Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, MN 55155-4194

319/Clean Water Partnership/ Total Maximum Daily Loads

Semi-Annual Report for Reporting Year 2010

Reporting Period: ☒ January 1 through June 30, 2010 (Due August 1, 2010)
☐ July 1 through December 31, 2010 (Due February 1, 2011)

All information is required by U.S. Environmental Protection Agency (EPA). Do not leave blanks. 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:	**Cottonwood River Watershed-(Lower MN TMDL) Phosphorus Reduction Continuation**		
2.	Project Sponsor:	**Redwood-Cottonwood Rivers Control Area (RCRCA)**		
3.	Project Representative:	**Douglas A. Goodrich, Director, RCRCA**		
4.	Email Address:	Douglas.goodrich@racgroup.net		
5.	Loan Sponsor (if applicable):	**Brown, Cottonwood, Lyon, Murray and Redwood counties**		
6.	Contract Number:	**B33058**	Loan Number:	**SRF0208 – SRF0212**
7.	MPCA Project Manager:	**Mark Hanson**		
8.	Contract Start Date:	**September 28, 2009**	Contract End Date:	**June 30, 2013**
9.	Best Management Practice (BMP) Name (Refer to BMP List):			

10. **319/Clean Water Partnership (CWP) only** - Nonpoint Source (NPS) Category (Refer to NPS Definition of Categories):

	Primary	Secondary	Others
Category	**Agriculture**	**Non-Irrigated Crop Production**	**Channelization**

11. **319/CWP only** - NPS Functional Category (Refer to NPS Definition of Categories):

	Primary	Secondary	Others
Category	**BMP Design/Implementation**	**Technical Assistance**	**Effectiveness Monitoring**

12.	Waterbody type (refer to NPS Waterbody Type):		**Rivers and Streams**	
13.	Hydrologic unit code (12 digits):	**07020008(0000-9999)**	Latitude-longitude:	**Lat. 44°17'29" Long. 99°26'24**
14.	**319/ CWP only:** Type of pollutant(s) addressed (refer to NPS Pollutants):		**Excess Nutrients, Sediment, Pathogens (E.Coli)**	
15.	Ecoregion (refer to NPS Ecoregion):	**Western Corn Belt Plains**		

16. Basin name (check all that apply): **Cottonwood River Watershed**

- ☐ Lake Superior
- ☐ Lower Mississippi/Cedar
- ☐ Upper Mississippi
- ☒ Minnesota
- ☐ Rainy
- ☐ Red River
- ☐ Des Moines
- ☐ Missouri
- ☐ St. Croix

II. Project Description

1. Project Description Summary (taken from work plan summary) – Include at least two paragraphs that briefly summarize the project scope, the processes and the events that occurred **before** this reporting period.

The Cottonwood River Watershed encompasses 1,312.23 square miles and is one of thirteen major watersheds in the Minnesota River Basin. The River originates on the Coteau des Prairies, flowing eastward approximately 152 miles to the Minnesota River with a drop in elevation of about 750 feet. This topography results in periodic spring and summer flooding in the central portion of the watershed. At times, damages are severe. A related implication is rapid transport of sediment and attached nutrients from inadequately treated cropland during spring snowmelt and spring and summer rainfall events.

The purpose of the Implementation phase of the Cottonwood River Restoration Project is to facilitate watershed land-use changes that will lead to reductions necessary to meet both main stem and tributary goals. The 1999 Diagnostic Study defined characteristics of specific pollutants, the processes affecting their transport, and appropriate measures to reduce their delivery to the Cottonwood River. Priority management areas were selected based on relative contributions to the total sediment and nutrient load in the River. Attitudes and opinions of watershed residents were explored as they relate to water quality and measures for its protection. As a result of the Resource Investigation, a locally developed Implementation Plan was created to direct restoration activities in the Cottonwood River Watershed over the next ten years.

The Cottonwood River Restoration Project is administered by the Redwood-Cottonwood Rivers Control Area (RCRCA). RCRCA, established in 1983, is a Joint Powers Organization of eight counties and their Soil and Water Conservation Districts. (For additional information, go to www.rcrca.com/cr_home.htm) RCRCA has a proven history backed with an extensive database, a long-term monitoring program, and an organizational structure that remains supportive and flexible to ensure those projects such as the Redwood River Clean Water Project and the Cottonwood River Restoration Project are successful. This success can be viewed in the 2001 Final Report, "Evolution of Watershed Restoration", which can be found at www.rcrca.com.

