

### Project information

Redwood-Cottonwood Rivers Control Area  
 Local partner: (RCRCA) Contact name: Kerry Netzke  
 Contact phone number: (507) 532-1325 Budget amount: \$ 75,605.17  
 Contact email: [kerry.netzke@gmail.com](mailto:kerry.netzke@gmail.com)  
 Project title: Redwood and Cottonwood Rivers Monitoring  
 Interim reporting period: Start date (mm/dd/yyyy): 3/6/2017 End date (mm/dd/yyyy): 1/15/2019

### Section I - Workplan

- Were the Quality Assurance Project Plan approved by the QA/QC Coordinator and your Project Manager prior to monitoring?**  
 Yes  No Submittal date (mm/dd/yyyy): 5/1/2017
- Were field and laboratory data submitted to EQUIS by November 1?**  
 Yes  No Submittal date (mm/dd/yyyy): 11/13/2017
- If applicable, were stream photos submitted to the Minnesota Pollution Control Agency (MPCA) Project Manager by November 1?**  
 Yes  No Submittal date (mm/dd/yyyy): 11/21/2017
- Describe progress with monitoring each of your stream and/or lake sites. Complete Table 1 describing the number of scheduled samples, by parameter, and indicate the number of samples actually collected (include QA/QC sampling).**

In the comments field of Table 1, provide details regarding missed sampling events, noteworthy or adverse site conditions (i.e., drought or low flow, upstream construction, high waterfowl activity, beaver impoundments, or feedlot activity), field meter malfunction, sampling errors, or flagged laboratory samples (holding time or temperature exceedances). Add rows as necessary by placing cursor in the last row of last column and hit tab.

**Table 1. Monitoring summary**

Site ID#	Scheduled annual sampling		Actual for past season		Comments
	Parameter	No.	Parameter	No.	
08-0011-00-101 Clear Lake (Cottonwood)	Total Phosphorus, Chlorophyll-a, Secchi, pH, Temperature, Conductivity, DO	6	Total Phosphorus, Chlorophyll-a, Secchi, pH, Temperature, Conductivity, DO	6	7/13/17 sample has an error on lab report. Lab report lists this site as 08-011-00-101.
	Chloride	1	Chloride	1	
	Hardness	1	Hardness	1	
08-0045-00-203 Sleepy Eye Lake	Total Phosphorus, Chlorophyll-a, Secchi, pH, Temperature, Conductivity, DO	6	Total Phosphorus, Chlorophyll-a, Secchi, pH, Temperature, Conductivity, DO	6	6/8/17 visible algae in lake, but not thick. 9/28/17 algae observed near dock and landing.
	Chloride	1	Chloride	1	
	Hardness	1	Hardness	1	

