



# 319/Clean Water Partnership/ Total Maximum Daily Loads Semi-Annual Report for Reporting Year 2010

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: Heron Lake Alternative Tile Intake Cost-share Program
2. Project sponsor: Heron Lake Watershed District
3. Project representative: Jan Voit
4. Email address: hlwd@roundlk.net
5. Loan sponsor (if applicable): N/A
6. Contract number: CFMS: B48292, Project ID: 5500-02 Loan number: N/A
7. MPCA Project Manager: Katherine Pekarek-Scott
8. Contract start date: September 6, 2010 Contract end date: June 30, 2013
9. Best Management Practice (BMP) Name (Refer to BMP List): Subsurface Drain (606)
10. **319/Clean Water Partnership (CWP) only** - Nonpoint Source (NPS) Category (Refer to NPS Definition of Categories):

	Primary	Secondary	Others
Category (name only)	Agriculture	Non-irrigated Crop Production	N/A

11. **319/CWP only** - NPS Functional Category (Refer to NPS Definition of Categories):

	Primary	Secondary	Others
Category (name only)	BMP design/implementation	BMP Performance Assessment	Technical Assistance to State/Local

12. Waterbody type (refer to NPS Waterbody Type): Lakes - LK, Streams - ST
13. Hydrologic unit code (12 digits): 07100001-070 Latitude-longitude: AtT0313406 UTM 4851574
14. **319/ CWP only:** Type of pollutant(s) addressed (refer to NPS Pollutants): Algal Growth/Chlorophyll, Nitrate, Nitrogen, Phosphorus, sedimentation-siltation, pH, Suspended Solids, Total Kjeldahl Nitrogen, Turbidity
15. Ecoregion (refer to NPS Ecoregion): Western Corn Belt Plains - 4700
16. Basin name (check all that apply): Statewide
- Lake Superior
  - Lower Mississippi/Cedar
  - Upper Mississippi
  - Minnesota
  - Rainy
  - Red River
  - Des Moines
  - Missouri

## II. Project Description

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**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 project area encompasses the entirety of Nobles, Jackson, Murray, and Cottonwood Counties in southwestern Minnesota, as shown in Figure 1. Land use within the watershed consists primarily of cultivated land in agricultural production.

A diagnostic study completed in 1992 shows that the Heron Lake Watershed District's (HLWD) major problems are a direct result of drainage and the resulting higher peak and base flows, urban sources of pollution and storm water runoff, and intensive agricultural land use. These same problems are prevalent throughout the four counties within the project area. Since 1997, Carver SWCD has monitored water quality delivered from an open intake versus an alternative tile intake. The findings to date show that an alternative tile intake delivers about 50% less sediment and phosphorus to receiving waters than an open tile intake. That equates to a reduction of 400 pounds of sediment and 0.5 pounds of phosphorus per intake replaced.

The Heron Lake watershed is a subwatershed of the West Fork Des Moines River (WFDMR) watershed, which is one of the ten major drainage basins in Minnesota. The results of a 2001 WFDMR diagnostic study show that about 58,000 tons of total suspended solids, 10 million pounds of nitrogen, and 485,000 pounds of phosphate passed through Jackson, Minnesota (the southernmost site of the study).

The MPCA listed 15 stream reaches in the WFDMR watershed as impaired for bacteria (a human health concern that limits recreational use of the water) and turbidity (a measure of cloudiness of water that affects aquatic life) on the 2002, 2004, and 2006 impaired waters lists (Figure 2). North Heron Lake and South Heron Lake are listed as impaired due to excess phosphorus (which limits both its recreational use and ecological/wildlife function) in 2006. Related to the Heron Lake nutrient impairment is a listing for pH in the Heron Lake outlet.

**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.**

- A. Overall Resource Goals: The overall resource goal of this project is to reduce phosphorus and sediment loading to streams and lakes in the project area.
- B. Water Quality Characterization Goals: Alternative tile intakes have been shown to reduce sediment and phosphorus delivery up to 50% as compared to an open tile intake. That equates to a reduction of 400 pounds of sediment and 0.5 pounds of phosphorus per intake replaced.
- C. Preliminary Quantitative Goals: The preliminary quantitative goal of the grant effort is to replace 180 open tile intakes with alternative tile intakes.
- D. Information and Education Goals for Citizens in the Project Area: Information and education goals will be met as HLWD and Soil and Water Conservation District (SWCD) staff engages in one-on-one contact with landowners.

**3. Methods to achieve Goals:**

**Element 1. Install alternative tile intakes**

One of the most important long-term efforts of the project partners is to convey information and provide financial resources for residents, which results in the installation of best management practices to improve water quality.

*Task A: Explain program requirements*

- HLWD and SWCD staff will explain the program, review the alternative tile intake design specifications with each landowner, and answer questions. Landowners must sign a cost-share assistance agreement that is approved by the HLWD Board of Managers and/or the SWCD Supervisors. The landowner must also sign a Cooperator's Review and Approval Statement. An aerial photo with the approximate location of each inlet and a contractor's estimate will be supplied by the landowner and included with the application form.

*Task B: Contractor field checks*

- Alternative tile intake design and specifications will be provided to each contractor performing the installation of these structures. Updates to this design will be provided to each contractor if necessary. All contractors must be checked in the field as they install the first alternative tile intake to determine that each inlet will be constructed according to the required specifications. Field checks will be conducted by HLWD and SWCD staff as needed. After a field check is completed, that contractor may replace an unlimited number of intakes.

