



**Instructions on Page 5**

## I. Project information

Project title: Mississippi Headwaters Board WPLMN Sampling

**Local Partner information:**

Organization name: Mississippi Headwaters Board

Street address: 322 Laurel Street

City: Brainerd

State: MN

Zip code: 56401

Primary contact name: Tim Terrill

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Fiscal contact name: Tim Terrill

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Field contact name: Brian Ross

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Email address: brian.ross@wsn.us.com

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**Reporting period:**

Start date: 1/15/2015  
 (mm/dd/yyyy)

End date: 6/30/2016  
 (mm/dd/yyyy)

**Project details:**

Basin (check all that apply):

Red River  Rainy River  Lake Superior  Minnesota  Lower Mississippi  St. Croix  Upper Mississippi

Major Watershed(s): Upper Mississippi R Brainerd and Long Prairie Hydrologic unit code(s): 07010104 and 07010108

Name of eligible laboratory: Pace Analytical Labaoratory-Minneapolis

How many full-time equivalents (FTEs) worked on this project (total project hours/2,088 hours): 0.23

## II. Activities completed

**Table 1: Workplan activities**

- Please list activities completed during the reporting period. Include task level detail as appropriate. Please separate activities by calendar year, if applicable.** Refer to the instructions for examples. (Insert more rows as needed by hitting the tab key in the last row/column.)

Objective	Description
1: Sampler and Administrator Training	On February 18, 2015 three Widseth Smith Nolting (WSN) staff members and one Mississippi Headwaters Board (MHB) staff member attended the WPLMN Sampling Grant Kickoff Training in St. Cloud, MN.
2: QAPP Preparation	WSN reviewed project needs and expectations with Pace Analytical Laboratory - Minneapolis. MHB and WSN completed and submitted the Quality Assurance Project Plan to Roger Fisher in February of 2015.
3: Site Visits and Weekly Calls	WSN created detailed maps of all four sampling sites. On March 18, 2015 Joey Goeden from WSN met with DNR staff at the Platte River (H15030001) and Swan River (H10065002) sites to complete onsite training.
3: Site Visits and Weekly Calls	WSN and MHB staff members attended weekly call ins from March 2015 through October 2015. WSN and MHB staff members attended monthly call ins from November 2015 through February 2016. WSN and MHB staff members attended weekly call ins from March 2016 through June 2016.

4: River Sampling	WSN staff contacted the lab to request bottles and coolers as needed. WSN arranged billing with the lab. WSN purchased necessary monitoring equipment and supplies. WSN obtained AIS permits for Hydstra sites E14051001 and E15001002.
4: River Sampling	WSN calibrated dissolved oxygen, pH, and specific conductance for the field meter prior to each sampling occasion (pH and specific conductance no more frequently than weekly). WSN maintained the field meter in good working order and completed maintenance as required.
4: River Sampling	On February 24, 2015 Joey Goeden and Mike Bogart from WSN, Tim Terrill from MHB and Jim MacArthur from MPCA met at the Miss Royalton Site (E15001002) to conduct through ice sampling training. On March 17, 2015 Joey Goeden met Jim MacArthur at all four sampling locations to complete the required field training. Ice out occurred on March 17, 2015 and 20 samples were collected from the three subwatershed sites from ice out through October 31, 2015 and 25 samples were collected from the basin site from ice out through December 31, 2015. Two field duplicates were collected at all three of the subwatershed sites and 3 field duplicates were collected at the basin site in 2015. All field duplicates were counted towards the total samples collected. All samples were collected using methods described in the WPLMN Standard Operating Procedures. See Table 2 for specific details on samples collected.
4: River Sampling	Remaining sampling funds from the 2015 grant were carried over into 2016 and were collected under 2015 grant through June of 2016. See Table 2 for specific details on samples collected. In 2016, one field duplicate was collected at the three subwatershed sites that fall under the 2015 grant and one field duplicate was collected at the basin site. All samples were collected using methods described in the WPLMN Standard Operating Procedures.
5: Data Entry and Project Administration	WSN reviewed laboratory reports immediately to ensure all parameters were analyzed, the methods and reporting limits in QAPP were followed, and to ensure there are no errors. Sampling data was entered into EQulS template provided by MPCA and was submitted as directed. Finalized data from February 2015 through October 2015 was entered in the EQulS template and was submitted prior to November 1, 2015. For the basin site, data from November 1, 2015 through December 31, 2015 was entered into the EQulS template and submitted prior to February 1, 2016.
5: Data Entry and Project Administration	Site inspection information was entered regularly into the site inspection template. The site inspection template was reviewed and submitted prior to November 1, 2015. Site photographs were taken at all sites during each sampling event. Site photographs were labeled using the MPCA's naming guidance and submitted prior to November 1, 2015. Hydro Lab calibration logs were recorded during each calibration and a copy of all calibration sheets was submitted prior to November 1, 2015. All site inspection logs, photographs and calibration sheets collected from November 1, 2015 through December 31, 2015 were submitted prior to February 1, 2016 for the basin site.
5: Data Entry and Project Administration	Sampling data for sampling completed from January 2016 through June 2016 was submitted through the Canvas application. Sampling data was entered into the 2016 EQulS template provided by the MPCA and was submitted as directed. WSN reviewed laboratory reports immediately to ensure all parameters were analyzed, the methods and reporting limits in the QAPP were followed, and to ensure there were no errors.
5: Data Entry and Project Administration	WSN has prepared this final progress report with the MPCA-approved template.

