



Please complete and submit to your project manager.

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

All information is required by the U.S. Environmental Protection Agency (EPA) and the Minnesota Pollution Control Agency (MPCA). Do not leave blanks (unless otherwise noted). 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: WFDMR Targeting and Prioritizing Endeavor
2. Project sponsor (Grantee): Heron Lake Watershed District
3. Contact name: Jan Voit, District Administrator
4. E-mail address: jan.voit@mysmbs.com
5. Funding: [ ] 319 [X] CWP [ ] CWP Loan [ ] Clean Water Fund [ ] Other:
6. Contract number: 93259
7. MPCA Project Manager: Katherine Pekarek-Scott
8. Effective date (mm/dd/yyyy): 6/15/2015 Expiration date (mm/dd/yyyy): 6/30/2018

II. Semi-annual Report Information

1. Project activities completed during last six (6) months according to the program objectives or tasks (please be specific):

Objective 1 Task A: Completed all tasks except for final review and adjustment

Compiled datasets developed by SWPTSA 5 project, utilizing raw Lidar data, flow direction and accumulation digital elevation models (DEM), RUSLE, NASS 2011 and most recent CDL.

Prepared data for additional GIS post processing

Calculated raster cell to cell travel times

Calculated runoff volume

Calculated accumulated travel times upstream and downstream

Compiled travel time statistics

Performed QA/QC of preliminary products for Task B

Objective 1 Task B: Completed all tasks except for final review and adjustments

Estimated Total Nitrogen (TN), Total Phosphorus (TP), Sediment, and Hydrologic Loading

GIS post processing of previously prepared data completed

Utilized SSURGO data layers to estimate TN, TP, sediment, and hydrologic loading

Calculated raster cell mass sediment mobilization

Calculated accumulated sediment and adjusted for calibration factor

Calculated accumulated sediment at catchment outlet

Calculated TN and TP, with calibration factor leaving the landscape

Compiled statistics

QA/QC review of data products

Objective 2 Task A:

Review of preliminary priority resources based on data

Objective 2 Task B:

No tasks completed.

Objective 2 Task C:

No tasks completed.

Objective 3 Task A:

No tasks completed.

Objective 3 Task B:

No tasks completed.

Objective 3 Task C:

No tasks completed.

Objective 4 Task A:

The annual report was approved on January 20, 2016. The semi-annual report was started on June 27, 2016.

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

Geodatabase and Enhanced Water Quality Data which generally includes the following:

Data Name	Description
catchment	Individual hydrologic catchment boundaries
adj_catchment	Adjoint hydrologic catchment boundaries
cti	Compound topographic index
spi	Stream power index
spi_ranks	rank of the spi file
Sed_mass	Sediment mass leaving the landscape adjusted by calibration factor (tons/acre/year)
overland_sdr	Delivery ratio of sediment to the flow line
Sed_mass_fl	Sediment mass delivered to the catchment outlet (tons/acre/year)
Sed_mass_fl_acc	Sediment mass delivered to the catchment outlet and accumulated to the catchment outlet (tons/year)
TP_mass	TP mass leaving the landscape (lbs/acre/year)
TP_mass_fl	TP mass delivered to the catchment outlet (lbs/acre/year)
TP_mass_fl_acc	TP mass delivered to the catchment outlet and accumulated to the catchment outlet (lbs/year)
TN_mass	TN mass leaving the landscape (lbs/acre/year)
TN_mass_fl	TN mass delivered to the catchment outlet (lbs/acre/year)
TN_mass_fl_acc	TN mass delivered to the catchment outlet and accumulated to the catchment outlet (lbs/year)
PeakQ_2yr	Peak flow from upstream contributing drainage area for 2 yr event
PeakQ_10yr	Peak flow from upstream contributing drainage area for 10 yr event
table_scaled_load	Lookup table to scale yields based on HSPF/SWAT/etc models
Sed_mass_rank	Rank of sediment leaving the landscape
TP_mass_rank	Rank of phosphorus leaving the landscape
TN_mass_rank	Rank of nitrogen leaving the landscape
Sed_mass_fl_rank	Rank of sediment reaching the flow line
TP_mass_fl_rank	Rank of phosphorus reaching the flow line
TN_mass_fl_rank	Rank of nitrogen reaching the flow line
table_r_catchment	Ranking catchment table (sed, TP, TN, WQI), ranking based on 1W1P boundary
table_r_p_res_catchment	Ranking catchment table (sed, TP, TN, WQI), ranking based on priority resource boundaries

