Watershed Semi-Annual Report for Reporting Year 2015

Please complete and submit to your project manager.

Reporting Period: ☑️ 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: Heron Lake Third Crop Phosphorus Reduction Effort

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 ☐ CWP ☐ Clean Water Fund ☐ Other:

6. Contract number: 69593

7. MPCA Project Manager: Katherine Pekarek-Scott

8. Effective date (mm/dd/yyyy): 7/1/2014
Expiration date (mm/dd/yyyy): 8/31/2017

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. Jan Voit sent a memo to cover crop partners on April 1, 2015. The purpose of the memo was a reminder about cover crop termination, seeding, soil samples, tillage transects, and infiltration measurements.

Objective 1. Task A. Cover crop termination was done on the Christoffer site on April 28, 2015.

Objective 1. Task A. Cover crop termination was done on the Ackermann site on April 29, 2015.

Objective 1. Task A. Cover crop termination was done on the Perkins site on May 1, 2015.

Objective 1. Task A. Cover crop termination was done on the Hansberger site on May 22, 2015.

Objective 1. Task B. Infiltration measurements were taken at the Perkins, Ackermann, and Christoffer sites on June 2, 2015.

Objective 1. Task B. Infiltration measurements were taken at the Hansberger site on June 10, 2015.

Objective 1. Task B. Tillage transects were conducted at the Perkins and Hansberger sites on May 13, 2015.

Objective 1. Task B. Tillage transects were conducted at the Christoffer site on May 21, 2015.

Objective 1. Task B. Tillage transects were conducted at the Ackermann site on June 1, 2015.

Objective 1. Task B. Soil samples were collected at the Ackermann, Christoffer, and Perkins sites on May 21, 2015.

Objective 1. Task B. Soil samples were collected at the Hansberger site on May 27, 2015.

Objective 2. Task A. Jan Voit and Catherine Sereg met on March 4, 2015 to brainstorm about steering committee membership. It was determined that membership should include a person who has cover crops and livestock, a crop consultant, a crop insurance agent, someone who will be planting cover crops in 2015, and someone who has not planted cover crops.

Objective 2. Task A. A letter was drafted and distributed to prospective committee members.

Objective 2. Task A. Contact was made with potential committee members on March 30, 2015, April 14, 2015, and May 28, 2015.
Objective 2. Task A. The Civic Engagement Support Group met on June 8, 2015. One of the breakout sessions focused on the Cover Crop Steering Committee. The group suggested that the committee should have a larger membership that could include a conservation organization, young farmer, University of Minnesota agronomist, Natural Resources Conservation Service, Soil and Water Conservation District, farmer cooperative, banker, county commissioners, and HLWD board member. They also suggested that the committee members should choose the meeting schedule.

Objective 2. Task A. On June 16, 2015, Jan Voit contacted Katherine Pekarek-Scott, MPCA regarding the possibility of a change order for the grant.

Objective 2. Task A. The change order was approved on June 22, 2015. Through this change order, the number of steering committee members will be increased from five to a maximum of 15. The steering committee members will determine the meeting schedule. Through this process, the steering committee will be meeting to brainstorm about needs, wants, and perceptions of watershed landowners as they relate to water quality improvement, focusing on cover crops. They will be putting together recommendations for the HLWD. The board was made aware that there are expectations that the board will consider and implement the recommendations made.

Objective 2. Task A. A letter was sent to prospective committee members on June 22, 2015.

2. List all products (documents, pamphlets, videos, maps, etc.) produced in this reporting period:
   - Memo to Cover Crop Partners
   - Letter to potential steering committee members
   - Infiltration Test Results
   - HLWD Soil Test Booklet Spring 2015
   - Steering Committee Info