**2. Please answer the following questions relating to the deliverables for the project.**

a. Were any changes made to the Quality Assurance Project Plan during the reporting period?

Yes  No Revision date (mm/dd/yyyy): \_\_\_\_\_

If yes, please summarize:

b. Was an Interim Progress Report submitted?

Yes  No Submittal date (mm/dd/yyyy): \_\_\_\_\_

If no, please describe why:

*No Interim Progress Report was required during this 1 year grant period.*

c. If applicable, were FLUX32 pollutant loads submitted to your MPCA Project Manager?

Yes  No  N/A

Please list the sites and years where loads were calculated:

If no, please describe why:

d. Were you able to attend a majority of the weekly check-in telephone conferences during the project period?

Yes  No

If no, please describe:

e. Was a backup sampler used to collect any of the samples?

Yes  No

If yes, please describe when, who, if they were trained, and any other details:

*Mike Bogart with Widseth Smith Nolting collected samples at all four sites on 5/15/2015 and 5/26/2015. Mike Bogart attended the February 18, 2015 WPLMN Kick Off Training, met with the MPCA onsite for training and observed Joey Goeden in the field to ensure proper sampling procedures.*

**Table 2: Lab analyte summary**

3. Please enter the number of samples collected at each site for each analyte over the reporting period. Refer to the instructions at the end of this report for an example of the completed table. Please describe conditions when either sample count was more or less than what is specified in the workplan. A Microsoft Excel template is also available to complete this table. Please see instructions for more information. (Insert more rows as needed by hitting the tab key in the last row/column.)

Year	Site Type	Stream Name	EQulS ID	TSS	SVS	Turbidity	OP	TP	NOx	TKN	Comments
2015	Subwatershed	Long Prairie	S002-904	20	20	20	20	20	20	20	Lack of major flow events resulted in 5 extra samples.
2015	Subwatershed	Swan	S001-996	20	20	20	20	20	20	20	Lack of major flow events resulted in 5 extra samples.
2015	Basin	Miss Royalton	S000-150	25	25	25	25	25	25	25	Lack of major flow events resulted in 10 extra samples.
2015	Subwatershed	Platte	S001-930	20	20	20	20	20	20	20	Lack of major flow events resulted in 5 extra samples.
2016	Subwatershed	Long Prairie	S002-904	10			10	10	10	10	SVS and Turbidity were dropped for testing. Samples were collected on the 2015 grant due to the remaining funds.
2016	Subwatershed	Swan	S001-996	9			9	9	9	9	SVS and Turbidity were dropped for testing. Samples were collected on the 2015 grant due to the remaining funds.
2016	Subwatershed	Two River	S001-331	3			3	3	3	3	SVS and Turbidity were dropped for testing. Samples were collected on the 2015 grant due to the remaining funds.

2016	Basin	Miss Royalton	S000-150	13	1	1	13	13	13	13	SVS and Turbidity were sampled on the first round of sampling but were dropped for testing after that. Samples were collected on the 2015 grant due to remaining funds.
2016	Subwatershed	Platte	S001-930	9			9	9	9	9	SVS and Turbidity were dropped for testing. Samples were collected on the 2015 grant due to the remaining funds.

**Table 3: QA/QC samples summary**

4. Please complete the table below. The table should include actual results for the original and duplicate samples over the project period. The RPD should be calculated. Provide additional information in the comments about site conditions, sampling error, etc., if known. A Microsoft Excel template is also available to complete this table. Please see instructions for more information. (Insert more rows as needed by hitting the tab key in the last row/column.)