usr\_rank\_weight Option user weighting for ranking  
 WQI\_mass\_rank Rank of WQI leaving the landscape  
 WQI\_mass\_fl\_rank Rank of WQI reaching the flow line  
 biofiltration Locations suitable for biofiltration practices.  
 filtration Locations suitable for filtration practices.  
 infiltration Locations suitable for infiltration practices.  
 protection Locations suitable for protection practices.  
 sourcreduction Locations suitable for Source Reduction practices.  
 storage Locations suitable for Storage practices..

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

Computer processing time for the project was impaired and the performance of the computer resources was not as robust as has been experienced in other projects.

**4. Summary of monitoring data collected (if applicable):**

n/a

**4a. Have all monitoring stations been established in EQUIS?**  Yes  No  N/A

**4b. Are the data being routinely submitted for storage into EQUIS?**  Yes  No  NA

If yes, last submittal date (mm/dd/yyyy): \_\_\_\_\_

**5. Are the Best Management Practices data being annually entered into eLINK)?**  Yes  No  N/A

If yes, date last entered (mm/dd/yyyy): \_\_\_\_\_

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

n/a

Phosphorus Load Reduction:  n/a  lbs./year

Nitrogen Load Reduction:  n/a  lbs./year

Sediment Load Reduction:  n/a  lbs./year

**7. Did the MPCA execute a change order or amendment for this project during this reporting period?** No  Yes

**If yes, summarize those changes:**

**8 List anticipated program objectives or tasks to be completed during the next six (6) months please be specific):**

Objective 1. Task A: Final review, process adjustments, and completion of generated products/data files

Objective 1. Task B: Final review, QA/QC, and adjustments to generated products/data

Objective 2. Task A:

HLWD and consultant will identify specific priority resources for targeted implementation, based on local knowledge and identified impairments, or locally significant resources

Perform GIS analysis of the hydrologically corrected DEM, SSURGO soils, and the 2011 National Land Cover Dataset (NLCD) to identify locations on the landscape that are suitable for BMP and conservation practices.

Identified candidate locations will be reviewed to develop a targeted implementation plan that "measures" costs and improvements in TP, TN, and sediment that would result from implementing the BMPs.

Objective 2. Task B:

HEI will develop a field verification strategy and approach for HLWD staff

Site check to visually verify land use, practice suitability, and any potential additional physical parameters identified in verification strategy

Compile site verification data

- Objective 2. Task C:
  - Use site verification information to adjust BMP recommendations
  - Complete final BMP recommendations
- Objective 3. Task A:
  - Begin drafting elements of the final reports and technical memos
- Objective 3. Task B:
  - Begin elements of workshop and training development
- Objective 3. Task C:
  - No tasks anticipated in the next six months
- Objective 4. Task A.
  - Complete semi-annual report
  - Submit reimbursement requests
  - Begin writing annual report

### III. 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. Also, fill out the summary below.

Expenditure Report attached

Complete the table below:	Amount
Total Grant Amount	\$21,955.00
Total Match Amount (if applicable)	\$27,165.00
<b>Total Project Amount</b>	<b>\$49,120.00</b>
Grant Expenditures this period	\$2,001.00
Match Expenditures this period (if applicable)	\$2,044.75
Cumulative Grant Expenditures to date	\$2,001.00
Cumulative Match Expenditures to date (if applicable)	\$2,587.25
<b>Total Cumulative Expenditures to date</b>	<b>\$4,588.25</b>

Date form completed (mm/dd/yyyy): 9/13/2016