08-0129-00-201 Wellner-Hageman Reservoir	Total Phosphorus, Chlorophyll-a, Secchi, pH, Temperature, Conductivity, DO Chloride Hardness	6 1 1	Total Phosphorus, Chlorophyll-a, Secchi, pH, Temperature, Conductivity, DO Chloride Hardness	6 1 1	8/30/17 only stop with algae observed in water.
17-0054-00-101 Bean Lake	Total Phosphorus, Chlorophyll-a, Secchi, pH, Temperature, Conductivity, DO Chloride Hardness	6 1 1	Total Phosphorus, Chlorophyll-a, Secchi, pH, Temperature, Conductivity, DO Chloride Hardness	6 1 1	6/8/17 observed dense algae growth on lake. 7/13/17 heavy algae growth observed. 8/30/17 water was clear for visibility, but with a heavy algae bloom. 9/28/17 lots of algae in small clumps and mats.
17-0056-01-101 Double, North	Total Phosphorus, Chlorophyll-a, Secchi, pH, Temperature, Conductivity, DO Chloride Hardness	6 1 1	Total Phosphorus, Chlorophyll-a, Secchi, pH, Temperature, Conductivity, DO Chloride Hardness	6 1 1	5/25/17 Lab report lists this site as 17-0056-00-101. 7/13/17 lab report lists this site as 17-056-01-101. 7/13/17 algae visible in water column. 8/30/17 Lots of algae "balls" and strong odor. 9/28/17 Lots algae but no clumps or mats and a moderate odor.
42-0052-00-101 Rock Lake	Total Phosphorus, Chlorophyll-a, Secchi, pH, Temperature, Conductivity, DO Chloride Hardness	6 1 1	Total Phosphorus, Chlorophyll-a, Secchi, pH, Temperature, Conductivity, DO Chloride Hardness	5 1 1	5/24/17 First sample run of the year – probe meter not along in boat – no probe data collected.  6/7, 7/26 & 9/21/17 stops all had visible algae in water. 7/26/17, 13:25 test was equipment blank.
64-0150-00-201 Lake Laura (Walnut Grove Reservoir)	Total Phosphorus, Chlorophyll-a, Secchi, pH, Temperature, Conductivity, DO Chloride Hardness	6 1 1	Total Phosphorus, Chlorophyll-a, Secchi, pH, Temperature, Conductivity, DO Chloride Hardness	6 1 1	6/8/17 Calcium test results were noted as "Sample diluted due to result above calibration or linear range".
42-0002-00-101 School Grove Lake	Total Phosphorus, Chlorophyll-a, Secchi, pH, Temperature, Conductivity, DO Chloride Hardness	6 1 1	Total Phosphorus, Chlorophyll-a, Secchi, pH, Temperature, Conductivity, DO Chloride Hardness	6 1 1	6/7 & 9/21/17 stops had algae visible in water. 7/26/17 stop had thick, stringy blue green algae in lake and landing/dock area. Very heavy algae growth – pictures submitted.
42-0054-00-201 Brawner Lake	Total Phosphorus, Chlorophyll-a, Secchi, pH, Temperature, Conductivity, DO Chloride Hardness	6 1 1	Total Phosphorus, Chlorophyll-a, Secchi, pH, Temperature, Conductivity, DO Chloride Hardness	2 1 1	In mid-June, after the second sample had been collected, the lake drained completely due to a failure in the dam conduit and embankment.
42-0055-00-201 Clear Lake (Redwood)	Total Phosphorus, Chlorophyll-a, Secchi, pH, Temperature, Conductivity, DO Chloride Hardness	6 1 1	Total Phosphorus, Chlorophyll-a, Secchi, pH, Temperature, Conductivity, DO Chloride Hardness	6 (5 – pH) 1 1	5/24/17 stop, pH probe would not read – no pH reading recorded.  6/7/17 – dead bullhead fish floating by dock/landing.
5001-918 Cottonwood River	TSS, Total P, Ammonia-N, Chloride, Hardness Secchi, pH, DO Conductivity, Temperature <i>E.coli</i> Chlorophyll-a, corrected for pheophytin	11 13  10 9	TSS, Total P, Ammonia-N, Chloride, Hardness Secchi, pH, DO Conductivity, Temperature <i>E.coli</i> Chlorophyll-a, corrected for pheophytin	11 13  10 9	All stops (except for 8/7, 8/15 & 8/31/17) – conductivity probe would not stabilize – value recorded based on a minute or two of observation.  5/31/17 lab report lists time as 14:50 and it should be 15:50. Misunderstood the time to use – CDT or CST.

