



# 319/Clean Water Partnership (CWP)/ Total Maximum Daily Loads Semi-Annual Report for Reporting Year 2012

Doc Type: Semi-Annual Report

Reporting Period:  January 1 through June 30 (Due August 1)  
 July 1 through December 31 (Due February 1)

All information is required by U.S. Environmental Protection Agency (EPA). Do not leave blanks. This report form can be typed using your computer. Use the "tab" key to move through the fields of this form. Enter responses using text and check boxes as indicated. Keep a copy for your records.

## I. General Report Information

1. Project title: Middle Fork Crow River Watershed Restoration and Enhancement Project Continuation
2. Project sponsor: Middle Fork Crow River Watershed District
3. Project representative: Chad Anderson
4. E-mail address: chad@mfcrow.org
5. Funding:  319  CWP  Clean Water Legacy/Clean Water Fund  Other: \_\_\_\_\_
6. Contract number: B40796 PRJ number: 05768; SRF0213
7. MPCA Project Manager: Maggie Leach
8. Contract start date (mm/dd/yyyy): 3/9/2010 Contract end date (mm/dd/yyyy): 6/30/2013

The following six questions refer to the lists on the Minnesota Pollution Control Agency (MPCA) website following this report form:

9. Best Management Practices (BMPs): (357) Barnyard Run-Off Control, (393) Filter Strip, (410) Grade Stabilization Structure, (412) Grassed Waterway, (647) Habitat Development/Management, (643) Habitat Restoration, (472) Livestock Exclusion, (590) Nutrient Management, (329C) Residue Management, (570) Runoff Management System, (350) Sediment Basin, (580) Streambank and Shoreline Protection, (606) Subsurface Drain, (638) Water/Sediment Control Basin, (657) Wetland Restoration, (possible BMPs)

10. Primary and Secondary Categories of Pollution:

|                      | Primary            | Secondary                            | Others  |
|----------------------|--------------------|--------------------------------------|---|
| Category (name only) | (1000) Agriculture | (7400) Flow Regulations/Modification | 8592 (Other Historical Pollutants), 4000 (Urban Run-off Stormwater) |

11. Nonpoint Source (NPS) Functional Category:

|                      | Primary                        | Secondary  | Others  |
|----------------------|--------------------------------|--|---|
| Category (name only) | (11) BMP Design/Implementation | (101) Local (Specific Target) Education/Information Programs, (201) Nonpoint Source Program Overall Coordination | (510) Water Quality Trend Assessment, (600) BMP Effectiveness Monitoring, (620) Watershed Assessments |

12. Waterbody type: LK, RI, RS, ST
13. Type of pollutant(s) (use name, not code #s): (2210) Algal Growth/Chlorophyll, (910) Phosphorus, (1100) Sedimentation-Siltation, (2100) Suspended solids, (2500) Turbidity (2200) Plants (Noxious Aquatic)
14. Ecoregion: 5100 (North Central Hardwood Forest)
15. Hydrologic unit code (12 digits): 07010204 Latitude-longitude: 45 7'38"N/94 31'40" W
16. Basin name (check all that apply): Statewide

- Lake Superior
- Lower Mississippi/Cedar
- Upper Mississippi
- Minnesota
- Rainy
- Red River
- Des Moines
- Missouri
- St. Croix

## II. Project Description

### 1. Project Description Summary (taken from work plan summary) – Include at least two paragraphs that briefly summarize the project scope, the processes and the events that occurred before this reporting period.

The Middle Fork Crow River watershed contains a number of economically and ecologically important lakes with increasing population and development pressures. The hydrology of the watershed has been highly altered with nine dams creating reservoirs rather than natural lake systems, 15 ditches totaling nearly 140 miles of open channels, and a significant number of drained or filled in wetlands. The land use pressures and hydraulic changes have led to the degraded water quality for many of the lakes, while others are in need of protection from non-point sources of pollution (Phase I CWP, Oct 2002; updated by Wilson et al, 2004). This project continues the efforts initiated under the previous Clean Water Partnership grant to protect high quality lakes and restore lakes with poor water quality by: working to restore the hydraulic regime by restoring wetlands, providing educational opportunities that link people to the resources, implementing best management projects in areas identified as ecologically sensitive to reduce non-point pollution sources, and targeting specific lake management projects identified in the diagnostic studies which will harness internal loading in lakes where this is a significant problem.

The scope of the project is to improve and preserve water quality throughout the watershed focusing on three major efforts. 1) Provide educational programs which engage citizens in active resource management. 2) Continue to examine the overall water quality of the watershed via permanent river and lake monitoring stations as well as seasonal (temporary) stations. 3) Improve water resources by assisting individuals, groups and units of government to implement best management practices. The fourth element of this grant allows for the overall administration of the grant project.