Annual total suspended solids (TSS) loading from the Cottonwood River in 1997 was estimated at over 330,000 tons, or 252 tons per square mile. Total phosphorus (TP) was estimated at 505 tons. These are much higher figures than reported in earlier studies of the Cottonwood River. Highwater and Dutch Charley Creeks exhibited the largest total suspended solids yield of all sampled tributaries, annually delivering approximately 136 tons per square mile based on data collected in 1997 and 1998. Additionally, highest flow-weighted mean concentrations of total suspended solids and total phosphorus of all sampling stations, including those on the main stem, were recorded on these two tributaries. Sleepy Eye Creek contributed a high nitrate nitrogen load during the study period, but a much lower total suspended solid load than expected. Throughout the study period, flow weighted mean concentrations of total suspended solids and nutrients on the main stem and most tributaries exceeded expected values for minimally impacted ecoregion streams.

From 1997 to 2008, annual FLUX calculations from the Cottonwood River sampling site at New Ulm showed an average total phosphorus delivery of 214.64 tons annually to the Minnesota River. This is equal to .16 tons per square mile loss of phosphorus included with 134.05 tons per square mile loss of total suspended solids. This is directly related to the turbidity impairment and contributes to the Minnesota River phosphorus loading (See http://www.pca.state.mn.us/water/tmdl.html).

Recreational opportunities on the Cottonwood River were limited by degraded water quality, channel obstructions, limited access, and a general lack of awareness by watershed residents. Potentially, the river is a major recreational resource.

Long term monitoring efforts from 1997 to present have identified water quality impairments and the current/pending (2008/2010) federal Section 303d listings for streams not meeting water quality standards show that the work is not finished. With the Lower Minnesota River Low Dissolved Oxygen Total Maximum Daily Load (TMDL) plan approved for phosphorus reduction, it is important to continue the implementation of best management practices that will reduce the total phosphorus contribution from the Cottonwood River Major Watershed (3rd largest) and work to de-list the lower Minnesota River Dissolved Oxygen TMDL impairment.

2. Specific Project Goals – Include numeric, quantifiable goals for environmental improvement, the number of Best Management Practices to be installed, **pollutant reductions** as well as programmatic and social goals.

The goal of this project is to continue best management implementation according to the Cottonwood River Phase I Implementation Plan approved in 1999 and implement phosphorus reducing conservation practices that will help achieve the Lower Minnesota River dissolved oxygen TMDL. This work plan is projected to reduce phosphorus reaching the Minnesota River by 2.92 tons annually or 2,332,188 pounds of aquatic plant growth annually (plus 2,476 tons of total suspended solids). This work plan will administer grant funds from 2009 through 2013 to achieve the

implementation goals through these objectives:

1. BMP and SSTS Implementation:

- **Replace 67 non-compliant (EMHT) SSTS systems -$545,000.00 Loan Match**
- **Provide $189,000.00 in cost share up to 75% installing BMPs in the watershed reducing 2,830 pounds of phosphorus annually for an average life expectancy of 10 years (28,300 pounds)**
- **Provide $62,000.00 in technical assistance to install SSTS and BMPs watershed wide**

Total Budget: $251,000.00 Grant; $545,000.00 Loan Match

2. Monitoring (Sampling Analysis)

- **Provide $12,000.00 in sample analysis of TSS. TP, TN, TSVS, Turbidity and Ecoli**

Total Budget: $12,000.00 Grant

3. Administration:

- **Provide $80,000.00 in grant facilitation and administration over 3 years by adhering to all grant agreement requirements, submitting semi-annual and annual reports, water quality modeling, outreach and final report generation**

Total Budget: $80,000.00 Grant

III. Semi-annual Report Information

1.	Project activities completed during last six (6) months according to the program elements or tasks: **This grant is in its infancy and has yet to accomplish much beyond work plan formulation and preliminary activities supporting septic loan contracting.**	
2.	Challenges faced (optional):	
3.	Summary of monitoring data collected: **See Question 1**	
4.	Have all monitoring stations been established in STORET? ☒ Yes ☐ No	
5.	Is the data being routinely submitted for storage into STORET? ☒ Yes ☐ No Last submittal date:	**12/31/2009**
6.	Is the data being annually entered into E-Link? ☒ Yes ☐ No Date last entered:	12/31/2009
7.	Identify any significant **findings** and **results** of the project to date, as well as any unanticipated findings: **See Question 1**	
8.	Describe specific (quantifiable, if possible) results achieved during this period: **See Question 1**	
9.	Summarize any work plan changes:	
10.	List anticipated activities for next six (6) months: Over the next 6 months: - We will start to develop and implement BMP projects. - We will work to promote, develop, and install projects to utilize the available cost share of $189,000.00. - We will continue monitoring for BMP effectiveness and prioritization of efforts through the watershed.	
11.	List all products (documents, pamphlets, videos, maps, etc.) produced in this reporting period.	