S009-438 Judicial Ditch 30	TSS, Total P, Ammonia-N, Chloride, Hardness	11	TSS, Total P, Ammonia-N, Chloride, Hardness	11	5/31/17 lab report lists time as 14:00 and it should be 15:00. Misunderstood the time to use – CDT or CST. 9/27/17 TP value is noted as “sample diluted due to result above calibration of linear range.
	Secchi, pH, DO Conductivity, Temperature	13	Secchi, pH, DO Conductivity, Temperature	13	
	<i>E.coli</i>	10	<i>E.coli</i>	10	
S009-439 Coal Mine Creek	TSS, Total P, Ammonia-N, Chloride, Hardness	11	TSS, Total P, Ammonia-N, Chloride, Hardness	11	5/31/17 lab report lists time as 12:10 and it should be 13:10. Misunderstood the time to use – CDT or CST.
	Secchi, pH, DO Conductivity, Temperature	13	Secchi, pH, DO Conductivity, Temperature	13	
	<i>E.coli</i>	10	<i>E.coli</i>	10	
S005-690 Mound Creek	TSS, Total P, Ammonia-N, Chloride, Hardness	11	TSS, Total P, Ammonia-N, Chloride, Hardness	11	5/31/17 lab report lists time as 11:45 and it should be 12:45. Misunderstood the time to use – CDT or CST.
	Secchi, pH, DO Conductivity, Temperature	13	Secchi, pH, DO Conductivity, Temperature	13	
	<i>E.coli</i>	10	<i>E.coli</i>	10	
S001-919 Sleepy Eye Creek	TSS, Total P, Ammonia-N, Chloride, Hardness	11	TSS, Total P, Ammonia-N, Chloride, Hardness	11	5/31/17 lab report lists time as 13:10 and it should be 14:10. Misunderstood the time to use – CDT or CST.
	Secchi, pH, DO Conductivity, Temperature	13	Secchi, pH, DO Conductivity, Temperature	13	
	<i>E.coli</i>	10	<i>E.coli</i>	10	
S001-920 Cottonwood River	TSS, Total P, Ammonia-N, Chloride, Hardness	11	TSS, Total P, Ammonia-N, Chloride, Hardness	11	5/31/17 lab report lists time as 12:50 and it should be 13:50. Misunderstood the time to use – CDT or CST.
	Secchi, pH, DO Conductivity, Temperature	13	Secchi, pH, DO Conductivity, Temperature	13	
	<i>E.coli</i>	10	<i>E.coli</i>	10	
	Chlorophyll-a, corrected for pheophytin	9	Chlorophyll-a, corrected for pheophytin	9	
S009-440 Cottonwood River	TSS, Total P, Ammonia-N, Chloride, Hardness	11	TSS, Total P, Ammonia-N, Chloride, Hardness	11	5/22/17 lab report list time as 15:45 and it should be 16:45. Misunderstood the time to use – CDT or CST. 6/6/17 <i>E.coli</i> results were listed as “Holding time exceeded”. 5/22/17 stop is missing probe data, 12 sets of probe data for this site; Secchi has 13.
	Secchi, pH, DO Conductivity, Temperature	13	Secchi, pH, DO Conductivity, Temperature	12	
	<i>E.coli</i>	10	<i>E.coli</i>	10	
	Chlorophyll-a, corrected for pheophytin	9	Chlorophyll-a, corrected for pheophytin	9	
S001-917 Meadow Creek	TSS, Total P, Ammonia-N, Chloride, Hardness	11	TSS, Total P, Ammonia-N, Chloride, Hardness	11	5/22/17 lab report lists time as 15:55 and it should be 16:55. Misunderstood the time to use – CDT or CST. 6/6/17 <i>E.coli</i> results were listed as “Holding time exceeded”. 5/22/17 stop is missing probe data, 12 sets of probe data for this site; Secchi tube has 13.
	Secchi, pH, DO Conductivity, Temperature	13	Secchi, pH, DO Conductivity, Temperature	12	
	<i>E.coli</i>	10	<i>E.coli</i>	10	
S002-247 Cottonwood River	TSS, Total P, Ammonia-N, Chloride, Hardness	11	TSS, Total P, Ammonia-N, Chloride, Hardness	11	5/31/17 lab report lists time as 10:05 and it should be 11:05. Misunderstood the time to use – CDT or CST. 6/29/17 lab report lists time as 1:25 (yes, 1:25 in the morning). It should be 11:25. This means the “holding time exceeded” noted for the <i>E.coli</i> sample for that day is incorrect; sample was analyzed before the holding time was exceeded.
	Secchi, pH, DO Conductivity, Temperature	13	Secchi, pH, DO Conductivity, Temperature	13	