Activities carried out prior to the current reporting period:

March-June 2010: **Education and outreach:** The first 3 months of grant implementation were heavily focused on the education component. Several water quality lessons were planned with the teachers from the 4<sup>th</sup> grade class at ACGC elementary, 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> grade classes in New London-Spicer, and 7<sup>th</sup> and 8<sup>th</sup> grade classes at BBE; in total, lessons were delivered on 10 occasions. An open house was held in honor of the 5<sup>th</sup> Anniversary of the establishment of the MFCRWD, in which approximately 50 people attended; displays of the CWP Continuation grant and other projects were on display. An Earth Day event sponsored in-part by the MFCRWD was attended by approximately 800 people; a display of MFCRWD activities was put together and presented by staff. An article outlining the District's education activities, the collaborative donation by the Diamond Lake Association and the availability of cost share funds under the grant was written by MFCRWD staff and published in the Association's newsletter. A presentation on shoreland restoration activities in the MFCRWD was put together and delivered to approximately 20 members of the public at the DNR's "Our Water, Our Choices" conference. One article about the District's education efforts with the BBE school was written for submittal to the Belgrade, MN newspaper (publishing pending). One article summarizing 2009 lake water quality results was written for the Green Lake Association (publishing pending). One water quality lesson was delivered to children at the Spicer Library hour. One staff member attended the Minnesota Erosion Control Association's annual conference. **Monitoring:** Preparatory work for the monitoring season was completed (ordering supplies, attending MPCA-required equipment training, arranging volunteers for the season, establishing monitoring plan, planning and delivery of training session for volunteers, etc.). Equipment was installed at permanent monitoring stations. Monitoring was conducted by MFCRWD staff and volunteers on area lakes on 35 occasions and on area streams/river on 70 occasions (including replicate and blank samples). Two MFCRWD staff members canoed the upper reaches of the watershed to examine springtime flow conditions. **BMPs:** A kickoff meeting for the Belgrade stormwater project was held with most potential partners present. Assistance was provided to the cities of Spicer and New London on their respective shoreland restoration projects. Additional stabilization on a private owner's shoreline was provided, and live stakes were installed at a shoreland restoration project. Site visits to property owner inquiries of 10 potential projects were conducted; cost share contracts for 4 BMP projects were signed, including three shoreland restoration projects on private property and one stormwater management project with the City of Belgrade. One site inspection for a septic upgrade was conducted. **Administration:** Regular grant administrative duties were carried out as required, including budget monitoring and project tracking. The CWP Continuation work plan was submitted to the MPCA project manager and approved.

July-December 2010: **Education and outreach:** Two water quality lessons were planned and delivered to the 4<sup>th</sup> grade class at ACGC elementary and two lessons to the 9<sup>th</sup>-11<sup>th</sup> grade classes at the New London-Spicer high school. Staff are working closely with the 5<sup>th</sup> grade teacher at New London-Spicer to develop the STREAMS water quality education pilot program that will be more formal and assist teachers in meeting state education standards while teaching students about water quality issues. An article summarizing Green Lake water quality results for 2010 was published in a lake association newsletter. One water quality lesson was delivered to children at the Spicer Library hour. One staff member attended an Applied FLUX

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workshop through the University of Minnesota. Two staff members attended the annual BWSR Academy. **Monitoring:** Monitoring was conducted by MFCRWD staff and volunteers on area lakes on 53 occasions and on area streams/river on 60 occasions (including replicate and blank samples). FLUX modeling was performed on chemistry and flow samples for four river sites to determine annual loading. Water quality data was submitted to STORET. **BMPs:** One shoreland restoration project (native buffer) and two shoreland stabilization/restoration projects were completed on area lakes. Site visits to property owners' inquiries of 10 potential projects were conducted; cost share contracts for two shoreland restoration projects on private property were signed. One septic system upgrade was completed, and one inspection for a possible septic system upgrade was conducted. Inspections on more than a dozen previously implemented BMPs were completed to ensure maintenance and upkeep per cost share contract requirements. Several iterations of plans have been revised for the Belgrade stormwater project to develop a project that will provide water quality benefits while mitigating flooding problems. Staff worked with the Spicer Design Team to create and implement a maintenance plan for the shoreland restoration project at a city park. Maintenance was performed by staff on the Park Lane channel development project as part of the Memorandum of Understanding between the MFCRWD and City of Spicer; this stormwater mitigation project was funded in part with the previous CWP grant. **Administration:** Regular grant administrative duties were carried out as required, including budget monitoring and project tracking.

