, a raingarden/biofiltration program to accompany the channel, a parking lot retrofit designed to treat first flush pollutants, a biofiltration cell and hydrodynamic separator to enhance a previously installed best management practice (BMP), and the stabilization of a heavily eroded channel due to stormwater influences. These projects are of critical importance to reduce excess sediment and nutrient loading and prevent water quality degradation to this great resource.

Drainage Water Quality Improvement in the Middle Fork Crow Watershed:

Excess nitrogen and phosphorus has proven to be of great concern to water quality, in Minnesota water bodies and beyond. One of the sources of excess nutrients continues to be from agricultural runoff. The MFCRWD has made a concerted effort to establish productive, cooperative relationships with the agricultural community to implement water quality improvement projects. This grant allows us to build on the slowly growing repertoire of District-installed



Design by Richard Cooke, University of Illinois

agricultural BMPs. Four woodchip bioreactors totaling more than 500 linear feet will be installed as retrofits to existing tile systems. The bioreactors will reduce the levels of nitrogen, phosphorus, and suspended sediment in the tile water before it outlets to nearby surface waters. Five rock inlets will also be installed in place of traditional open tile inlets to significantly reduce the amount of sediment and phosphorus entering subsurface tile systems.

MFCRWD Shoreland and Streambank Restoration/Stabilization Project:

The Shoreland and Streambank Restoration/Stabilization Project will continue District efforts to install highly effective, highly visible, urgent BMPs on water bodies throughout the watershed. Four shoreland restoration/stabilization projects and two streambank stabilization projects will address erosion problems that are impacting bank stability.

In response to interest from watershed residents, another initiative of this grant will provide rain barrels at a reduced cost to city residents and those who live on a lake or the river. The rain barrel program will be coupled with an education program that will provide outreach to citizens about the issues and water quality effects associated with stormwater. Look for more information about the rain barrel and education program to come in the summer of 2012!



New Office Space



More than two years ago the Board of Managers recognized the need for additional office, meeting, and storage space. Since then, they have completed an exhaustive search to identify an appropriate building or buildable lot. The Board is committed to looking into all possibilities to ensure the most appropriate decision is made. The search is winding down and Board and Staff hope to have a building or lot purchased in the upcoming year.



Financial Report

The MFCRWD will sign three new grants in 2012; total value of the grants will be \$415,630. A summary of our grant and contract agreements from 2011 follows:

- Diamond Lake Total Maximum Daily Load study (contract): \$176,215 for the completion of a TMDL study, which led to an MPCA-approved implementation plan for the improvement of water quality in Diamond Lake. The contract expired in June, 2011.
- 319 Stormwater Assessment Grant: \$140,000 in grant funds and \$100,000 for low interest loans. The overall goal of the grant is to reduce the impacts of stormwater runoff by implementing a variety of stormwater treatment options in the cities of New London and Spicer. The grant was signed in Nov, 2008, and runs through Aug, 2012.
- Conservation Drainage in the Middle Fork Crow River Watershed: This grant provides \$15,600 to study the impacts of controlled drainage systems on nutrient exports. It runs through December, 2012.
- Clean Water Partnership Continuation Grant: This grant provides \$350,000 in grant funds and \$150,000 for low interest loan funds. It allows us to conduct education and outreach programs, water quality monitoring and evaluation, and BMP implementation throughout the entire Middle Fork Crow watershed. The grant runs through June, 2013.
- Clean Water Partnership Eurasian Watermilfoil (EWM)/Stormwater Study: This grant provides \$33,000 in grant funds to study the hypothesized relationship between stormwater inlets and the establishment of EWM stands in Green Lake. It runs through June, 2013.
- Major Watershed Restoration & Protection Project: This contract provides funds for the MFCRWD and project partners to conduct a region-wide TMDL study. The MFCRWD is the fiscal agent for this project, which provides \$300,000 for implementation.