	<i>E.coli</i> Chlorophyll-a, corrected for pheophytin	10 9	<i>E.coli</i> Chlorophyll-a, corrected for pheophytin	10 9	
S009-441 Sleepy Eye Creek	TSS, Total P, Ammonia-N, Chloride, Hardness Secchi, pH, DO Conductivity, Temperature <i>E.coli</i>	11 13 10	TSS, Total P, Ammonia-N, Chloride, Hardness Secchi, pH, DO Conductivity, Temperature <i>E.coli</i>	11 12 10	5/22/17 lab report lists time as 16:35 and it should be 17:35. Misunderstood the time to use – CDT or CST. 6/6/17 <i>E.coli</i> results were listed as “Holding time exceeded”. 5/22/17 stop is missing probe data, 12 sets of probe data for this site; Secchi has 13.
S009-442 Dry Creek	TSS, Total P, Ammonia-N, Chloride, Hardness Secchi, pH, DO Conductivity, Temperature <i>E.coli</i>	11 13 10	TSS, Total P, Ammonia-N, Chloride, Hardness Secchi, pH, DO Conductivity, Temperature <i>E.coli</i>	11 13 10	5/31/17 lab report list time as 11:15 and it should be 12:15. Misunderstood the time to use – CDT or CST. At these three stops (7/24, 9/15 & 9/27/17) – conductivity probe would not stabilize – value recorded based on a minute or two of observation.
S009-443 Highwater Creek	TSS, Total P, Ammonia-N, Chloride, Hardness Secchi, pH, DO Conductivity, Temperature <i>E.coli</i>	11 13 10	TSS, Total P, Ammonia-N, Chloride, Hardness Secchi, pH, DO Conductivity, Temperature <i>E.coli</i>	11 13 10	5/31/17 lab report lists time as 10:50 and it should be 11:50. Misunderstood the time to use – CDT or CST. On 5/31/17 – conductivity probe would not stabilize – value recorded based on a minute or two of observation.
S009-444 Pell Creek	TSS, Total P, Ammonia-N, Chloride, Hardness Secchi, pH, DO Conductivity, Temperature <i>E.coli</i>	11 13 10	TSS, Total P, Ammonia-N, Chloride, Hardness Secchi, pH, DO Conductivity, Temperature <i>E.coli</i>	11 13 10	5/31/17 lab report lists time as 9:40 and it should be 10:40. Misunderstood the time to use – CDT or CST. Calcium results were flagged for “sample diluted due to result above calibration of linear range” on 5/10, 5/31, 6/15 and 7/24/17.
S001-915 Dutch Charley Creek	TSS, Total P, Ammonia-N, Chloride, Hardness Secchi, pH, DO Conductivity, Temperature <i>E.coli</i> Chlorophyll-a, corrected for pheophytin	11 13 10 9	TSS, Total P, Ammonia-N, Chloride, Hardness Secchi, pH, DO Conductivity, Temperature <i>E.coli</i> Chlorophyll-a, corrected for pheophytin	11 13 10 9	5/31/17 lab report list time as 10:30 and it should be 11:30. Misunderstood the time to use – CDT or CST.
S001-913 Plum Creek	TSS, Total P, Ammonia-N, Chloride, Hardness Secchi, pH, DO Conductivity, Temperature <i>E.coli</i>	11 13 10	TSS, Total P, Ammonia-N, Chloride, Hardness Secchi, pH, DO Conductivity, Temperature <i>E.coli</i>	11 13 10	5/31/17 lab report list time as 9:10 and it should be 10:10. Misunderstood the time to use – CDT or CST.
S001-914 Lone Tree Creek	TSS, Total P, Ammonia-N, Chloride, Hardness Secchi, pH, DO Conductivity, Temperature <i>E.coli</i>	11 13 10	TSS, Total P, Ammonia-N, Chloride, Hardness Secchi, pH, DO Conductivity, Temperature <i>E.coli</i>	11 13 10	5/31/17 lab report list time as 8:40 and it should be 9:40. Misunderstood the time to use – CDT or CST. Calcium results were flagged for “sample diluted due to result above calibration of linear range” on 5/10, 6/15, 7/10, 7/24 and 8/29/17.
S014-261 Jud. Ditch 12 (Tyler Creek)	TSS, Total P, Ammonia-N, Chloride, Hardness Secchi, pH, DO	11 13	TSS, Total P, Ammonia-N, Chloride, Hardness Secchi, pH, DO	11 12	5/22/17 lab report lists time as 15:00 and it should be 16:00. Misunderstood the time to use – CDT or CST. 6/27/17 lab report (17-A30193-GAP) lists time as 14:40 and it should be 13:15. Unsure why error is present. 5/22/17 stop is missing probe data, 12 sets of probe data for this