IV. Expenditure Information for this Period

CWP: Provide a copy of the Expenditure Report with cumulative expenditures and this period's expenditures budget balances by work plan program element. The format for the Semi-Annual Expenditure Report is available on the Web at: http://www.pca.state.mn.us/publications/wq-cwp7-09.xls.

☒ Expenditure Report attached

CWP, 319, and TMDL - Complete the table below:	**Amount**
Total Grant Amount:	$343,000.00
Total Match Amount (if applicable)	$545,000.00
Total Project Amount:	**$888,000.00**
Cumulative Grant Expenditures through this period:	$12,503.54
Cumulative Match Expenditures through this period:	$425.72
Total Cumulative Expenditures through this period:	**$12,929.26**

	Date form completed:	**7/23/2010**
	Please submit to:	Your project manager **Mark Hanson**

PROJECT TITLE: Cottonwood River Watershed-(Lower MN TMDL) Phosphorus Reduction Continuation Project B33058

WORK PLAN BUDGET/EXPENDITURES AS OF: June 30, 2010

Objectives	unit cost	unit	Quantity Exp/budget	Local Match Budgeted	Grant Cash Budgeted	Total Budgeted	Cumulative Local Match Expended	Cumulative Grant Cash Expended	Cumulative Total Expended	Local Match Budget Balance	Grant Cash Budget Balance	Total Budget Balance
Objective 1) BMP Technical Assistance and Implementation						**$0.00**			**$0.00**	$0.00	$0.00	**$0.00**
Task A: Promote septic loan program and cost share availability and identify erosion sensitive projects in priority	$26.00	2384.62 hrs	$62,000.00		$62,000.00	**$62,000.00**		$9,754.90	**$9,754.90**	$0.00	$52,245.10	**$52,245.10**
Task B: BMP cost sharing, prioritization and ranking.			$189,000.00		$189,000.00	**$189,000.00**			**$0.00**	$0.00	$189,000.00	**$189,000.00**
Task C: Implement MPCA low interest loan program	$7,500.00	72.67	$545,000.00	$545,000.00		**$545,000.00**	**$425.72**		**$425.72**	$544,574.28	$0.00	**$544,574.28**
Total Objective 1			$796,000.00	$545,000.00	$251,000.00	$796,000.00	$425.72	$9,754.90	$10,180.62	$544,574.28	$241,245.10	$785,819.38
Objective 2) –Maintain Continuous Water Quality Monitoring						**$0.00**		$0.00	**$0.00**	$0.00	$0.00	**$0.00**
Task A: Water Quality Tech. Asst.- Annually re-establish sites and collect water quality samples according to the Cottonwood River Restoration Project QAPP (on file with MPCA)						**$0.00**			**$0.00**	$0.00	$0.00	**$0.00**
Task B: Monitoring Analysis	$4,000.00	3yrs	$12,000.00		$12,000.00	**$12,000.00**			**$0.00**	$0.00	$12,000.00	**$12,000.00**
Total Objective 2			$12,000.00	$0.00	$12,000.00	$12,000.00	$0.00	$0.00	$0.00	$0.00	$12,000.00	$12,000.00
Objective 3) –Fiscal Management Administration						**$0.00**		$0.00	**$0.00**	$0.00	$0.00	**$0.00**
RCRCA Executive Director	$28.00/hr	625 hrs	$17,500.00		$17,500.00	**$17,500.00**		$1,175.77	**$1,175.77**	$0.00	$16,324.23	**$16,324.23**
RCRCA Support Staff	$21.00/hr	1525 hrs	$32,025.00		$32,025.00	**$32,025.00**		$1,572.87	**$1,572.87**	$0.00	$30,452.13	**$30,452.13**
Office Supplies	$3000/yr	3 yr.	$9,000.00		$9,000.00	**$9,000.00**			**$0.00**	$0.00	$9,000.00	**$9,000.00**
Misc. services/expenses	$5958.33/yr	3 yr.	$17,875.00		$17,875.00	**$17,875.00**			**$0.00**	$0.00	$17,875.00	**$17,875.00**
Travel/vehicle expenses (mileage)	$1,200/yr	3 yr.	$3,600.00		$3,600.00	**$3,600.00**			**$0.00**	$0.00	$3,600.00	**$3,600.00**
						$0.00			**$0.00**	$0.00	$0.00	**$0.00**
Total Objective 3			$80,000.00	$0.00	$80,000.00	$80,000.00	$0.00	$2,748.64	$2,748.64	$0.00	$77,251.36	$77,251.36

