

# Middle Fork Crow River Watershed District

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# 2008 Annual Report

## Diamond Lake TMDL Study

In 2006, Diamond Lake was added to the Minnesota Pollution Control Agency's (MPCA) impaired waters list for excess nutrients, specifically total phosphorus. This means that the amount of nutrients in the lake can cause nuisance algae blooms along with other problems which detract from the lake's designated use of recreation.

In 2008, the Middle Fork Crow River Watershed District (MFCRWD) entered into a contract with the MPCA and retained a consulting firm to carry out a Total Maximum Daily Load (TMDL) study, the goal of which is to identify the sources of the excess nutrients. In order to obtain this information, extensive monitoring began under ice conditions in February and continued through October. Two locations on Diamond Lake were sampled, along with five stream sites. A chain of three shallow lakes (Schultz, Wheeler and Hubbard) which lead into Diamond Lake were also monitored. This extensive monitoring will ensure the accuracy of nutrient loading models, which will be crucial for the TMDL study. Throughout the 2008 monitoring season, a total of 49 samples were collected on 13 separate dates on the lake, and samples were collected four times on each



of the chain of lakes. A total of 33 samples were collected from the five stream sites. In addition to collecting and analyzing water samples, secchi disk/transparency tube readings, temperature, pH, dissolved oxygen, specific conductance, and turbidity information was also collected. Despite the original plans to collect data for one water year, excessively dry conditions throughout the year dictated that a second water year of data collection take place in 2009. The additional data collected in 2009 will ensure a more thorough study with stronger conclusions; sampling will begin again in early spring, 2009.



A public meeting was held in December to present the concept of a TMDL to Diamond Lake residents, provide an update on the current progress of the Diamond Lake TMDL study, and to discuss what the finished study may mean for the area. Upon completion of the TMDL study, the Watershed District will identify best management practices that will help reduce the nutrient loading into the lake, and will work with landowners to implement these practices. The TMDL study is expected to be completed in 2010.

### Presenters/Team

David Anderson, Administrator, Middle Fork Crow River Watershed District  
 Vanessa Gilliden Herjum, Technician, Middle Fork Crow River Watershed District  
 Sara Jacobson, Technician, Middle Fork Crow River Watershed District  
 Mark Deutschman, PhD Consultant, Houston Engineering  
 Maggie Leach, TMDL Coordinator, Minnesota Pollution Control Agency  
 Chuck Johnson, Hydrologist, Minnesota Pollution Control Agency

## Monitoring our Waters

Volunteer monitoring continued in 2008 on Calhoun, Green, Long, Monongalia, and Nest lakes. Monitoring sites were also added on both Elkhorn and George lakes this year. The results of our volunteers' efforts on area lakes are revealed in the chart below.

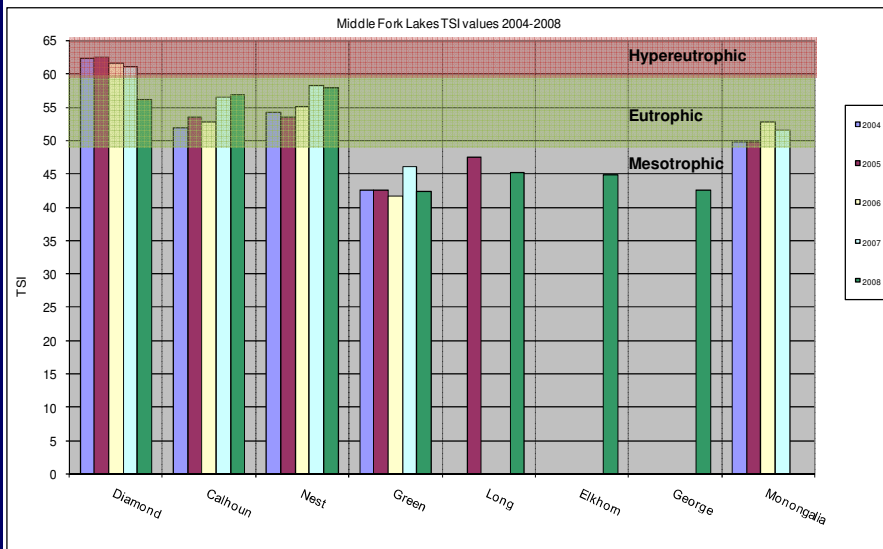
Several sites along streams and in the Middle Fork Crow River were also monitored by volunteers. By examining the water quality data from stream



monitoring sites with the data collected in the lakes, we will be able to develop a better understanding of water quality throughout the watershed. This program will help determine not only where there are

water quality requiring further investigation, but to evaluate water quality trends over time.