2011 AUDIT

SUMMARY OF REVENUES AND EXPENSES

Revenues

Grants	\$347,526
General fund	\$247,810
State aid	\$15,098
Interest Income	\$7,438
Miscellaneous	\$1,401
Total Revenues	\$619,273

Expenditures

Meetings	\$13,473
Contract labor	\$75,631
Administrative	\$13,210
Grant expenses	\$273,372
Professional expenses	\$19,921
Employee benefits	\$25,670
Dues	\$3,805
Insurance	\$4,084
Payroll expenses	\$132,556
Payroll tax expense	\$10,868
Utilities	\$1,687
Monitoring	\$24,803
Office expense	\$957
Public education	\$4,931
Miscellaneous	\$1,900
Depreciation	\$7,317
Rent	\$7,800

Total Expenses \$621,985

Change in Fund Balance (\$1,353)
 Fund Balance January 1 \$179,390
 Fund Balance December 31 \$178,037

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

Aquatic Invasive Species Intern

With 13,940 acres of water (lakes, rivers, and streams), 42,117 acres of wetlands, and 123 miles of public drainage ditches in the watershed, there is great concern about the rapid spread of numerous aquatic invasive species (AIS) throughout the state. With curly leaf pondweed and Eurasian watermilfoil in several lakes in the watershed, and zebra mussels as close as Alexandria and St. Cloud, it is imperative that everyone work together on education and solutions to reduce the spread of all AIS.

To this end, the MFCRWD hired an intern to inspect watercraft and educate lake users on the new invasive species laws and techniques to reduce the spread of AIS. The intern was able to work 106 hours at 11 public accesses on 7 lakes. We intend to expand the program next year to more lakes and may hire two interns to provide additional hours of coverage.

The Watershed District also partnered with the MN DNR, Green Lake Property Owners, Little Crow Anglers, City of Spicer, and Kandiyohi County to demonstrate the proper decontamination of boats using hot water, high pressure washers just prior to a fishing tournament on Green Lake.





Middle Fork Crow River Watershed District

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Major Watershed Restoration and Protection Project

2011 was a year to continue many projects that had been previously established. This was the case for the Major Watershed Restoration and Protection Project (MWRPP), which is the MPCA’s new approach to completing studies for impaired water bodies in Minnesota. Rather than conducting a study for one water body at a time, the new approach maximizes efficiencies and intensively monitors and assesses lakes and river reaches throughout a watershed at the same time.

Progress in 2011 included water quality modeling by Wenck Associates and Respec. Project partners, MFCRWD, Crow River Organization of Water, and North Fork Crow River Watershed District, began planning for the civic engagement component that will provide stakeholders with the opportunity to provide input for implementation planning.



Coming Up in 2012

District staff are bracing for what promises to be another very busy year. Our exceptionally successful STREAM program will continue to work with hundreds of students in the ACGC, BBE, and NL-S school districts. For our adult residents we plan to host a workshop to promote raingardens and their incredible stormwater treatment capabilities that greatly reduce nutrient and sediment loading from stormwater runoff to surface waters. We will also be a partner in the annual Earth Day celebration to be held at Prairie Woods ELC on Saturday, April 21st.



Spring will jump start both our monitoring efforts to assess water quality throughout the

watershed and the planning and implementation of best management practices to improve and protect water quality. We will initiate activities on our three new grants: Drainage Water Quality Improvement in the Middle Fork Crow Watershed, Green Lake Stormwater Quality Improvement Project, and MFCRWD Shoreland and Streambank Restoration/Stabilization Project. We received a one-year extension on our Conservation Drainage in the Middle Fork Crow River Watershed project that began in 2010. This will allow for an additional year of water quality data collection that will provide a more robust data set to analyze for water quality benefits. The District also plans to remain a strong partner in the fight against the spread of aquatic invasive species (AIS), hiring an intern to provide education to lake users about new regulations aimed to prevent the spread of AIS.