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Grantee Information

Grantee name: Heron Lake Watershed District Contact name: Jan Voit
 Contact phone number: 507-793-2462 Grant award: \$48,626.41
 Contact e-mail: jan.voit@mysmbs.com
 Project title: Des Moines River Watershed Lake and Stream Assessment
 Grant budget period: Start date (mm/dd/yyyy): 3/24/2014 End date (mm/dd/yyyy): 3/31/2016
 Project time period covered by this report: Start date (mm/dd/yyyy): 1/1/2015 End date (mm/dd/yyyy): 12/31/2015

Section I - Work Plan

- Have you worked with Minnesota Pollution Control Agency (MPCA) Environmental Quality Information System (EQUS) staff to establish all sites listed in your grant work plan?**
 Yes No Date submitted (mm/dd/yyyy): 5/15/2014
- Was monitoring data for these established sites submitted for storage into EQUS annually?**
 Yes No Last submittal date (mm/dd/yyyy): 10/12/2015
- If applicable, were stream photos submitted with this report and labeled according to directions specified in the stream monitoring Standard Operating Procedures (SOP)?**
 Yes No Date submitted (mm/dd/yyyy): 10/6/2015

Describe in detail the monitoring that has been conducted during the entire grant period. Please be specific by completing Table 1. The table should reflect all sites in your grant work plan, their site identifications (IDs), the number of samples to be collected according to the work plan and the number of samples actually collected (include Quality Assurance/Quality Control [QA/QC] sampling). If you were not able to meet your sampling obligations, describe in the comments section what sampling was missed and why. Refer to the instructions found at the end of this report for an example of the completed table.

Table 1. Monitoring summary

Waterbody	Site ID#	Planned sampling		Actual sampling		Comments
		Parameter	No.	Parameter	No.	
West Fork Des Moines River	S000-027	NO2+NO3	6	NO2+NO3	6	2 make-up samples
		TKN	6	TKN	6	
		TP	6	TP	6	
		E.coli	8	E.coli	8	
		Chl-A	6	Chl-A	6	
		Secchi tube	8	Secchi tube	8	
		Specific conductance	8	Specific conductance	8	
		Temperature	8	Temperature	8	
		pH	8	pH	8	
		DO	8	DO	8	
		One upstream photograph	8	One upstream photograph	8	

West Fork Des Moines River	S000-156	Rec. suitability, appearance, stage estimate	8	Rec. suitability, appearance, stage estimate	8	3 make-up samples
		E.coli	9	E.coli	9	
		Secchi tube	9	Secchi tube	9	
		Specific conductance	9	Specific conductance	9	
		Temperature	9	Temperature	9	
		pH	9	pH	9	
		DO	9	DO	9	
		One upstream photograph	9	One upstream photograph	9	
Okabena Creek	S000-269	Rec. suitability, appearance, stage estimate	9	Rec. suitability, appearance, stage estimate	9	2 make-up samples 1 make-up sample 1 make-up sample 1 extra day for field measurements due to make up sample
		E.coli	8	E.coli	8	
		S	1	S	1	
		Cl	1	Cl	1	
		Secchi tube	8	Secchi tube	9	
		Specific conductance	8	Specific conductance	9	
		Temperature	8	Temperature	9	
		pH	8	pH	9	
DO	8	DO	9			
One upstream photograph	8	One upstream photograph	9			
Tributary of Jack Creek	S007-891	Rec. suitability, appearance, stage estimate	8	Rec. suitability, appearance, stage estimate	9	4 make-up samples 1 make-up sample 1 make-up sample Extra field measurement data, had to revisit site to collect another sample because bottle was damaged.
		E.coli	10	E.coli	10	
		S	1	S	1	
		Cl	1	Cl	1	
		Secchi tube	10	Secchi tube	11	
		Specific conductance	10	Specific conductance	11	
		Temperature	10	Temperature	11	
		pH	10	pH	11	