Due to the help of our volunteers, the Watershed District will be able to use their data to identify existing or emerging water problems as well as more accurately prepare for future projects. We would like to thank our 2008 volunteers: Allan Gilbertson, LuAnn Glieden, Bill Gossman, Bob Hodapp, Ron Johnson, Ann Latham, Dean Lovold, Harlan and Sherrie Meints, Jill Nelson, Pete Otterness, Ann Rossell, Ruth Schaefer, Dave Schmidt, Mel Wensman, and Graden West.



### Trophic Status Index (TSI) What does it mean?

**Mesotrophic:** Water moderately clear; increasing probability of no oxygen in the lowest levels during summer.

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

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

## Administrative Rules

A process that began in December 2007 was finally completed in December, 2008 when the Board of Managers adopted the Administrative Rules for the Watershed District. All watershed districts are required by Minnesota Chapter Statutes 103D to promulgate administrative rules. The process included bringing in stakeholders such as other regulatory agencies, lake associations, and members of the public early on to identify priority areas and regulatory gaps that should be filled by the Watershed District rules. Multiple meetings were held to present ongoing drafts to the stakeholders and to offer a venue through which to receive comments, suggestions, and questions to continue to guide the rules

to the final draft.

The MFCRWD rules cover three areas of concern: agricultural drainage, erosion and sediment control, and storm water management. The rules are intended to fill in the gaps in existing federal, state, and local regulations and are not intended to duplicate existing regulations. The overall goal of the rules is to improve water quality within the watershed. The complete Administrative rules, permit application, appendices, and guidance documents are available on our website at [www.mfcrow.org](http://www.mfcrow.org). For further details on the adopted rules, please contact the Watershed District office.



## Best Management Practices (BMPs)

The goal of our best management program is to provide incentives for landowners, community groups, units of government and others to improve land management activities to reduce pollution. There are two types of incentives available: cost share funding and State Revolving Fund low interest loans. These programs are often initiated by a landowner inquiry to the MFCRWD office or any of our SWCD, NRCS, or County partners.

Cost share funds are available for eligible projects such as rain gardens, rain barrels, shoreland restorations, feedlot upgrades, erosion controls, and agricultural buffer strips, among others. If a project meets funding criteria, a contract must be drawn up and approved by the District Board of Managers prior to project implementation. Cost share funds may be approved for up to 75% of eligible project costs. These funds are non-repayable grants and cannot be used for septic system upgrades. In 2008, the Watershed District completed 9 BMP projects, including shoreland restorations, raingardens, a stormwater filter strip, and stream channel stabilizations.

The second type of funding for BMPs is State Revolving Fund (SRF) loans. These loans are available for eligible



BMP projects as well as for septic system upgrades. The loans are disbursed with a 3.5% interest rate and are placed as an assessment on the land owner property taxes; loans are repaid when property taxes are paid, over a 7-10 year period. These loans may be used to cover the landowner contribution when receiving cost share funds. The Watershed District completed 5 septic system upgrades in 2008.



## Green Lake Stormwater Inlet Partnership

In September, 2008, the Green Lake Property Owners Association (GLPOA) requested that the City partner with the GLPOA and other entities to address observed relationships between the location of stormwater inlets and the presence of Eurasian Watermilfoil (EWM). The result of this request was the establishment of the Green Lake Inlet Partnership, a collaborative team comprised of members of the GLPOA, Department of Natural Resources, Department of Transportation, Kandiyohi County, City of Spicer, and the

Watershed District. The team met four times from October-December, to discuss different plans to mitigate the nutrient and sediment loading that seems to have an influence on the propagation of EWM. The team will be working in early 2009 on ways to access funds from the clean water amendment in order to implement stormwater best management practices on areas around Green Lake with the greatest potential for impact.