January-June 2011: **Education and outreach:** The MFCRWD Student-Targeted Resource Education, Awareness and Management (STREAM) program was shifted from a pilot program to an active environmental/water quality education program. During the current reporting period, under the STREAM program, District staff carried out two water quality lessons with 4th graders, five lessons with 5th graders, and two lessons with 8th graders at New London-Spicer schools, along with three water quality lessons with Atwater-Cosmos-Grove City 4th graders, and one with the Belgrade-Brooten-Elrosa 6th graders. One shoreland restoration workshop was developed and presented to 15 interested participants, each paying \$5. MFCRWD staff was instrumental in the organization of the annual Earth Day Celebration at Prairie Woods Environmental Learning Center (PWELC), which was attended by approximately 600 people; the District had a display on CWP Continuation related water quality activities. CWP Continuation education, BMP and monitoring information was condensed and displayed at the District's 6th anniversary open house; similar information was displayed in the MFCRWD Annual Report, and data collected in 2010 was synthesized and displayed in the District's 2010 Monitoring Report. A display and staff was available to the public at the Willmar Agricultural show. Two newsletter articles were written, submitted, and published in the Diamond Lake Area Recreation Association newsletter, one in the Green Lake Property Owners (GLPOA) Association newsletter, and one article was published by the West Central Tribune following an interview by the author with District staff. Four lake association annual meetings (Long, George, Green, Diamond) were attended by staff to discuss watershed issues with local residents. Staff collaborated with a local angling club, the GLPOA, City of Spicer, Kandiyohi County and DNR on an effort to increase awareness of aquatic invasive species (with a focus on zebra mussels) prior to and during a walleye fishing tournament; a brochure was developed, and anglers were encouraged to use a rented decontamination unit. Outreach was also carried out through a presentation on CWP Continuation activities to the Darkhouse and Angling Association. Collaboration between the CROW, PWELC and MFCRWD led to the development and marketing of a water quality day camp for area youth; the program was eventually cancelled due to a lack of participants, but will be carried out in 2012. Staff also attended several conferences and workshops to better equip them for CWP Continuation Grant related activities, such as P8 Modeling, a wetland conference, a water education festival, and shoreland restoration conferences, among others. Planning for website redevelopment began. **Monitoring:** Training was provided to equip new volunteers with the necessary skills to conduct water quality monitoring for the District, and a refresher was provided to those volunteers who have collected data for some time. Time was invested into the 2011 monitoring plan, including the addition of one new site, the elimination of three sites, as well as all budgeting exercises. EQUIS data was QA/QC'd and subsequently used to model the 2010 data using FLUX, and ultimately to be presented in the 2010 Monitoring Report. Actual monitoring was conducted by MFCRWD staff and volunteers on area lakes on 27 occasions and on area streams/river on 41 occasions (including replicate and blank samples). Staff attended MPCA required YSI training, in addition to hydstra training. **BMPs:** Three projects that were initially planned to have been completed during the current reporting period have not been installed to date due to various reasons (see challenges faced section below). These include the Belgrade stormwater improvement/flood mitigation project, and two shoreland restoration projects on contiguous properties on Diamond Lake. A new Agricultural BMP financial incentive program was drafted in conjunction with SWCD and NRCS staff and adopted by the MFCRWD Board of Managers. Technical support was provided to the City of New London for the maintenance and improvement of their shoreland restoration project in Neer Park. Initial consultation meetings were conducted with USFWS and DNR officials on two potential lake and wetland restoration projects. MFCRWD staff teamed up with the DNR Area Hydrologist to canoe a section of the Middle Fork Crow River to identify areas potentially requiring BMPs in addition to possible locations for geomorphology study locations. Fourteen visits with property owners interested in BMP installation were conducted, including 4 visits on Diamond, 4 on George, 2 on Green, and 4 on Nest; these visits have resulted in 4 anticipated projects including shoreland restorations and a raingarden. Additional technical support has been provided for property owners who decided against cost sharing. **Administration:** A mechanism for the recovery of SRF loan funds from the City of Belgrade had to be developed, and was completed working with MFCRWD attorneys and Belgrade bond counsel. Regular grant administrative duties were carried out as required, including budget monitoring and project tracking.

July-December 2011: **Education and outreach:** The MFCRWD Student-Targeted Resource Education, Awareness and Management (STREAM) program is now in its third school year, and has proven to be a highly effective, successful program. The program now consists of several different theme-based lesson plans including original lesson plans as well as those inspired by Project WET, and the Environmental Protection Agency. The program is designed to dovetail with the state mandated science standards while allowing for a fun, interesting, water-focused lesson that covers standards; feedback from teachers is overwhelmingly positive. During the current reporting period, under the STREAM program, District staff carried out three water quality lessons with 4th graders, four lessons with 5th graders, and three lessons with 10-12<sup>th</sup> graders at New