	Conductivity, Temperature <i>E.coli</i>	10	Conductivity, Temperature <i>E.coli</i>	10	site; Secchi has 13. 6/6/17 <i>E.coli</i> sample "exceeded holding time" First stop of year (5/9/17) was at S002-315 before moving to current sample site S014-261.
S002-314 Coon Creek	TSS, Total P, Ammonia-N, Chloride, Hardness	11	TSS, Total P, Ammonia-N, Chloride, Hardness	11	5/22/17 lab report lists time as 14:15 and it should be 15:15. Misunderstood the time to use – CDT or CST.
	Secchi, pH, DO	13	Secchi, pH, DO	12	6/27/17 lab report (17-A30192-GAP) lists time as 13:15 and it should be 12:25. Unsure why error is present.
	Conductivity, Temperature <i>E.coli</i>	10	Conductivity, Temperature <i>E.coli</i>	10	5/22/17 stop is missing probe data, 12 sets of probe data for this site; Secchi has 13. 6/6/17 <i>E.coli</i> sample "exceeded holding time"
S002-313 Threemile Creek	TSS, Total P, Ammonia-N, Chloride, Hardness	11	TSS, Total P, Ammonia-N, Chloride, Hardness	11	5/22/17 lab report lists time as 12:40 and it should be 13:40. Misunderstood the time to use – CDT or CST.
	Secchi, pH, DO	13	Secchi, pH, DO	12	Calcium results were flagged for "sample diluted due to result above calibration of linear range" on 5/9, 6/6, and 9/26/17.
	Conductivity, Temperature <i>E.coli</i>	10	Conductivity, Temperature <i>E.coli</i>	10	5/22/17 stop is missing probe data, 12 sets of probe data for this site; Secchi has 13.
	Chlorophyll-a, corrected for pheophytin	9	Chlorophyll-a, corrected for pheophytin	9	6/6/17 <i>E.coli</i> sample "exceeded holding time"
S003-703 Redwood River	TSS, Total P, Ammonia-N, Chloride, Hardness	11	TSS, Total P, Ammonia-N, Chloride, Hardness	11	5/22/17 lab report lists time as 14:35 and it should be 15:35. Misunderstood the time to use – CDT or CST.
	Secchi, pH, DO	13	Secchi, pH, DO	12	5/22/17 stop is missing probe data, 12 sets of probe data for this site, Secchi has 13.
	Conductivity, Temperature <i>E.coli</i>	10	Conductivity, Temperature <i>E.coli</i>	10	6/6/17 <i>E.coli</i> sample "exceeded holding time"
	Chlorophyll-a, corrected for pheophytin	9	Chlorophyll-a, corrected for pheophytin	9	
S001-203 Redwood River	TSS, Total P, Ammonia-N, Chloride, Hardness	11	TSS, Total P, Ammonia-N, Chloride, Hardness	11	5/22/17 lab report lists time as 13:15 and it should be 14:15. Misunderstood the time to use – CDT or CST.
	Secchi, pH, DO	13	Secchi, pH, DO	12	5/22/17 stop is missing probe data, 12 sets of probe data for this site; Secchi has 13.
	Conductivity, Temperature <i>E.coli</i>	10	Conductivity, Temperature <i>E.coli</i>	10	6/6/17 <i>E.coli</i> sample "exceeded holding time"
	Chlorophyll-a, corrected for pheophytin	9	Chlorophyll-a, corrected for pheophytin	9	
S009-454 Clear Creek	TSS, Total P, Ammonia-N, Chloride, Hardness	11	TSS, Total P, Ammonia-N, Chloride, Hardness	11	5/22/17 lab report lists time as 11:00 and it should be 12:00. 5/23/17 lab report lists time as 10:50 and it should be 11:50. Misunderstood the time to use – CDT or CST.
	Secchi, pH, DO	13	Secchi, pH, DO	12	5/22 & 5/23/17 stop is missing probe data, 12 sets of probe data for this site, Secchi tube has 13.
	Conductivity, Temperature <i>E.coli</i>	10	Conductivity, Temperature <i>E.coli</i>	10	6/6/17 <i>E.coli</i> sample "exceeded holding time" 8/24/17 – lots of floating algae in water.
S004-387 Ramsey Creek	TSS, Total P, Ammonia-N, Chloride, Hardness	11	TSS, Total P, Ammonia-N, Chloride, Hardness	11	5/22/17 lab report lists time as 10:05 and it should be 11:05. 5/23/17 lab report lists time as 10:15 and it should be 11:15. Misunderstood the time to use – CDT or CST.
	Secchi, pH, DO	13	Secchi, pH, DO	12	5/22 & 5/23/17 stop is missing probe data, 12 sets of probe data for this site; Secchi has 13.
	Conductivity, Temperature <i>E.coli</i>	10	Conductivity, Temperature <i>E.coli</i>	10	6/6 and 6/27/17 <i>E.coli</i> samples "exceeded holding time"
	N02+N03	11	N02+N03	10	Missing NO2+NO3 test results on 9/14/17, unsure why lab did not test – was on the COC. Drinking Water site
S000-299 Redwood River	TSS, Total P, Ammonia-N, Chloride, Hardness	11	TSS, Total P, Ammonia-N, Chloride, Hardness	11	5/22/17 lab report lists time as 9:45 and it should be 10:45. 5/23/17 lab report lists time as 10:05 and it should be 11:05. Misunderstood the time to use – CDT or CST.
					5/22 & 5/23/17 stop is missing probe data, 12 sets of probe data

Secchi, pH, DO Conductivity, Temperature	13	Secchi, pH, DO Conductivity, Temperature	12	for this site; Secchi has 13. 6/6 and 6/27/17 E.coli samples "exceeded holding time" 8/24/17 Chlorophyll-a and Pheophytin were retested and retested values recorded.
<i>E.coli</i>	10	<i>E.coli</i>	10	
Chlorophyll-a, corrected for pheophytin	9	Chlorophyll-a, corrected for pheophytin	9	

**6. Were you comfortable with your level of training and current ability to complete the obligations of your workplan?**

Yes. All activities have been conducted previously.

**7. Were there any changes to your workplan that were specific to staff and/or monitoring locations? If yes, describe and list the related change order.**

In June 2017, Brawner Lake suffered a failure of the dam conduit which caused the lake to drain completely. The Project Manager was notified immediately and the lake was removed from the sampling schedule. Although the DNR intends to restore the dam and lake, this will not be completed by the end of the grant.

The sampling location for Jud. Ditch 12 (Tyler Creek) in the Redwood River watershed was changed from S002-315(At MN 23, 4.5 mi. SE of Tyler) to S014-261 (AT 125TH AVE, 3/4 MI N OF FLORENCE, MN) due to safety and access issues.