Stream Name	Date		TSS	RPD	SVS	RPD	Turbidity	RPD	DOP	RPD	TP	RPD	NOX	RPD	TKN	RPD
Long Prairie	5/5/15	Sample	16.2	27.7	6.0	20.9	5.3	18.8	0.014	15.4	0.069	7.0	0.22	31.6	0.85	14.2
		QA/QC	21.4		7.4		6.4		0.012		0.074		0.16		0.98	
Swan	5/5/15	Sample	4.8	13.3	2.0	66.7	2.8	0.0	0.0053	9.0	0.044	17.3	0.74	1.3	0.67	1.5
		QA/QC	4.2		1.0		2.8		0.0058		0.037		0.75		0.66	
Miss Royalton	5/5/15	Sample	4.0	10.5	1.0	0.0	2.6	7.4	0.0017	0.0	0.015	0.0	0.13	8.0	0.46	12.2
		QA/QC	3.6		1.0		2.8		0.0017		0.015		0.12		0.52	
Platte	5/5/15	Sample	6.0	10.5	2.6	8.0	3.3	19.2	0.0017	0.0	0.062	15.7	0.40	0.0	0.85	14.2
		QA/QC	5.4		2.4		4.0		0.0017		0.053		0.40		0.98	
Long Prairie	9/9/15	Sample	5.3	18.8	1.0	0.0	3.5	20.5	0.0440	22.8	0.072	1.4	0.12	8.7	0.82	1.2
		QA/QC	6.4		1.0		4.3		0.0350		0.073		0.11		0.81	
Swan	9/9/15	Sample	1.0	0.0	1.0	0.0	1.4	0.0	0.0260	0.0	0.042	2.4	0.57	1.7	0.96	9.8
		QA/QC	1.0		1.0		1.4		0.0260		0.041		0.58		0.87	
Miss Royalton	9/9/15	Sample	4.8	0.0	1.0	0.0	3.6	8.7	0.0310	17.5	0.046	6.3	0.13	8.0	0.69	12.2
		QA/QC	4.8		1.0		3.3		0.0260		0.049		0.12		0.78	
Platte	9/9/15	Sample	1.0	0.0	1.0	0.0	1.0	33.3	0.0240	22.2	0.046	4.4	0.38	0.0	0.82	19.8
		QA/QC	1.0		1.0		1.4		0.0300		0.044		0.38		1.00	
Miss Royalton	12/29/15	Sample	2.8	7.4	1.0	0.0	3.2	14.5	0.0110	8.7	0.034	3.0	0.37	0.0	0.62	12.1
		QA/QC	2.6		1.0		3.7		0.0120		0.033		0.37		0.70	
Long Prairie	3/31/16	Sample	21.2	15.2					0.0160	6.5	0.077	0.0	0.39	0.0	0.93	6.2
		QA/QC	18.2						0.0150		0.077		0.39		0.99	
Swan	3/31/16	Sample	8.0	2.5					0.0110	8.7	0.053	1.9	0.69	2.9	0.83	14.5
		QA/QC	8.2						0.0120		0.054		0.67		0.96	
Miss	3/31/16	Sample	10.2	0.0					0.0053	9.0	0.044	2.3	0.24	4.3	0.82	27.8

Royalton		QA/QC	10.2														
								0.0058		0.043		0.23			0.62		
Platte	3/31/16	Sample	4.4	4.7				0.0068	16.2	0.044	2.3	0.67	2.9	0.88	18.6		
		QA/QC	4.2				0.0080	0.043		0.69		0.73					

Comments:

**5. Please answer the following questions and provide comments.**

Were you comfortable with your level of training and current ability to:

- a. Collect stream samples over the entire range of the hydrograph?  Yes  No

Comments:

- b. Calibrate and use the field meter and equipment?  Yes  No

Comments:

- c. Enter data and information into the MPCA templates and logs?  Yes  No

Comments:

- d. Use the FLUX32 model and submit pollutant load data and supporting information?  Yes  No

Comments:

*We have not yet received training to complete the FLUX32 model.*

- e. Complete and submit invoices?  Yes  No

Comments:

- f. Complete the Interim Progress Report?  Yes  No

Comments:

*An Interim Progress Report was not required during this 1 year grant period.*

**6. Describe in detail any problems, delays, or difficulties that occurred in fulfilling the requirements of the workplan. How did you resolve these problems?**