London-Spicer schools, along with two water quality lessons with Atwater-Cosmos-Grove City 5th graders, two lessons with the Belgrade-Brooten-Elrosa 5<sup>th</sup> graders, and two with the 6th graders. A total of 556 students received water quality lessons. One newspaper article was written by a local journalist on a major shoreland restoration project (Dougherty). Planning for the 2012 Earth Day event was initiated; one staff member will be the point person on the planning committee. A company was contracted for the purposes of aiding the District in the development of a new website; mockups were developed and a format was selected, while new text for the website was initiated. Meanwhile, ongoing maintenance was conducted on the current website. A draft 2011 monitoring report was initiated. One presentation on shoreland restoration projects was prepared and delivered to the Minnesota Crow River Work Group; another presentation on CWP Continuation activities was prepared and delivered to the MFCRWD Citizens Advisory Committee. **Monitoring:** Monitoring was conducted by MFCRWD staff and volunteers on 8 area lakes on 43 occasions and on area streams/river on 44 occasions (plus 11 replicate samples and 7 blank samples). The volunteer monitoring program was coordinated by District staff. Activities for data management were carried out, including submittal of data on the volunteer monitoring website, downloading and reporting of hydrologic data for MPCA, submittal of data via STORET/eQUIS, and the development of flow duration curves for two sites (275<sup>th</sup> and MFC3). GIS software was purchased for the purpose of better targeting for BMP projects. **BMPs:** The Belgrade stormwater project that had been planned for several years was finally installed; this is a result of years of collaboration between several entities, including the District, City of Belgrade, Crow River organization of Water, Stearns County SWCD, multiple county ditch authorities, and MNDOT. In addition to the Belgrade project, 6 shoreland restoration projects were implemented (3 on Diamond Lake, 1 on George Lake, 2 on Nest Lake) and a stream stabilization/restoration project was implemented on Diamond Lake – most projects were installed in close collaboration with local partners, including the DNR, Crow River Organization of Water, and the Kandiyohi County SWCD. Technical assistance was also provided to several property owners throughout the watershed with suggestions on ways to improve land management or projects to improve water quality in spite of a lack of interest in the District's cost share program. Technical support was provided to the City of New London for the maintenance and improvement of their shoreland restoration project in Neer Park. More meetings with USFWS, DNR and Ducks Unlimited officials were held, with the intention of putting together a solid incentive package for the sole property owner holding out on the potential Fischer Lake restoration program (unfortunately, there was no swaying his opinion toward the project and it is not viable at this time). Inspection of previously installed projects was conducted. **Administration:** Regular grant administrative duties were carried out as required, including budget monitoring and project tracking.

**2. Specific Project Goals – Include numeric, quantifiable goals for environmental improvement, the number of Best Management Practices to be installed, pollutant reductions as well as programmatic and social goals.**

**Water Quality Goals:** This project aims to improve water quality by utilizing a comprehensive approach that involves citizens actively engaging in their local resources through monitoring, provides for educational opportunities in all age groups and interests, and implements BMP projects in areas with the greatest impact in improving water quality where needed and protecting those resources with good water quality. The goals for specific lake and stream areas are provided below. Lakes with non-degradation goals are currently well within ecoregion values. Stream and watershed loading reductions are aimed at preserving high quality waters and enhancing those in need of rehabilitation.

**Lake Water Quality Status and Goals**

| Lake       | TP Status and goal   | Secchi Status and Goal    | Chlorophyll a Status and Goal | Overall Goal    |
|------------|----------------------|---------------------------|-------------------------------|-----------------|
| Calhoun    | ↓ from 33 to 25 ppb  | ↑ from 5 to 8 feet        | Remain at < 10 ppb            | Improve         |
| Diamond    | ↓ from 87 to <50 ppb | ↑ from 5 to > 7 feet      | ↓ from 47 to <12 ppb          | Improve         |
| Elkhorn    | Remain at 20 ppb     | Remain at > 9 feet        | Remain at < 10 ppb            | Non-degradation |
| George     | Remain at 28 ppb     | Remain at >10 feet        | Remain at < 10 ppb            | Non-degradation |
| Green      | Remain at < 20 ppb   | Remain at 10 +/- 1.5 feet | Remain at 3-6 ppb range       | Non-degradation |
| Long       | Remain at 21 ppb     | Remain at 9.5 feet        | Remain at 6 ppb               | Non-degradation |
| Monongalia | ↓ from 38 to <35 ppb | ↑ from 6 to 7 feet        | Remain a < 10 ppb             | Improve         |
| Nest       | ↓ from 44 to <25 ppb | ↑ from 7 to 8 feet        | ↓ from 13 to <12 ppb          | Improve         |

**Stream Total Phosphorus Loading Reduction Goals by Watershed Area**

| Watershed area         | Current TP Range | Goal TP Range | Percent Reduction |
|------------------------|------------------|---------------|-------------------|
| Upper Watershed        | 75-90            | 56-67         | 25%               |
| Nest Lake Watershed    | 51-60            | 38-45         | 50%               |
| Calhoun Watershed      | 193-219          | 96-109        | 50%               |
| Alvig Slough Watershed | 132              | 66            | 50%               |
| Diamond Lake Watershed | >200             | 108           | 50%               |

**Education and Outreach Goals:** Nine visits to area elementary and high schools per school year to implement water quality classes into school curricula. Two educational wksp/year offered to area residents; one volunteer training wksp/year with 10-12 citizens collecting stream and lake data; continued maintenance, development and improvement of the District website; 8-10 newsletters and/or newspaper articles; annual report of results and progress.