Elk Creek	S007-892	DO	10	DO	11	4 make-up samples
		One upstream photograph	10	One upstream photograph	11	
		Rec. suitability, appearance, stage estimate	10	Rec. suitability, appearance, stage estimate	11	
		E.coli	10	E.coli	10	
		Secchi tube	10	Secchi tube	10	
		Specific conductance	10	Specific conductance	20	
		Temperature	10	Temperature	10	
		pH	10	pH	10	
		DO	10	DO	10	
		One upstream photograph	10	One upstream photograph	10	
Heron Lake Outlet	S007-893	Rec. suitability, appearance, stage estimate	10	Rec. suitability, appearance, stage estimate	10	2 make-up samples
		NO2+NO3	6	NO2+NO3	6	
		TKN	6	TKN	6	
		TP	6	TP	6	
		E.coli	8	E.coli	8	
		Chl-A	6	Chl-A	6	
		S	1	S	1	
		Cl	1	Cl	1	
		Secchi tube	8	Secchi tube	8	
		Specific conductance	8	Specific conductance	8	
Boot Lake	32-0015-00	Temperature	8	Temperature	8	1 make-up sample 1 make-up sample
		pH	8	pH	8	
		DO	8	DO	8	
		One upstream photograph	8	One upstream photograph	8	
		Rec. suitability, appearance, stage estimate	8	Rec. suitability, appearance, stage estimate	8	
		TP	6	TP	6	
		Chl-A	6	Chl-A	6	
		Specific conductance	6	Specific conductance	6	
		Temperature	6	Temperature	6	
		pH	6	pH	6	
DO	6	DO	6			

4. Please indicate if there were any noteworthy events or conditions that may have affected the parameter results. Some examples may be upstream construction, drought or low flow conditions, feedlot activity, beaver

impoundments, or waterfowl management areas.

Table 2. Monitoring conditions

Waterbody	Site ID #	Comments
West Fork Des Moines River	S000-027	Swallows present on 6/2, 6/25, 7/7, 7/29.
West Fork Des Moines River	S000-156	Surface bubbles and foam present on 6/24, 7/7. Geese were present on 6/2. Swallows were present on 6/24, 6/25, 7/7, 7/29. Low flow conditions were observed on 7/29, 7/30.
Okabena Creek	S000-269	There was a buildup of debris on the bridge on 6/1 and 6/9. Minnows were present in the water on 6/1, 6/22, 6/23, 7/28, 8/4, 8/5. Low flow conditions were observed on 8/4, 8/5.
Tributary of Jack Creek	S007-891	Algae present on the surface on 6/1, 6/9, 6/22, 6/23, 7/28, 8/12. Minnows present on 6/1, 7/30. Surface bubbles/foam present on 8/4, 8/5. Low flow conditions were observed on 8/4, 8/5. Stagnant water was observed on 7/28.
Elk Creek	S007-892	Algae present along on the bank on 6/9. Surface bubbles/foam present on 6/23, 7/9. Minnows present on 7/9, 7/28, 7/30, 8/4. Swallows present on 7/20, 7/28, 7/30, 8/4. Low flow conditions were observed on 7/20, 7/28, 7/30, 8/4.
Heron lake Outlet	S007-893	Carp present on 6/1, 6/9, 6/23, 7/9, 7/28, 8/4, 8/5. Turtles present on 7/28. Low flow conditions were observed on 6/1, 6/9, 7/28, 8/4, 8/5.
Boot Lake	32-0015-00	Algae clumps forming on 5/27. Large amounts of foam on shore on 6/2.

5. Please describe progress in successfully carrying out aspects of the grant work plan:

Sampling events for regular sampling and make-up sampling were established with MPCA. Additional water sampling equipment was obtained and two summer interns were trained on proper water sampling techniques. Water samples were taken on all scheduled sampling events for regular and make-up sampling. Data was entered into the EQuIS spreadsheet, submitted, and reviewed. Photos were taken during all sampling periods and were submitted. Bills have been tracked and submitted.