*The 2015 Work Plan and QAPP took longer than expected to receive approval, but we worked through the issues and were able to successfully complete all of the sampling and administrative requirements during this grant period.*

**7. Were there any change orders and/or amendments to the contract and workplan? If yes, summarize the changes.**

- Yes  No

Comments:

*There were two change orders completed and submitted during this contract period. Change Order 1 was initialized but not submitted or finalized because it was not needed. Change Order 2 and 3 are summarized below.*

*Change Order 2:*

*Moved \$46.86 from Objective 1 Training Personnel to Objective 4 River Sampling Travel*

*Moved \$16.89 from Objective 1 Training Travel to Objective 4 River Sampling Travel*

*Moved \$22.00 from Objective 1 Training Per Diem to Objective 4 River Sampling Travel*

*Moved \$1.22 from Objective 2 QAPP Preparation to Objective 4 River Sampling Travel*

*Moved \$1,193.40 from Objective 3 Site Visits and Weekly Call Ins to Objective 5 Data Entry and Administration*

*Moved \$8.85 from Objective 4 River Sampling Personnel to Objective 4 River Sampling Travel*

Moved \$161.52 from Objective 4 River Sampling Personnel to Objective 4 River Sampling Laboratory

Moved \$152.58 from Objective 4 River Sampling Per Diem to Objective 4 River Sampling Laboratory

Change Order 3:

Moved \$800.00 from Objective 3 Site Visits and Weekly Call Ins to Objective 5 Data Entry and Administration.

**8. If there are unspent funds, please list the Objective and Task and explain the reason for the unspent funds:**

*Unspent funds and reason for the unspent funds are summarized below.*

*Objective 3 Site Visits and Weekly Calls - \$21.74 unspent - Not enough remaining funding to bill to task.*

*Objective 4 River Sampling Personnel - \$316.06 unspent - Not enough remaining funding to complete another full round of sampling.*

*Objective 4 River Sampling Laboratory - \$57.50 unspent - Not enough remaining funding to complete another full round of laboratory analysis.*

*Objective 4 River Sampling Travel - \$5.40 unspent - Not enough remaining funding to complete another full round of sampling.*

*Objective 4 River Sampling Monitoring Supplies - \$342.61 unspent - We did not purchase all of the sampling supplies.*

*Objective 4 River Sampling Per Diem - \$6.83 unspent - Not enough remaining funding to bill to this task.*

*Objective 5 Data Entry and Administration - \$53.08 unspent - Not enough remaining funding to complete all data entry for a full round of sampling.*

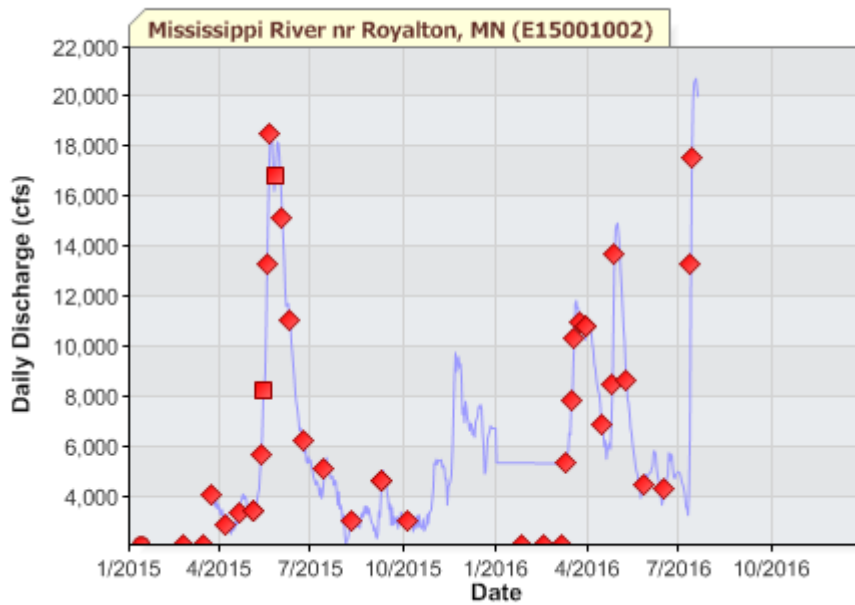
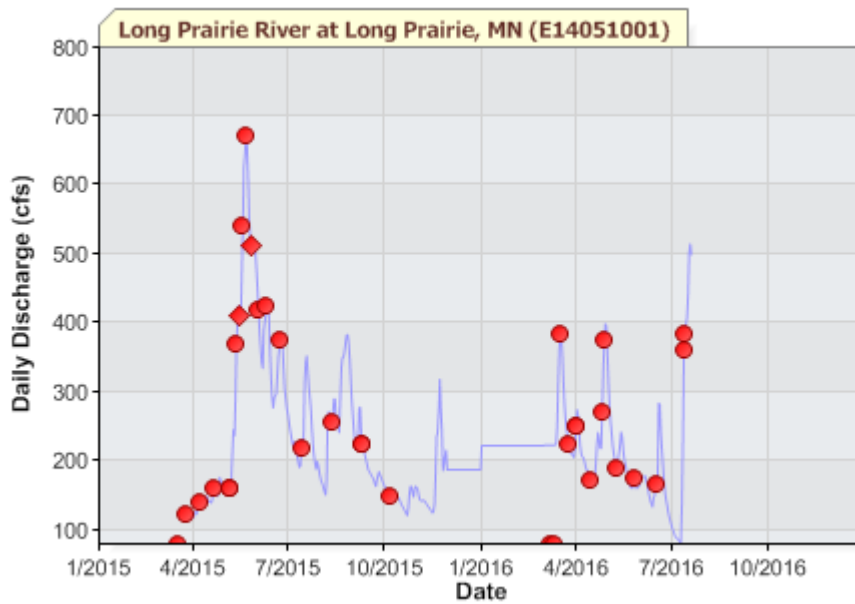
**9. Please provide any constructive feedback regarding the WPLMN (training, forms, program directives, etc.):**