**Monitoring and Evaluation:** Monitoring efforts will continue at 14 stream/river sites and at 7 lake sites (these numbers may

change as needed); frequency will range from 7-17 times per year, while lake monitoring will be conducted from 7-12 times per year. To promote additional interest in lake water quality monitoring, some local lake associations are increasing the frequency of sampling on their lakes by contributing 50% of the laboratory costs. To encourage volunteerism and watershed activism, much of the water quality monitoring will be conducted by locally trained volunteers. All water quality samples will be analyzed at certified labs and results will be submitted to STORET.

**Best Management Practice Goals:** Various agricultural, rural, shoreline, riparian, urban, stormwater and residential best management practices will be considered. Between 10 and 20 projects installed each year, depending on complexity and costs. Focus will be on reducing sedimentation and non-point runoff to reach the overall project reduction and protection goals. Up to \$200,000 in low interest loans will be available to increase landowner participation.

### 3. Methods to achieve Goals:

**Education and Outreach Goals:** The MFCRWD is working closely with local elementary and secondary school teachers to incorporate water quality education directly into the teachers' curricula. These efforts are part of an education initiative that the MFCRWD is undertaking. The initiative will be titled "STREAMS: Student-Targeted Resource Education, Awareness and Management in Schools. When appropriate education topics are identified for watershed residents, appropriate steps will be made to advertise, and if necessary, contract with consultants to assist with the delivery of the education. Website will be updated regularly and likely overhauled. Newsletters and news articles will be written by MFCRWD staff and/or newspaper staff.

**Monitoring and Evaluation:** A previously instituted volunteer monitoring program will continue - including training sessions to ensure proper collection and processing methods - allowing a number of volunteers to monitor area lakes on a schedule basis and a schedule/event basis for river/stream monitoring.

**Best Management Practice Goals:** the District's availability to cost share on qualifying best management practices and septic upgrades will be advertised via press releases, word of mouth, presentations, newsletters and newspaper articles. Projects will be designed and implemented using qualified consultants/engineers when necessary, and funds from other organizations and grants will be leveraged to the extent possible.

## III. Semi-annual Report Information

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### 1. Project activities completed during last six (6) months according to the program elements or tasks:

**Education and Outreach:** The STREAM (Student-Targeted Resource Education, Awareness and Management) activities continued, comprised of a total of six different lesson plans delivered to area 4<sup>th</sup>, 5<sup>th</sup> and 7<sup>th</sup> grade classes, including one field trip in which students conducted water quality comparisons of constituents of different water bodies such as pH, secchi tube, nutrient comparisons, and others. The STREAM program also led to the District partnering with one additional teacher from NL-S to leverage District funds to procure grant funds from the School District to acquire equipment related to long term water quality monitoring. The District partnered with the Crow River Organization of Water in the CROW-led initiative to get the Science Museum into schools; shows were delivered to hundreds of students in New London-Spicer and Atwater Cosmos Grove City in a very successful program. The previously attempted Water Quality Day Camp that was coordinated with the CROW in 2011 but canceled due to a lack of interest was planned and delivered. A more refined marketing approach this year proved more successful but still only managed to produce 7 students; the Day Camp was still carried out, but in a more limited format than anticipated (CROW staff did not assist in the delivery of the Day Camp). Staff developed and displayed District and CWP-related information at the Willmar Ag Show (also staffed by MFCRWD Board members), the annual Earth Day celebration, and at the District's annual Open House. Staff also created and delivered Powerpoint presentations for a lake association annual meeting (George Lake – raingardens), a Kiwanis Club meeting (watershed management), and a Minnesota Erosion Control Association annual meeting (Shorelines – Neer Park). An annual report on all District activities for 2011 was developed and distributed to all residents of the District. Outreach articles were written (either by District staff or journalists) and published in the Lakes Area Review (general watershed information), the Green Lake Property Owners Association and Diamond Lake Area Recreation Association newsletters (cost share availability), and the Belgrade Observer (STREAM education event). Staff and Board also attended several workshops and meetings to further understanding of water quality improvement techniques and practices, including Erosion Control Installer Certification classes, DNR Shoreline Group meetings, and the Minnesota Association of Watershed Districts Summer Tour. The content for the new website was developed, and must be QA'd prior to finalizing the new website.

**Monitoring:** FLUX modeling was conducted on 2011 monitoring data (reported in previous semi-annual report). Another monitoring season was organized and initiated, including, among other activities, the coordination of the volunteer monitoring program, the establishment of a monitoring schedule, organization of equipment, supplies, data and data sheets, the acquisition of all necessary laboratory materials, and the installation of equipment. A total of 27 water quality samples were collected at eight lake sites (Monongalia, Long, George, Nest, Elkhorn, Green, Calhoun and Diamond), and a total of 41 samples were collected at 10 different stream sites. Stream data were downloaded at regular intervals and shared with MPCA hydrologic staff. The annual District monitoring report was written, published and distributed. Staff canoed the river with DNR staff from Lake Calhoun to Manannah as a way to inspect water quality downstream of the Middle Fork's lakes. As a result of the canoe trip, the first of what will become many longitudinal water transparency studies was carried out on County Ditch 28 (outlet from Diamond Lake); this ditch appears to be a major contributor of sediment and nutrients into the Middle Fork Crow River, as a very visible plume of filthy water joined the Middle Fork at the confluence.