ITEMIZED PROGRAM OBJECTIVES BUDGET

Total Objective 1	**$796,000.00**	**$545,000.00**	**$251,000.00**	**$796,000.00**	**$425.72**	**$9,754.90**	**$10,180.62**	**$544,574.28**	**$241,245.10**	**$785,819.38**
Total Objective 2	**$12,000.00**	**$0.00**	**$12,000.00**	**$12,000.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$12,000.00**	**$12,000.00**
Total Objective 3	**$80,000.00**	**$0.00**	**$80,000.00**	**$80,000.00**	**$0.00**	**$2,748.64**	**$2,748.64**	**$0.00**	**$77,251.36**	**$77,251.36**

Project Grand Total	**$545,000.00**	**$343,000.00**	**$888,000.00**	**$425.72**	**$12,503.54**	**$12,929.26**	**$544,574.28**	**$330,496.46**	**$875,070.74**

Loan #	Project Name	Project Sponsor	Loan Sponsor	Phase	Actual Amount	Disbursed	% Disb/Actual	Loan Balance	End Date
SRF0163	Redwood River Watershed Phosphorus TMDL Compliance Continuation	RCRCA	Lincoln County	c	$ 230,000.00	$ 121,886.90	52.99%	$ 108,113.10	9/17/2010
SRF0164	Redwood River Watershed Phosphorus TMDL Compliance Continuation	RCRCA	Lyon County	c	$ 340,000.00	$ 211,314.94	62.15%	$ 128,685.06	10/12/2010
SRF0165	*Redwood River Watershed Phosphorus TMDL Compliance Continuation*	*RCRCA*	*Murray County*	*c*	*$ -*	*$ -*	*0.00%*	*$ -*	-
SRF0166	Redwood River Watershed Phosphorus TMDL Compliance Continuation	RCRCA	Pipestone County	c	$ 70,000.00	$ 6,329.00	9.04%	$ 63,671.00	9/18/2010
SRF0167	Redwood River Watershed Phosphorus TMDL Compliance Continuation	RCRCA	Redwood County	c	$ 190,000.00	$ 31,593.55	16.63%	$ 158,406.45	8/24/2010
SRF0168	Redwood River Watershed Phosphorus TMDL Compliance Continuation	RCRCA	Yellow Med County	c	$ 70,000.00	$ 9,364.00	13.38%	$ 60,636.00	9/18/2010
					$ 900,000.00	**$ 380,488.39**	**42%**		
SRF0179	Cottonwood River Watershed Non-point Pollution Reduction Project	RCRCA	Brown County	2	$ 110,000.00	$ 110,000.00	100.00%	$ -	9/10/2010
SRF0180	Cottonwood River Watershed Non-point Pollution Reduction Project	RCRCA	Cottonwood County	2	$ 110,000.00	$ 93,483.94	84.99%	$ 16,516.06	10/1/2010
SRF0181	Cottonwood River Watershed Non-point Pollution Reduction Project	RCRCA	Lyon County	2	$ 110,000.00	$ 110,000.00	100.00%	$ -	10/12/2010
SRF0182	Cottonwood River Watershed Non-point Pollution Reduction Project	RCRCA	Redwood County	2	$ 110,000.00	$ 69,022.62	62.75%	$ 40,977.38	8/27/2010
SRF0183	Cottonwood River Watershed Non-point Pollution Reduction Project	RCRCA	Murray County	2	$ 60,000.00	$ 15,685.97	26.14%	$ 44,314.03	10/8/2010
					$ 500,000.00	**$ 398,192.53**	**80%**		
SRF0208	Cottonwood River Watershed Phosphorus TMDL Continuation	RCRCA	Brown County	C	$ 200,000.00	$ -	0.00%	$ 200,000.00	12/9/2012
SRF0209	Cottonwood River Watershed Phosphorus TMDL Continuation	RCRCA	Cottonwood County	C	$ 100,000.00	$ -	0.00%	$ 100,000.00	12/9/2012
SRF0210	Cottonwood River Watershed Phosphorus TMDL Continuation	RCRCA	Lyon County	C	$ 100,000.00	$ 425.72	0.43%	$ 99,574.28	12/9/2012
SRF0211	Cottonwood River Watershed Phosphorus TMDL Continuation	RCRCA	Redwood County	C	$ 100,000.00	$ -	0.00%	$ 100,000.00	12/21/2012
SRF0212	Cottonwood River Watershed Phosphorus TMDL Continuation	RCRCA	Murray County	C	$ 45,000.00	$ -	0.00%	$ 45,000.00	12/9/2012
					$ 545,000.00	**$ 425.72**	**0%**		