*Additional information regarding control, out of bank, and backwater conditions could have been added to the initial training to help us better understand stream conditions. The additional training provided by Heather Emerson (DNR) has since cleared up our questions. Overall the WPLMN training has been very helpful and covers all important topics for this project. Most WPLMN forms have instructions at the end of the document, which we appreciate, as it makes filling out the forms much easier and more efficient.*

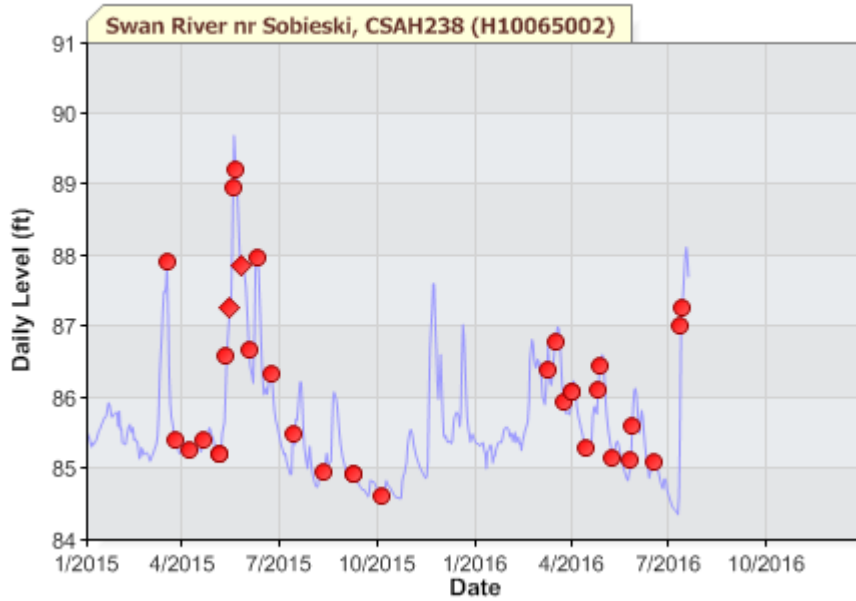
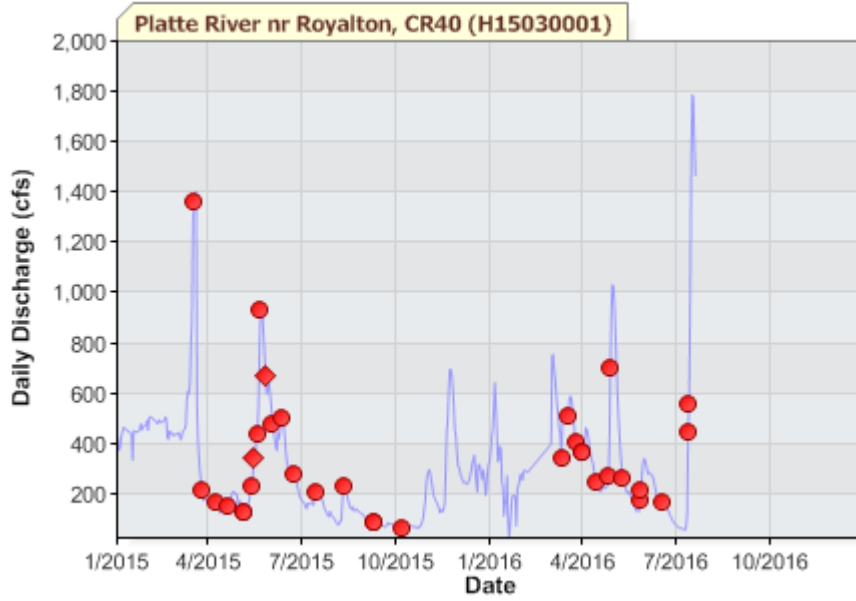
### III. Budget information