**BMPs:** Nine projects installed under the CWP Continuation Grant were inspected for function and maintenance needs; recommendations were provided to the property owners. Inquiries from property owners were received throughout the spring

and a total of 9 site visits were conducted without further action taken by the owners (all were interested in shoreline work). In addition, 10 site visits resulted in further action, including the execution of four contracts (three shoreline projects and one raingarden). Two potential septic upgrade sites were also visited, with no further action taken. Staff discussed a potential wetland restoration project with SWCD partners in the Lake Calhoun watershed.

**Administration:** A mid-term grant review was carried out in collaboration with MPCA staff Maggie Leach and Pete Fastner, in which grant progress to date was measured with overall objectives, while a systematic review of District procedures and a fairly comprehensive review of grant expenditures were also carried out. The review was successful in all aspects, and the next scheduled payment was issued to the District. In addition, regular grant administrative duties were carried out as required, including budget monitoring and project tracking.

**2. Challenges faced (optional):**

The MFCRWD experienced a change in staff when one of its technicians departed for a position with the DNR. The District found a very talented individual to replace her, but there is a natural, short-term disconnect that occurs with the departure of an individual from a small organization. The new person has been able to make this transition as smooth as possible, with the principle area of interruption being in the FLUX annual load modeling.

**3. Summary of monitoring data collected:**

Lake data collected (excluding replicate/blank samples):

| Lake       | Site   | Date    | TP (ppb) | Secchi (ft)       | Chl-a (ppb) | TSS (ppm) |
|------------|--------|---------|----------|-------------------|-------------|-----------|
| Calhoun    | CL1    | 5/20/12 | 0.028    | Between 4.5-5.0ft | 16          | 6         |
|            |        | 6/14/12 | 0.032    |                   | 7           | 7         |
|            |        | 6/17/12 | 0.032    |                   | 5           | 4         |
|            |        | 7/15/12 | 0.023    |                   | 5           | 3         |
| Diamond    | DL 3   | 5/15/12 | 0.020    | Between ~24.5ft   | 1           | <1        |
|            |        | 5/20/12 | 0.028    |                   | 3           | 2         |
|            |        | 6/03/12 | 0.041    |                   | 9           | 3         |
|            |        | 6/18/12 | 0.070    |                   | 8           | 3         |
|            |        | 7/01/12 | 0.023    |                   | 3           | 3         |
|            |        | 7/15/12 | 0.028    |                   | 5           | 1         |
| Elkhorn    | EL 1   | 5/24/12 | 0.039    | Between 14.5-16   | 6           | 3         |
|            |        | 6/14/12 | 0.023    |                   | 4           | 1         |
|            |        | 7/12/12 | 0.016    |                   | 2           | 2         |
| George     | GeoL 1 | 5/06/12 | 0.022    | Between 10-16.5ft | 5           | 2         |
|            |        | 5/21/12 | 0.017    |                   | 6           | 6         |
|            |        | 6/03/12 | 0.023    |                   | 6           | 1         |
|            |        | 6/18/12 | 0.014    |                   | 2           | 2         |
|            |        | 7/01/12 | 0.013    |                   | 1           | 1         |
|            |        | 7/15/12 | 0.014    |                   | 3           | 1         |
| Green      | GL 1   | 5/09/12 | 0.008    | Between 17-21ft   | 4           | <1        |
|            |        | 5/23/12 | 0.011    |                   | 3           | <1        |
|            |        | 6/04/12 | 0.010    |                   | 7           | 1         |
|            |        | 6/18/12 | 0.014    |                   | 4           | 1         |
|            |        | 7/02/12 | 0.011    |                   | 4           | 2         |
|            |        | 7/16/12 | 0.013    |                   | 3           | 2         |
| Long       | LL 1   | 5/10/12 | 0.017    | Not yet submitted | 7           | 10        |
|            |        | 5/31/12 | 0.021    |                   | 3           | 1         |
|            |        | 6/03/12 | 0.017    |                   | 3           | 1         |
|            |        | 6/24/12 | 0.022    |                   | 3           | 3         |
|            |        | 7/01/12 | 0.024    |                   | 3           | <1        |
|            |        | 7/15/12 | 0.018    |                   | 4           | 1         |
| Monongalia | ML 1   | 5/24/12 | 0.024    | Between 6-8.5ft   | 4           | 2         |
|            |        | 6/14/12 | 0.033    |                   | 4           | <1        |
|            |        | 7/12/12 | 0.041    |                   | 8           | 1         |
| Nest       | NL 1   | 5/14/12 | 0.041    | Not yet submitted | 7           | 2         |
|            |        | 5/21/12 | 0.030    |                   | 3           | 2         |
|            |        | 6/05/12 | 0.038    |                   | 6           | <1        |
|            |        | 6/18/12 | 0.027    |                   | 10          | 2         |
|            |        | 7/02/12 | 0.033    |                   | 14          | 5         |
|            |        | 7/16/12 | 0.041    |                   | 32          | 6         |