## Education



This year, the MFCRWD worked on expanding our educational efforts across the watershed. In February, we hosted the first two sessions of a three-part workshop on shoreland restoration. The first two

sessions of the workshop taught participants the benefits of restoring shorelands into native vegetation and demonstrated how to implement a shoreland restoration project. For the third part of the workshop, we took the participants outside in June to further demonstrate how to implement shoreland restoration projects. Participants assisted in planting a restoration project on the shores of Diamond Lake and learned along the way the reasons certain types of plants were selected. All participants learned skills and knowledge to take home to their own projects.

The Watershed District teamed up with two teachers from the New London-Spicer schools this year to help bring awareness to 5<sup>th</sup> graders and high school students on water quality. The high school students had the opportunity to conduct hands-on monitoring on the Mill Pond in New London and the 5<sup>th</sup> graders will be learning about macro-invertebrates this spring. This program is still in the early



### Other MFCRWD outreach

We had many other opportunities to contribute to and support our local communities and water resources in 2008. Contributions were made to the Earth Day celebration at Prairie Woods Environmental Learning Center, the Westby internship at New London-Spicer High School, the Green Lake Property Owners Association to conduct a survey on Eurasian Water Milfoil, and to the Diamond Lake Wastewa-

ter Committee to explore a community-based resolution for sewage treatment. The Watershed District is also supporting the Diamond Lake Area Recreation Association in their pursuit of a new carp barrier.

Stages, but the Watershed District and New London-Spicer schools are hopeful that we can work on incorporating this new program into their curriculum.

Volunteer monitoring continued to be an important part of our educational efforts in 2008. We paired up for a second year with the Crow River Organization of Waters (CROW) joint powers board to offer volunteer monitoring workshops in March and April. Participants learned the technical skills needed to conduct water quality monitoring on their local water bodies. Upon completion of the workshop, the participants became the volunteers who assisted the Watershed District and CROW in our monitoring throughout the season. One tool made available to volunteers this year was the

newly designed website, which allowed the volunteers to post their water quality monitoring data. The website was designed in a STORET-friendly format that allowed for the Watershed District and the CROW to more easily



submit data to the State of Minnesota. Finally, interested volunteers also had the opportunity to expand their knowledge on water quality with another workshop held this fall that focused on data interpretation. Participants learned how to organize their data in Microsoft Excel, perform simple statistical analysis, and graph their data for presentations and easy visual interpretation.

The Watershed District also had an opportunity to educate many residents in the watershed about stormwater. Storm drain markers were placed on the curbs adjacent to storm drains and catch basins in Atwater, Belgrade, Spicer, and New London this summer. The markers act as reminders not to allow anything other than stormwater down the storm drains. Articles were submitted to the local newspaper further explaining the project as well as simple actions homeowners and residents can take to keep storm drains clear and ensure that fewer pollutants are reaching our local water bodies through the stormwater.

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## Financial Report

For the most part, Watershed District staff was in 'grant management and implementation mode' during 2008. Two new grant agreements were finalized during the year, while we worked on the implementation of our other grants. A summary of our grant agreements follows:

- 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.

- Minnesota Waters grant: \$5,000 in grant funds to assist the City of Spicer Design Committee on the shoreland restoration of Lion's Park, and public education on the virtues of shoreland restoration via interpretive signs. The grant runs through September, 2009.

- Clean Water Partnership Grant: \$240,000 in grant funds and \$200,000 for low interest loan funds. This grant is for three years and allows us to conduct information and education programs, water quality monitoring and evaluation, and the ability to implement BMP's throughout the entire Middle Fork Crow Watershed. This grant runs until January, 2010.

- Clean Water Legacy Act Implementation Grant: \$194,000 for implementation of Best Management Practices (BMP's) such as improvements in animal agriculture, cropland management and shoreline/riparian activities throughout the entire Middle Fork Crow Watershed. This grant is being implemented in conjunction with the Kandiyohi SWCD. This grant runs until June, 2009.

- Clean Water Legacy Act (CWLA) Surface Water Assessment Grant: \$50,000 grant which was written with the CROW Organization and is for the entire Crow River Watershed (North, Middle and South Forks). This grant has helped us fund most aspects of our volunteer monitoring program; it runs until June, 2009.