3. Challenges faced (optional):
   n/a

4. Summary of monitoring data collected (if applicable):
   - Nobles County Infiltration Test Results
     The Nobles County infiltration test locations have soils with a high water holding capacity and showed higher infiltration rates than Jackson County. In Nobles County, Elk 10, NW ¼ the infiltration rate was 10 inch per hour. We took the test in a L135A soil type with a 59 degrees F soil temperature. We took the test on June 2, 2015. In Nobles County, Elk 32, the infiltration rate was also 8 inches per hour. The soil type was L85A-nicollect clay loam and the soil temperature was 62 degrees F.
   - Jackson County Infiltration Test Results
     The Jackson County infiltration test locations have "poorly drained" soils. In Jackson County, West Heron Lake 33, the infiltration rate was 4 inches per hour. The soil type was 813-spicer-lura complex and the temperature was 61 degrees F. We took the test on June 2, 2015. In Jackson County Alba 34 the test results were 5 inches per hour. The soil type was 229-waldorf silty clay and the temperature was 60 degrees F.
     All sites have similar tillage practices, no till beans and strip till corn. Three out of the 4 test sites were completed on soybean fields and the other was a corn field. We timed each inch of water that was infiltration within the ring’s surface water for one hour.
   - Tillage Transect Results
     All of the 2015 spring tillage transects were completed in May and early June. Two out of the four sites still had cover crops present, with 2015 crop planted into it. All fields have a similar tillage practice, no till beans and strip till corn. All sites had 70-80 percent residue coverage, except one site that was beans in 2015. Beans have less residue than corn the follow year, which could explain the lower percent coverage.
   - Soil Sample Results
     Christoffer:
     Six composite soil tests were taken in May 2015 from 0-6" and sent to MVTL Laboratories to be analyzed for Organic Matter, pH, Buffer pH, Phosphorus, Potassium, and Zinc. Soil texture was determined by examining the NRCS Soil Survey for Jackson County. Organic matter is high averaging 6.0% which is fairly typical for the region and soil types. The soil pH is approximately 6.5 in the top 6 inches. Again, this is within the ranges expected for the soil types in the field. Soil phosphorus is averaged 13 ppm on the weak Bray test. Soil potassium averaged 169 ppm. Zinc levels averaged 2.3 ppm Soils are calcareous in nature and are fine textured. Soil nitrate in the top 6 inches averaged 20 lbs. per acre.
Perkins:
Six composite soil tests were taken in May 2015 from 0-6” and sent to MVTL Laboratories to be analyzed for Organic Matter, pH, Buffer pH, Phosphorus, Potassium, and Zinc. Soil texture was determined by examining the NRCS Soil Survey for Nobles County. Organic matter is high averaging 4.8% which is fairly typical for the region and soil types. The soil pH is slightly acidic averaging 6.1 in the top 6 inches. Soil phosphorus averaged 11 ppm on the weak Bray test. Soil potassium averaged 137 ppm. Zinc levels averaged 2.1 ppm. Soils are calcareous in nature and are fine textured. Soil nitrate in the top 6 inches averaged 21 lbs. per acre.

Hansberger:
Twelve composite soil tests were taken in May 2015 from 0-6” and sent to MVTL Laboratories to be analyzed for Organic Matter, pH, Buffer pH, Phosphorus, Potassium, and Zinc. Soil texture was determined by examining the NRCS Soil Survey for Nobles County. Organic matter averaged 5.3%, which is fairly typical for the region and soil types. The soil pH is neutral averaging 7.2 in the top 6 inches. Soil phosphorus averaged 54 ppm on the weak Bray test. Soil potassium averaged 200 ppm. Zinc levels averaged 3.6 ppm. Soils are calcareous in nature and are fine textured. Soil nitrate in the top 6 inches averaged 33 lbs. per acre.

Ackerman:
Six composite soil tests were taken in May 2015 from 0-6” and sent to MVTL Laboratories to be analyzed for Organic Matter, pH, Buffer pH, Phosphorus, Potassium, and Zinc. Soil texture was determined by examining the NRCS Soil Survey for Jackson County. Organic matter averaged 5.9% which is fairly typical for the region and soil types. The soil pH averaged 6.5 in the top 6 inches. Soil phosphorus averaged 39 on the weak Bray test. Soil potassium averaged 197 ppm. Zinc levels averaged 2.6 ppm. Soils are calcareous in nature and are fine textured. Soil nitrate in the top 6 inches averaged 40 lbs. per acre.

Overall, there were very small changes in soil fertility characteristics that are likely the result of sampling variability and/or soil mineralization. They cannot be attributed to the cover crops.

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:
The Heron Lake Watershed District would like to expand the number of steering committee members and allow the committee members to set the timing for meetings as described in Objective 2 Tasks A and B.

Objective 2. Task A. Subtask 1. In order to get a better perspective on cover crops, the number of steering committee members will be increased from five to up to 15 members representing watershed landowners, agency personnel, private industry, and conservation organizations.

Objective 2. Task B. Subtask 1. Instead of meeting on a semi-annual basis, steering committee members will determine the meeting schedule.

8. List anticipated program objectives or tasks to be completed during the next six (6) months please be specific):
Objective 1. Task A: Plan for cover crop seeding.
Objective 1. Task A. Seed cover crop.
Objective 1. Task B: Schedule approximate dates to take tillage transects, soil samples, and infiltration measurements.
Objective 2. Task A: Establish Steering Committee.
Objective 2. Task B: Hold semi-annual meeting.
Objective 2. Task C: Update web page on the HLWD website.
Objective 3. Task A: Submit semi-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

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Date form completed (mm/dd/yyyy): 7/21/2015