| River Site        | Date    | TP (ppb) | TKN (ppb) | TSS (ppm) | Transparency Tube (cm) |
|-------------------|---------|----------|-----------|-----------|------------------------|
| 275 <sup>th</sup> | 4/02/12 | 0.060    | 0.822     | 15        | 90                     |
|                   | 4/24/12 | 0.057    | 0.757     | 14        | 77                     |
|                   | 5/08/12 | 0.071    | 1.080     | 18        | 74                     |
|                   | 5/31/12 | 0.072    | 0.904     | 13        | 74                     |
|                   | 6/18/12 | 0.100    | 0.959     | 16        | 68                     |
|                   | 7/10/12 | 0.041    | 0.395     | 5         | >100                   |
| CL4               | 4/26/12 | 0.050    | 1.260     | 2         | >100                   |
|                   | 5/07/12 | 0.228    | 1.920     | 73        | 22                     |
|                   | 5/30/12 | 0.086    | 1.610     | 6         | >100                   |
|                   | 6/19/12 | 0.228    | 2.220     | 37        | 38                     |
| CL3               | 4/02/12 | 0.041    | 0.900     | 7         | >100                   |
|                   | 4/26/12 | 0.038    | 0.757     | 5         | >100                   |
|                   | 5/07/12 | 0.040    | 1.100     | 4         | >100                   |
|                   | 5/30/12 | 0.041    | 0.800     | 6         | >100                   |
|                   | 6/19/12 | 0.066    | 0.893     | 5         | >100                   |
|                   | 7/09/12 | 0.058    | 0.600     | 9         | >100                   |
| DL1               | 5/07/12 | 0.254    | 1.960     | 26        | 32                     |
|                   | 5/30/12 | 0.257    | 1.820     | 10        | 58                     |
|                   | 6/19/12 | 0.287    | 1.850     | 6         | >100                   |
|                   | 7/09/12 | 0.449    | 2.090     | 27        | 30                     |
| GL5               | 5/10/12 | 0.051    | 0.911     | 8         | Not submitted yet      |
|                   | 6/07/12 | 0.096    | 1.220     | 2         | Not submitted yet      |
| Manannah          | 4/02/12 | 0.056    | 0.907     | 10        | >100                   |
|                   | 4/24/12 | 0.061    | 0.831     | 12        | 87                     |
|                   | 5/08/12 | 0.310    | 1.770     | 44        | 39                     |
|                   | 5/30/12 | 0.101    | 1.260     | 34        | 56                     |
|                   | 6/19/12 | 0.297    | 1.780     | 72        | 13                     |
|                   | 7/09/12 | 0.094    | 1.010     | 14        | 51                     |
| MFC10             | 4/24/12 | 0.042    | 0.933     | 7         | >100                   |
|                   | 5/09/12 | 0.042    | 0.852     | 6         | 80                     |
|                   | 5/31/12 | 0.035    | 0.942     | 12        | >100                   |
|                   | 6/18/12 | 0.107    | 1.490     | 26        | >100                   |
|                   | 7/10/12 | 0.027    | 0.457     | 1         | >100                   |
| MFC3              | 4/24/12 | 0.032    | 0.658     | 5         | 85                     |
|                   | 5/09/12 | 0.046    | 1.070     | 5         | >100                   |
|                   | 5/31/12 | 0.049    | 1.050     | 4         | 89                     |
|                   | 6/18/12 | 0.048    | 2.080     | 5         | 43                     |
|                   | 7/10/12 | 0.050    | 0.823     | <1        | >100                   |
| MFC4              | 4/02/12 | 0.038    | 0.861     | 10        | >100                   |
|                   | 4/24/12 | 0.044    | 0.667     | 11        | 95                     |
|                   | 5/09/12 | 0.053    | 0.974     | 12        | 84                     |
|                   | 5/31/12 | 0.047    | 1.080     | 8         | >100                   |
|                   | 6/18/12 | 0.061    | 1.050     | 9         | >100                   |
|                   | 7/10/12 | 0.036    | 0.708     | 2         | >100                   |
| MFC5              | 5/09/12 | 0.054    | 0.641     | <1        | Not submitted yet      |
|                   | 6/11/12 | 0.054    | 0.718     | 7         | Not submitted yet      |
|                   | 6/18/12 | 0.070    | 0.892     | 6         | Not submitted yet      |

4. Have all monitoring stations been established in STORET?  Yes  No  N/A
5. Is the data being routinely submitted for storage into STORET?  Yes  No Last submittal date: 11/1/2011
6. Is the data being annually entered into E-Link?  Yes  No  N/A Date last entered: January, 2012

7. Identify any significant findings and results of the project to date, as well as any unanticipated findings:

No additional findings were discovered in the current reporting period.