## Minnesota Waters Grant

The Watershed District received a \$5000 grant from Minnesota Waters in December 2008. Those funds will go towards a project that was initiated by the Spicer Design Committee. The Committee is working to restore 400 linear feet of shoreline along Green Lake near Lion's Park. Many project partners, including the city of Spicer, Kandiyohi County, MFCRWD, and the DNR, are working together to help make the project more than just a shoreland restoration. A walking path through the restoration and interpretive signs will educate visitors about the virtues of shoreland restorations. Community volunteers will assist with the site preparation as well as the installation of the plantings. The restoration is scheduled to be completed in September.



### 2008 AUDIT

#### SUMMARY OF REVENUES, EXPENSES, AND CHANGES NET ASSETS

##### Revenues

Grants	\$117,331
General fund	\$239,032
State aid	\$17,204
Interest Income	\$11,537
Miscellaneous	\$2,265
<b>Total Revenues</b>	<b>\$387,369</b>

##### Expenditures

Meetings	\$17,087
Contract labor	\$67,611
Administrative	\$8,642
BMP implementation expense	\$18,831
Professional expenses	\$34,732
Employee benefits	\$14,725
Dues	\$3,476
Insurance	\$3,823
Payroll expenses	\$100,255
Payroll tax expense	\$10,590
Utilities	\$3,013
Monitoring	\$32,418
Leased equipment	\$2,845
Office expense	\$3,599
Public education	\$6,939
Depreciation	\$4,740
Rent	\$7,200
<b>Total Expenses</b>	<b>\$340,526</b>

<b>Change in Fund Balance</b>	<b>\$46,843</b>
Fund Balance January 1	\$270,043
Fund Balance December 31	\$316,886

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



## Middle Fork Crow River Watershed District

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

## Belgrade Stormwater Investigation

For years, the City of Belgrade has been dealing with flooding in and around the intersection of highways 55 and 71. The City has felt for years that the flooding is unsightly and dangerous, and would like to eliminate the problem by improving water conveyance. However, rather than running a pipe directly from the affected areas and into the river with no treatment of the stormwater, the City and the Watershed District feel that a different approach is necessary in this important headwater area of the Middle Fork Crow River. Taking advantage of the sandy soils in the area and giving stormwater the chance to filter out the nutrients, grass clippings, leaves, trash, oil, pet waste, sand and road salt that often comprise stormwater runoff, will ultimately have a more positive impact on the river's water quality. To this end, the City of Belgrade requested that the MFCRWD fund a feasibility study which will examine various solutions to mitigate the flooding while providing pre-treatment of the stormwater.



## Coming up in 2009

Beginning with the spring snow melt, we will continue extensive monitoring for our Diamond Lake TMDL study. We will also continue monitoring of our lakes and streams, working with volunteer monitors as much as possible. Educational programs will continue to be offered throughout the year. Keep an eye on the website for more information. The Volunteer Monitoring and Clean Water Legacy Act grants will be wrap ping up at the

end of June. The Belgrade stormwater feasibility study will be completed in the spring, and the District will work with the city to explore possible project options. Thorough monitoring of the stormwater in Spicer and New London will begin with snowmelt and will continue throughout the year under the 319 Stormwater Assessment Grant. Plans are also being made to include the rest of Green Lake in the stormwater mitigation efforts.

## Watershed Staffing Changes

At the beginning of 2008, the Watershed District hired Chad Anderson to replace Julie Klocker as the new Administrator. Chad holds a Master's of Science degree in Water Resources Science from the University of Minnesota. He brings extensive water quality monitoring experience from previous work with the United States Geological Survey in Minnesota and Georgia, and biological monitoring with the Minnesota Pollution Control Agency. He has worked in natural resources management, with environmental education, and with community disaster preparedness with the United States Peace Corps and with Northwest Youth Corps, and he has extensive project management experience with Chemonics International Inc. Chad is thrilled to be back in his native Minnesota, working with the Watershed District.

Sara Jacobson was hired as the summer intern in June and was offered an extension to stay on through March 2009 as a Technician. She is a recent graduate of St. Cloud State University with a Bachelor's of Science degree in Environmental Studies. In addition to coordinating the volunteer monitoring program during the summer, she spent many hours in the field conducting additional monitoring throughout the watershed. She has been working closely with the Nest Lake Improvement Association and the DNR to complete a lake management plan for Nest Lake.