**8. Were volunteers a part of your grant? If so, indicate how many were used and describe recruitment activities.**

No. During the summer of 2017, the Lyon SWCD hosted an apprentice from Conservation Corps Minnesota who asked to assist with the stream and lake sampling to expand his experience. He assisted with one set of the 24 stream samples and all lake samples collected in May, June and July.

**9. Provide an annual quality assurance assessment that includes the following elements:**

A. Submit field meter calibration records as an attachment to this report.

B. 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*). Use the "maximum expected relative percent difference" values presented below 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 lake or stream, which is useful for data interpretation. Use the comment field to note RPD or sampler blank results outside of expectations.

$$RPD = (Sample\ Result - Duplicate\ Result) / ((Sample\ Result + Duplicate\ Result) / 2) \times 100$$

**Example:** Sample result = 0.112 Duplicate result = 0.099

$$RPD = (0.112 - 0.099) / ((0.112 + 0.099) / 2) \times 100 = 0.013 / (0.211 / 2) \times 100 = 12\%$$

**Note:** Add rows as necessary by placing cursor in the last row of last column and hit tab.

**Table 2. Quality control sample results and analysis**

Date	Station ID/ Site ID	Sample TYPE	TSS MG/L	TP MG/L	NO2		Hardness			Magnesium MG/L	Chl-a Corrected for Pheophytin		E.Coli /100ML
					+NO3 MG/L	Ammonia-N MG/L	Chloride MG/L	as CaCO3 MG/L	Calcium MG/L		Chl-a MG/L	for Pheophytin MG/L	
7/13/2017	08-0011-00-101	Grab		0.166							89.7	<1	
7/13/2017	08-0011-00-101	Dup		0.174							87.6	<1	
Clear Lake (Cottonwood)		RPD =		-4.71							2.37	0.00	
7/13/2017	08-0045-00-203	Grab		0.031							6.4	<1	

7/13/2017	08-0045-00-203	Dup		0.032						7.1	<1	
Sleepy Eye Lake		RPD =		-3.17						-10.37	0.00	
7/13/2017	08-0129-00-201	Grab		0.044						10.5	1.03	
7/13/2017	08-0129-00-201	Dup		0.053						16.4	<1	
Wellner-Hageman		RPD =		-18.56						-43.87	0.00	
7/13/2017	17-0054-00-101	Grab		0.133						66.2	<1	
7/13/2017	17-0054-00-101	Dup		0.209						48.4	<1	
Bean Lake		RPD =		-44.44						31.06	0.00	
7/13/2017	17-0056-01-101	Grab		0.222						104.0	<1	
7/13/2017	17-0056-01-101	Dup		0.127						91.8	<1	
Double, North		RPD =		54.44						12.46	0.00	
7/26/2017	42-0052-00-101	Grab		0.297						84.7	1.50	
7/26/2017	42-0052-00-101	Dup		0.287						81.2	<1	
Rock Lake		RPD =		3.42						4.22	0.00	
7/13/2017	64-0150-00-201	Grab		0.032						4.3	<1	
7/13/2017	64-0150-00-201	Dup		0.029						2.8	<1	
Lake Laura		RPD =		9.84						42.25	0.00	
7/26/2017	42-0002-00-101	Grab		0.100						31.0	<1	
7/26/2017	42-0002-00-101	Dup		0.098						27.8	<1	
School Grove Lake		RPD =		2.02						10.88	0.00	
	42-0054-00-201	Grab										
	42-0054-00-201	Dup										
Brawner Lake		RPD =										
7/26/2017	42-0055-00-201	Grab		0.145						143.0	<1	
7/26/2017	42-0055-00-201	Dup		0.143						181.0	<1	
Clear Lake (Redwood)		RPD =		1.39						-23.46	0.00	
7/25/2017	S001-918	Grab	138	0.183	<0.16	19.0	577	142.0	54.1	24.8	6.92	471.0
7/25/2017	S001-918	Dup	134	0.184	<0.16	18.7	557	136.0	52.8	25.6	3.08	345.0
		RPD =	2.94	-0.54	0.00	1.59	3.53	4.32	2.43	-3.17	76.80	30.88
7/25/2017	S009-438	Grab	11	0.123	<0.16	134.0	402	67.0	57.1			441.0
7/25/2017	S009-438	Dup	9	0.131	<0.16	135.0	392	64.9	55.8			446.0
		RPD =	20.00	-6.30	0.00	-0.74	2.52	3.18	2.30			-1.13
7/10/2017	S009-439	Grab	20	0.128	<0.16	23.2	393	81.0	46.2			2909.0
7/10/2017	S009-439	Dup	15	0.129	<0.16	23.2	465	94.5	55.5			2987.0
		RPD =	28.57	-0.78	0.00	0.00	-16.78	-15.38	-18.29			-2.65
7/10/2017	S005-690	Grab	13	0.065	<0.16	19.6	414	98.8	40.7			489.0
7/10/2017	S005-690	Dup	12	0.066	<0.16	19.1	433	102.0	43.4			487.0
		RPD =	8.00	-1.53	0.00	2.58	-4.49	-3.19	-6.42			0.41
7/12/2017	S001-919	Grab	23	0.060	<0.16	26.4	486	98.2	58.4			122.0