8. Describe specific (quantifiable, if possible) results achieved during this period:

No additional projects were installed in the current reporting period; however, the load reductions reported on the Belgrade project in the previous reporting period (10 lbs/yr P removed, 3599 lbs/yr sediment load removed) were only for the additional capacity and other improvements made to infrastructure, while inadvertently omitting the impact of the infiltration basins installed. According to P8, the infiltration basins increase the P removal by 13 lbs/yr and TSS by 3330 lbs/yr. For the

Belgrade project, the most expensive under this grant and the most expensive implemented by the District to date, this single project reduces TP loading in the headwaters of the watershed by 23 lbs/yr and TSS by 6929 lbs/yr. The numbers reported below correspond to the previously unreported numbers only.

Six different lesson plans were delivered to area 4<sup>th</sup>, 5<sup>th</sup> and 7<sup>th</sup> grade classes under the STREAM program. Two Science Museum water quantity and quality shows were delivered to hundreds of students in New London-Spicer and Atwater Cosmos Grove City. One Water Quality Day Camp was delivered to 7 students. Displays were produced on District and CWP-related information for the Willmar Ag Show (also staffed by MFCRWD Board members), the annual Earth Day celebration, and at the District's annual Open House. Presentations were produced and delivered to a lake association annual meeting (George Lake – raingardens), a Kiwanis Club meeting (watershed management), and a Minnesota Erosion Control Association annual meeting (Shorelines – Neer Park). One annual report on all District activities for 2011 was developed and distributed to all residents of the District. Outreach articles were written (either by District staff or journalists) and published in the Lakes Area Review (general watershed information), the Green Lake Property Owners Association and Diamond Lake Area Recreation Association newsletters (cost share availability), and the Belgrade Observer (STREAM education event). A total of 27 water quality samples were collected at eight lake sites (Monongalia, Long, George, Nest, Elkhorn, Green, Calhoun and Diamond), and a total of 41 samples were collected at 10 different stream sites. The annual District monitoring report was written, published and distributed. Nine projects installed under the CWP Continuation Grant were inspected for function and maintenance needs. Inquiries from property owners were received throughout the spring and a total of 9 site visits were conducted without further action taken by the owners (all were interested in shoreline work). 10 site visits resulted in further action, including the execution of 4 contracts (three shoreline projects and one raingarden). Two potential septic upgrade sites were also visited, with no further action taken. Staff discussed one potential wetland restoration project with SWCD partners in the Lake Calhoun watershed.

|                            |      |           |
|----------------------------|------|-----------|
| Phosphorus Load Reduction: | 13   | lbs./year |
| Nitrogen Load Reduction:   |      | lbs./year |
| Sediment Load Reduction:   | 3330 | lbs./year |

**9. Summarize any work plan changes:**

N/A

**10. List anticipated activities for next six (6) months:**

STREAM activities will begin with the new school year. District staff will be instrumental in the development and delivery of a MECA Shoreland Restoration Workshop/Tour designed to demonstrate successful shoreland restoration projects. Of the four contracts executed in the current reporting period, 3 of them will be installed in the next six months. 6 more contracts are in the process of being finalized – 2 of these are expected to be installed later this year, while 4 of them will be prepared for next year. The District will also continue to work with the Calhoun Lake Association, the Kandiyohi County SWCD and the NRCS on easement acquisition for a wetland restoration project to be installed in the Lake Calhoun.

**11. List all products (documents, pamphlets, videos, maps, etc.) produced in this reporting period.**

Informational displays on District and CWP-related information were produced for the Willmar Ag Show, the annual Earth Day celebration, and at the District's annual Open House. Presentations were produced for a lake association annual meeting (George Lake – raingardens), a Kiwanis Club meeting (watershed management), and a Minnesota Erosion Control Association annual meeting (Shorelines – Neer Park). An annual report on all District activities for 2011 was developed and distributed to all residents of the District. Outreach articles were written (either by District staff or journalists) and published in the Lakes Area Review (general watershed information), the Green Lake Property Owners Association and Diamond Lake Area Recreation Association newsletters (cost share availability), and the Belgrade Observer (STREAM education event). The content for the new website was developed, and must be QA'd prior to finalizing the new website. The annual District monitoring report was written, published and distributed. 4 cost share contracts were executed (three shoreline projects and one raingarden).

**IV. Expenditure Information for this Period**

Provide a copy of your work plan budget showing cumulative expenditures and budget balances by work plan objective and task.

Expenditure Report attached

| Complete the table below:                                 | Amount   |
|---|--|
| Total Grant Amount:                                       | 350,000  |
| Total Match Amount (if applicable)                        | 574,300 (in-kind and loan)   |
| <b>Total Project Amount:</b>                              | <b>924,300</b>   |
| Cumulative Grant Expenditures through this period:        | 292,697  |
| Cumulative Match Expenditures through this period:        | 401,505 (in-kind and loan)<br>*\$44,500 also spent on SRF loan granted in 2007 |
| <b>Total Cumulative Expenditures through this period:</b> | <b>694,202</b>   |

Date form completed: 7/25/12

Please submit to: Your project manager