6. Describe in detail any problems, delays, or difficulties that have occurred in fulfilling the grant work plan. How did the grantee resolve these problems? Were there any change orders and/or amendments to the grant contract and/or work plan? If yes, list.

E.coli samples occasionally exceeded the 24 hour holding time. This is due to time constraints between sampling, shipping, and receiving at the lab. Coolers containing E.coli samples were clearly identified to make receiving more efficient. Conversations were held with the project manager and the lab to ensure E.coli samples were tested as soon as possible.

Temperature exceedances were rare in 2015 but did occasionally occur. Special care was taken to allow ample room in the coolers for ice to chill the water samples.

We did have one E.coli sample that was damaged during shipping. The lab notified staff in a timely manner and staff were able to re-sample the site on a later date.

We had one extra field visit than planned on site S000-269. This was to collect the 2014 make ups for Chloride and sulfate.

An amendment to the grant contract was completed on 5/12/15. The amendment reallocated funds needed to carry out sampling in 2015 and accounted for overages paid in 2014. Make-up sampling dates were added to the work plan to account for water samples that were missed in the 2014 sampling period. Additionally, MPCA Water Quality Monitoring Unit took over 4 sampling locations for 2015 to ensure the HLWD could complete the remaining work within budget.

7. Provide an annual quality assurance assessment that includes the following elements.

- A. Field meter calibration records (submit only those not previously submitted with an Interim Report).
- B. A list of narrative descriptions that highlight specific data points for which adverse field conditions, field meter malfunctions, errors, excess holding time (quantify), lab result qualifiers, or other factors that may have affected the results, and would be beneficial to a data user. *For example*, a description might be included of the cross-section location of sampling chosen on a day when a stream is out of banks, and the main flow is inaccessible due to floating debris.
- C. Complete Table 2 presenting quality control sample results with columns showing comparison to lab method detection limit for sampler blanks, and the relative percent difference(RPD) for field duplicates (see the *SWAG Quality Assurance Project Plan*). Please use the "maximum expected relative percent difference" values presented on page 24 in Appendix D of the

Volunteer Surface Water Monitoring Guide (<http://www.pca.state.mn.us/yhiz8f0>) to assess RPD on field duplicates. Field duplicates with values in excess of the expected RPD may be an indication of high variability within the stream, which is useful for data interpretation. Use the comment field to note RPD or sampler blank results outside of expectations.

Table 2. Quality control sample results and analysis

Date (mm/dd/yyyy)	Site ID#	Analyte	Sampler blanks		Field duplicates			Comments
			Result	Detection limit	Sample result	Duplicate result	RPD	
N/A								

Section II - Participants in Project

8. **Have there been any changes in project staff or contractors or has participation by companies or units of government changed? How many volunteers participated in monitoring activities during this project? Complete Table 3 by listing the contact information for your volunteers. Once your grant ends, the MPCA Citizen Lake/Stream Monitoring Program coordinators plan to contact these volunteers to see if they are interested in continuing to collect transparency data at their assigned sites.**

Michelle Chapel and Cole Sinnamon were hired as HLWD summer interns for 2015. The interns took the majority of the water samples.

Amanda Schultz resigned as Watershed Coordinator. Her last day of employment was August 20, 2015.

Note: *You do not need to complete the volunteer table below if your volunteers have not changed from those you identified on your last interim report.*

Table 3. Volunteer contact information

Tennessen warning: Pursuant to Minn. Stat. § 13.43, some of the information that you are being asked to provide in the above table is classified as private data on individuals as described in Minn. R. 1205.0200, subp. 9, Minn. R. 1205.0400 and Minn. Stat. § 13.02, subd. 12 (home contact information). You are not legally required to provide this private data, but if you do the MPCA plans to use this information to invite volunteers to join their Citizen Lake/Stream Monitoring Programs (CMPs) after your grant project has ended. All private volunteer information is kept in a secure location and is never released to anyone outside of our SWAG or CMPs.