*Task C: Provide cost-share funds*

- When cost-share is determined and approved by HLWD and SWCD staff, a letter will be sent to each landowner specifying the project location, number of intakes being replaced, and the estimated cost-share amount.
- Cost-share will be provided by the grant (50%), landowner (25%), and the remaining 25% will be paid by the SWCDs or HLWD.
- After receipt of the final project bills, HLWD staff will pay cost-share as described above.

*Task D: Collect landowner statements*

- Landowners will be contacted with a general survey asking for feedback on the performance of the alternative tile intakes.
- When possible, landowners will be asked to submit a statement to be used in newsletter articles, district-wide mailings, and on the HLWD website.

**Element 2: Compile, maintain, and evaluate database**

Compile, maintain, and evaluate project-related information for use in reports.

*Task A: Create, maintain, and evaluate database*

- Create spreadsheets that contain transactions associated with alternative tile intake installation including landowner names and addresses, contractors, materials used, and any alterations to the design specifications.
- Evaluate documents created to ensure accuracy.

**Element 3: Project Administration**

Oversee all goals and actions of the Continuation project.

*Task A: Develop project work plan*

- Develop a work plan that directs project implementation.

*Task B: Submit reports*

- Submit semi-annual and annual reports (due August 1 and February 1 respectively) as well as STORET data (as instructed each year) and eLINK information (due February 1) as required by the grant agreement. Provide NRCS with reports.

*Task C: Prepare final report*

- Submit final report no later than 30 days after the close of the project as required by the grant agreement. Provide NRCS with final report.

*Task D: Perform duties not previously specified.*

- Complete activities not specifically identified by prior objectives and tasks.

### 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:**

Element 1 – Task A: HLWD and SWCD staff met with individual landowners and explained the rock inlet program. Signups were taken.

Element 1 – Task B: All contractors installing rock inlets during this reporting period previously completed field checks and were approved to install inlets.

Element 1 – Task C: Cost-share was determined when the final bills were submitted.

Element 1 – Task C: Six landowners participated in the program and 11 rock inlets were installed.

Element 1 – Task C: Cost-share payments for rock inlet projects were paid in September and November.

Element 2 – Task A: A spreadsheet was developed to track the cash and in-kind contributions for each project.

Element 3 – Task A: A work plan was developed and submitted to MPCA on October 4. The work plan was approved on October 27. The grant start date was September 6.

Element 3 – Task B: The annual report was completed and submitted to MPCA on December 23, 2010.

Element 3 – Task D: HLWD staff and staff from Jackson, Murray, and Cottonwood SWCD met with MPCA on December 14 to review the grant application, work plan, and each entity's roles and responsibilities. In order to allow project partners to budget for project costs and to keep contractors from charging exorbitant prices, the project sponsor and project partners requested that the following language be added to the work plan: 75% cost-share not to exceed \$300.00 per intake; requests for greater than \$300.00 would be approved by the HLWD or respective SWCD board on a case-by-case basis.

Element 3 – Task D: The cost-share assistance agreement, cooperator's review and approval statement, and design and diagram were updated to include the revised cost-share payment language.

Element 3 – Task D: A flyer was created to promote and advertise the program.

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

N/A

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

No monitoring will be conducted through this grant.

**4. Have all monitoring stations been established in STORET?**  Yes  No

**5. Is the data being routinely submitted for storage into STORET?**  Yes  No Last submittal date: N/A

**6. Is the data being annually entered into E-Link?**  Yes  No Date last entered: December 2010

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

During this reporting period, six landowners 11 installed rock inlets - four in Nobles County, one in Jackson County, and six in Murray County.

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

Phosphorus Load Reduction:	5.5	lbs./year
Nitrogen Load Reduction:	n/a	lbs./year
Sediment Load Reduction:	4440	lbs./year

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

The project sponsor and staff from Jackson, Murray, and Cottonwood SWCD met with MPCA on December 14, 2010 to review the grant application, work plan, and each entities roles and responsibilities. In order to allow project partners to budget for project costs and to keep contractors from charging exorbitant prices, the project sponsor and project partners request that the following language be added to the work plan: 75% cost-share not to exceed \$300.00 per intake; requests for greater than \$300.00 would be approved by the HLWD or respective SWCD board on a case by case basis.

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

- a) Complete and submit annual report.
- b) Enter project information into eLINK.
- c) Advertise funding availability in local SWCD offices.
- d) Contact landowners.
- e) Complete paperwork for landowner eligibility.
- f) Rock inlet installation.
- g) Begin work on 2011 Semi-Annual Report.
- h) Work with partners to ensure cost-share payments are made to qualifying landowners as described in the work plan.
- i) Review spreadsheets, databases, and maps for all projects installed during the grant period.

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

- a) BMP spreadsheet
- b) Cost-share assistance agreement
- c) Cooperator's review and approval statement
- d) Design and diagram
- e) Flyer

**IV. Expenditure Information for this Period**

CWP: Provide a copy of the Expenditure Report with cumulative expenditures and this period's expenditures budget balances by work plan program element. The format for the Semi-Annual Expenditure Report is available on the MPCA Web site at: <http://www.pca.state.mn.us/publications/wq-cwp7-09.xls>.

Expenditure Report attached

CWP, 319, and TMDL - Complete the table below:

	Amount
Total Grant Amount:	\$36,000.00
Total Match Amount (if applicable)	\$46,800.00
<b>Total Project Amount:</b>	<b>\$82,800.00</b>
Cumulative Grant Expenditures through this period:	\$1,909.74
Cumulative Match Expenditures through this period:	\$2,771.32
<b>Total Cumulative Expenditures through this period:</b>	<b>\$4,681.06</b>

Date form completed: December 23, 2010

**Please submit to:** Your project manager