7/12/2017	S001-919	Dup	22	0.058		<0.16	26.5	497	101.0	59.5			171.0
		RPD =	4.44	3.39		0.00	-0.38	-2.24	-2.81	-1.87			-33.45
7/12/2017	S001-920	Grab	45	0.076		<0.16	20.8	526	121.0	54.3	49.8	2.99	243.0
7/12/2017	S001-920	Dup	45	0.085		<0.16	21.1	477	110.0	49.2	42.0	2.85	309.0
		RPD =	0.00	-11.18		0.00	-1.43	9.77	9.52	9.86	16.99	4.79	-23.91
7/11/2017	S009-440	Grab	19	0.044		<0.16	16.6	650	152.0	65.7	2.1	<1	487.0
7/11/2017	S009-440	Dup	18	0.046		<0.16	16.2	635	148.0	64.4	2.8	<1	495.0
		RPD =	5.41	-4.44		0.00	2.44	2.33	2.67	2.00	-28.57	0.00	-1.63
7/11/2017	S001-917	Grab	13	0.075		<0.16	23.3	796	169.0	90.8			733.0
7/11/2017	S001-917	Dup	12	0.073		<0.16	22.9	832	176.0	95.2			1043.0
		RPD =	8.00	2.70		0.00	1.73	-4.42	-4.06	-4.73			-34.91
7/10/2017	S002-247	Grab	38	0.090		<0.16	20.2	704	162.0	72.8	21.4	<1	164.0
7/10/2017	S002-247	Dup	42	0.091		<0.16	20.2	631	143.0	66.4	21.4	1.57	379.0
		RPD =	-10.00	-1.10		0.00	0.00	10.94	12.46	9.20	0.00	#VALUE!	-79.19
7/11/2017	S009-441	Grab	31	0.072		<0.16	29.6	570	117.0	67.4			594.0
7/11/2017	S009-441	Dup	31	0.075		<0.16	29.2	613	126.0	72.5			262.0
			0.00	-4.08		0.00	1.36	-7.27	-7.41	-7.29			77.57
7/10/2017	S009-442	Grab	12	0.065		<0.16	21.5	589	144.0	55.6			1935.0
7/10/2017	S009-442	Dup	13	0.070		<0.16	21.8	550	133.0	53.0			3255.0
		RPD =	-8.00	-7.41		0.00	-1.39	6.85	7.94	4.79			-50.87
7/10/2017	S009-443	Grab	28	0.078		<0.16	17.7	443	106.0	43.3			2224.0
7/10/2017	S009-443	Dup	30	0.075		<0.16	17.8	480	113.0	48.0			2098.0
		RPD =	-6.90	3.92		0.00	-0.56	-8.02	-6.39	-10.30			5.83
7/10/2017	S009-444	Grab	9	0.058		<0.16	23.7	713	166.0	72.4			315.0
7/10/2017	S009-444	Dup	9	0.059		<0.16	24.0	709	163.0	73.4			462.0
		RPD =	0.00	-1.71		0.00	-1.26	0.56	1.82	-1.37			-37.84
7/10/2017	S001-915	Grab	26	0.059		<0.16	17.2	511	120.0	51.4	16.4	<1	691.0
7/10/2017	S001-915	Dup	25	0.058		<0.16	17.4	521	122.0	52.5	19.2	<1	683.0
		RPD =	3.92	1.71		0.00	-1.16	-1.94	-1.65	-2.12	-15.73	0.00	1.16
7/10/2017	S001-913	Grab	15	0.047		<0.16	16.4	610	149.0	57.9			1314.0
7/10/2017	S001-913	Dup	15	0.046		<0.16	15.7	585	141.0	56.6			1036.0
		RPD =	0.00	2.15		0.00	4.36	4.18	5.52	2.27			23.66
7/10/2017	S001-914	Grab	18	0.049		<0.16	25.9	855	203.0	84.5			1658.0
7/10/2017	S001-914	Dup	20	0.046		<0.16	26.2	850	202.0	84.0			1334.0
		RPD =	-10.53	6.32		0.00	-1.15	0.59	0.49	0.59			21.66
7/11/2017	S014-261	Grab	14	0.121		<0.16	23.4	586	129.0	64.1			1723.0
7/11/2017	S014-261	Dup	11	0.123		<0.16	23.9	604	132.0	66.6			1421.0
		RPD =	24.00	-1.64		0.00	-2.11	-3.03	-2.30	-3.83			19.21
7/11/2017	S002-314	Grab	32	0.151		<0.16	19.3	516	103.0	62.9			309.0
7/11/2017	S002-314	Dup	27	0.136		<0.16	19.8	492	97.2	60.5			437.0
		RPD =	16.95	10.45		0.00	-2.56	4.76	5.79	3.89			-34.32