Organization name: N/A

Grantee contact: _____ Telephone number: _____

Waterbody	Site ID#	Contact name	Address	Telephone	E-mail address

9. **Please describe training that you and/or an outside trainer provided to your project participants throughout the course of this grant. Include details on what the training covered, who administered this training and when it was offered (i.e., at the start of the grant, at the beginning of each field season, etc.).**

Jordan Donatell, MPCA, provided training to Catherine Sereg, HLWD Technician, on 5/7/2014 for about twelve hours. Training consisted of visiting each of the twelve stream sites and showing staff how to collect surface water samples using a bucket, the use of the HACH meter, how to fill out lab forms, and how to report data. Catherine Sereg then provided training to Michelle Chapel and Cole Sinnamon, 2015 HLWD summer interns for multiple days in late May and early June 2015. This training covered the same topics covered by Jordan Donatell. Jordan Donatell and Kelli Nerem helped with new Chain-of-Custody Form.

Section III - Evaluation Plan Results

10. Was the project a success? Did you achieve your goals?

The project did not start out as a success. Many factors lead to missed samples and overpayments in 2014. An amendment to the work plan and budget was completed in 2015 that allowed for the rest of the project to be completed successfully. After the 2015 sampling season, all regular and make-up samples were successfully taken. E.coli sampling times were modified to ensure the 24-hour holding time was not exceeded. Extra caution was taken to ensure samples were received with low enough temperatures.

11. What would you recommend to others interested in attempting a project like yours?

Staying on constant contact with your project coordinator will help to make this project a success. Begin the project with uncomplicated work plans and budgets so the work that is to be done is easy to understand. Taking on a smaller amount of sample sites will keep the work manageable. Using the correct reimbursement forms and budget items will make budget issues more apparent. Error on the side of caution when creating the budget as mileage, sampling hours, and reporting hours are all difficult to predict and require large amounts of money. Be aware of all holding times and temperature requirements set by the lab. Sampling schedules may need to be adjusted to ensure holding times are met.

12. Distribution of the project information is a legislative requirement for all SWAGs. How do you plan to distribute project information to interested parties (the media, businesses, Local Unit of Government [LUGs] etc.)? Is this information to be posted on your Web site? Is so, please supply the link to your Web site.

Project information will be posted on the HLWD website. The link is www.hlwdonline.org

Section IV - Budget

13. Fill in Table 4. List below and identify any time extensions or any additional dollars incorporated into your project budget through an amendment and/or any dollars reallocated from one task to another through a change order after the original grant award.

Change Order 1, May 1, 2014: Moving a total \$2,388.20 for laboratory costs for chemistry and E. coli at the Heron Lake outlet streams site. See below for breakdown of distribution. Changing Heron Lake outlet site lab analyses to be funded completely with SWAG funds and no LCCMR funding. Additionally, the reduction in staff time will result in a reduction of the FTE from 0.41 to 0.38.

Deductions

Objective 1 Task A Watershed Coordinator: deduct 7 hours at \$26.83 totaling \$187.81

Objective 2 Task A Watershed Coordinator: deduct 5 hours at \$26.83 totaling \$134.15

Watershed Technician: deduct 5 hours at \$22.67 totaling \$113.35

Interns: deduct 10 hours at \$21.53 totaling \$215.30

Objective 3 Task A Watershed Coordinator: deduct 5 hours at \$26.83 totaling \$134.15

Watershed Technician: deduct 5 hours at \$22.67 totaling \$113.35

Objective 4 Task A District Administrator: deduct 15 hours at \$36.56 totaling \$548.40

Watershed Coordinator: deduct 10 hours at \$26.83 totaling \$268.30

Mileage: Deduct 221 miles at \$.56 totaling \$123.76

Lab Analyses S001-557, S001-568, & HL Outlet 2014: deduct 11 samples totaling \$550.00

Additions

Laboratory analyses: 10 Remaining Stream Sites: add 10 additional samples totaling \$1,487.20

Laboratory analyses: 2014 E. coli - 10 Remaining Stream Sites: add 10 additional samples totaling \$130.30.