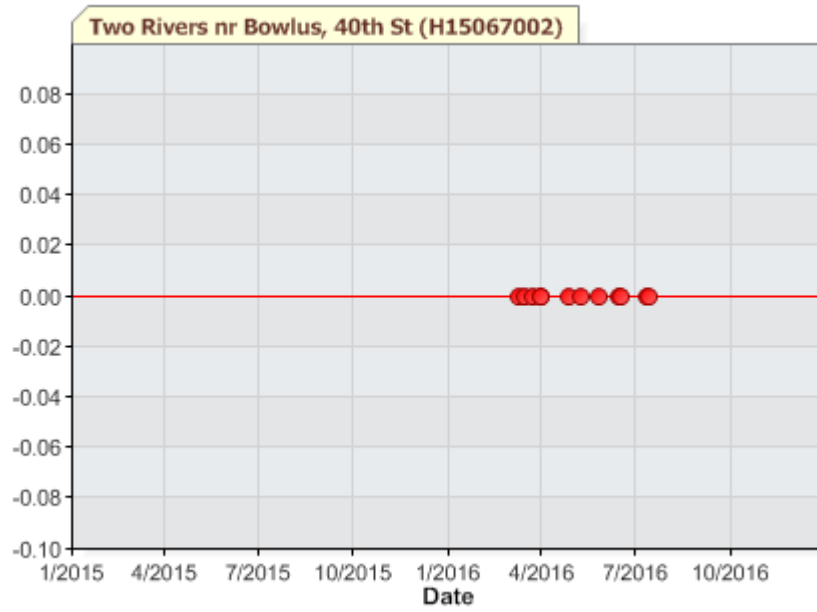
Budget item	Objective 1	Objective 2	Objective 3	Objective 4	Objective 5	Total expended
<b>Objective title:</b>	Sample Training	QAPP Preparation	Site Visits and Weekly Calls	River Sampling	Data Entry and Administration	
<b>Personnel: wages and benefits</b>						
Staff #1: No. of hours <u>61</u>	\$ 635.50	\$ 20.50	\$ 727.75	\$	\$ 1107.00	\$ 2,490.75
Staff #2: No. of hours <u>400</u>	\$ 269.92	\$ 96.40	\$ 655.52	\$ 11,057.08	\$ 3,345.08	\$ 15,424.00
Staff #3: No. of hours <u>28</u>	\$	\$	\$ 22.37	\$ 1,230.35	\$	\$ 1,252.72
<b>Laboratory analyses:</b>						
No. of stream samples <u>129</u>	\$	\$	\$	\$ 9,023.60	\$	\$ 9,023.60
<b>Travel reimbursement:</b> No. of miles <u>4,325</u>	\$ 50.31	\$	\$	\$ 2,374.10	\$	\$ 2,424.41
<b>Equipment</b>	\$	\$	\$	\$	\$	\$
<b>Monitoring supplies</b>	\$	\$	\$	\$ 227.19	\$	\$ 227.19
<b>Shipping</b>	\$	\$	\$	\$	\$	\$
<b>Training and materials</b>	\$	\$	\$	\$	\$	\$
<b>Other</b> (describe the activity and cost – be specific):						
Per Diem	\$	\$	\$	\$ 93.59	\$	\$ 93.59
	\$	\$	\$	\$	\$	\$
<b>Column total:</b>	<b>\$ 955.73</b>	<b>\$ 116.90</b>	<b>\$1,405.64</b>	<b>\$24,005.91</b>	<b>\$4,482.83</b>	<b>\$30,936.26</b>

## IV. Hydrographs









Discharges are not yet available for the Two Rivers site.