7/27/2017	S002-313	Grab	136	0.235		<0.16	17.3	633	154.0	60.4	10.7	10.30	987.0
7/27/2017	S002-313	Dup	147	0.288		<0.16	17.4	596	144.0	57.4	10.7	5.77	1050.0
RPD =			-7.77	-20.27		0.00	-0.58	6.02	6.71	5.09	0.00	56.38	-6.19

7/11/2017	S003-703	Grab	4	0.040		<0.16	20.5	567	120.0	65.0	<1	<1	317.0
7/11/2017	S003-703	Dup	9	0.043		<0.16	20.8	555	119.0	62.5	1.4	<1	241.0
RPD =			-76.92	-7.23		0.00	-1.45	2.14	0.84	3.92	#VALUE!	0.00	27.24

7/27/2017	S001-203	Grab	89	0.454		<0.16	68.8	551	116.0	63.4	12.8	5.87	488.0
7/27/2017	S001-203	Dup	91	0.426		<0.16	68.7	542	115.0	61.9	12.8	5.13	414.0
RPD =			-2.22	6.36		0.00	0.15	1.65	0.87	2.39	0.00	13.45	16.41

7/25/2017	S009-454	Grab	8	0.057		<0.16	22.8	615	123.0	74.8			259.0
7/25/2017	S009-454	Dup	4	0.055		<0.16	22.9	600	120.0	73.0			420.0
RPD =			66.67	3.57		0.00	-0.44	2.47	2.47	2.44			-47.42

7/25/2017	S004-387	Grab	20	0.161	4.01	<0.16	22.4	488	103.0	56.0			305.0
7/25/2017	S004-387	Dup	21	0.163	4.03	<0.16	22.3	482	103.0	54.5			389.0
RPD =			-4.88	-1.23	-0.50	0.00	0.45	1.24	0.00	2.71			-24.21

7/25/2017	S000-299	Grab	57	0.315		<0.16	42.8	540	116.0	60.9	16.2	7.09	132.0
7/25/2017	S000-299	Dup	75	0.324		<0.16	42.7	559	121.0	62.4	14.5	6.41	31.0
RPD =			-27.27	-2.82		0.00	0.23	-3.46	-4.22	-2.43	11.07	10.07	123.93

RPD acceptable      RPD outside of limits

## Section II - Budget

10. Were there any changes to your budget or equipment and supplies list? If yes, describe and list the related change orders and/or amendments.

Mileage was underestimated. Due to the testing of E.coli, the intended 2-day sampling run turned into 3 days in order to deliver the samples to the laboratory for the holding time requirements. A Change Order is planned for January 2018 to move funds to cover the 2018 mileage and Staff 3 work. The mileage rate will be increased to \$0.545 per mile per federal rate.

**Complete Table 3. If budget information does not encompass all expenditures through December 31, please provide the date. Note: Documented amounts must be within 30 days of December 31.**

**Table 3. Project expenditures** (Enter fund number and click "Tab" key to auto calculate the balance and percent)

Project budget	MPCA grant funds available	Total MPCA funds expended	Total remaining balance	Percent of budget expended
Staff 1: Primary Sampler	19087.94	\$14,080.53	\$5,007.41	74%
Staff 2: Executive Director	\$7,440.00	\$4,665.00	\$2,775.00	63%
Staff 3: Accountant	\$1,852.40	\$1,852.40	\$ 0.00	100%
Staff 4: Backup Sampler	\$983.28	\$0.00	\$ 983.28	0%
Laboratory streams	\$31,436.80	\$26,909.60	\$4,527.20	86%
Laboratory lakes	\$3,533.00	\$2,497.00	\$1,036.00	71%
Travel reimbursement	\$4,841.75	\$3,714.00	\$1,127.75	77%
Shipping	\$150.00	\$0.00	\$ 0.00	0%
Training materials	\$800.00	\$550.00	\$ 250.00	69%
Equipment and supplies	\$4,820.00	\$4,530.16	\$ 289.84	94%
Per diem	\$660.00	\$451.00	\$ 209.00	68%
<b>Column total</b>	<b>\$75,605.17</b>	<b>\$59,249.69</b>	<b>\$16,355.48</b>	<b>78%</b>