Laboratory analyses: 2015 E. coli - 10 Remaining Stream Sites: add 6 additional samples totaling \$85.80

Laboratory analyses: River Nutrients 2014: add 7 additional samples totaling \$210.00

Laboratory analyses: River Nutrients 2015: add 6 additional samples totaling \$475.20

Amendment 1, May 11, 2015: Numerous sampling errors occurred within the 2014 field monitoring season, particularly with the E. coli samples. Several samples were received by the laboratory past the 24 hour holding time often with temperature exceedances as well. As a result, the validity of the E. coli data is in question.

Greater than 10% of the total budget will be moved and MPCA staff will assist with monitoring designated sampling locations. This amendment will take the remaining balance and reallocate funds and duties to complete 2015 objectives and tasks which Heron Lake will now be responsible for completing. A total amount of \$14,180.10 remains within the budget. The amount of \$16,015.32 will be required to complete objectives and tasks for 2015. The overages already paid will be deducted from \$16,015.32 to make the total amount to be paid for FY 15 is \$14,335.50 as noted on Attachment A-1.

Additionally, Heron Lake WD overspent a total of \$1,679.31 in lab expenses, equipment purchases, and staff time. This amount will be written into their work plan with the expectation that the below listed tasks have already been paid for.

\$1,679.31 that we owe MPCA work for the overages:

Watershed Technician - submit data	7	22.67	158.69
Watershed Technician - reporting	7	22.67	158.69
Summer Interns - monitoring	15.5	21.53	333.72
District Administrator - reporting	10	36.56	365.60
Watershed Coordinator - submit data	7	26.83	187.81
Watershed Coordinator - reporting	7	26.83	187.81
Mileage	5000.575	287.50	

Total 1,679.82 Change Order 2, November 6, 2015: Reduced the Watershed Coordinator's hours by 17.55 (\$470.90) within Objective 4. Increased Watershed Technician's hours by 20 (\$453.40) and moved \$17.50 to adjust for MVTL laboratory rate increases for required parameters. Reduced Watershed Coordinator's hours by 8.45 hours within Objective 2 and converted to a 10 hour increase for Watershed Technician within Objective 3 (\$226.72). \$.03 difference lies within the rate conversion. Lab rate change is retroactive to the July 1, 2015 execution of the Laboratory Services Master Contract rate increases.

Table 4. Project expenditures

Project budget	MPCA grant funds available	Total MPCA funds expended	Total remaining balance	Percent of budget expended
Objective 1: (Title) Prep and Plan				
Task: Equipment and Supplies	\$835.73	\$682.11	\$ 153.62	82 %
Task:	\$0.00	\$0.00	\$ 0.00	0 %
Task:	\$0.00	\$0.00	\$ 0.00	0 %
Task:			\$ 0.00	%
Objective 2: (Title) Monitoring				
Task: Lake and stream monitoring	\$7,985.59	\$5,187.09	\$2,798.50	65 %
Task:			\$ 0.00	%
Task:			\$ 0.00	%
Task:			\$ 0.00	%
Objective 3: (Title) Submit Data				
Task: Prepare and submit data to EQUIS	\$1,938.32	\$895.47	\$1,042.85	46 %
Task:			\$ 0.00	%
Task:			\$ 0.00	%
Task:			\$ 0.00	%
Objective 4: (Title) Reporting				
Task: Prepare and complete reports	\$3,575.86	\$2,479.60	\$1,096.26	69 %
Task:			\$ 0.00	%
Task:			\$ 0.00	%
Task:			\$ 0.00	%
Objective 5: (Title)				
Task:			\$ 0.00	%

Project budget	MPCA grant funds available	Total MPCA funds expended	Total remaining balance	Percent of budget expended
Task:			\$ 0.00	%
Task:			\$ 0.00	%
Task:			\$ 0.00	%
Objective 6: (Title)				
Task:			\$ 0.00	%
Task:			\$ 0.00	%
Task:			\$ 0.00	%
Task:			\$ 0.00	%
Column Total	\$14,335.50	\$9,244.27	\$5,091.23	%