



Final Report Format

Section 319 and Clean Water Partnership Projects or Final Progress Report for TMDL/WRAPS Development and TMDL/WRAPS Implementation Projects

Doc Type: Reporting/Final Report

Grant project summary

Project title: Cottonwood-Redwood Pre-WRAPS

Organization (Grantee): Redwood-Cottonwood Rivers Control Area

Project start date: 2/21/2017 Project end date: 6/30/2020 Report submittal date: _____

Grantee contact name: Kerry Netzke Title: Executive Director

Address: 1424 East College Drive, Suite 300

City: Marshall State: MN Zip: 56258

Phone number: (507) 532-1325 Fax: _____ Email: kerry.netzke@rcrca.com

Basin (Red, Minnesota, St. Croix, etc.)
Watershed & 8 digit HUC:: Minnesota County: _____

Project type (check one):

- Clean Water Partnership
- Total Maximum Daily Load (TMDL)/Watershed Restoration or Protection Strategy (WRAPS) Development
- 319 Implementation
- 319 Demonstration, Education, Research
- TMDL/WRAPS Implementation

Grant funding

Final grant amount: \$77,000.00 Final total project costs: \$77,000.00

Matching funds: Final cash: N/A Final in-kind: N/A Final Loan: N/A

MPCA project manager: Mike Weckwerth

For TMDL/WRAPS development or TMDL/WRAPS implementation projects only

Cottonwood River Reach Description(s)	AUID(s)	Impaired Use(s)	Pollutant Cause(s)	TMDL Status
JD 30 to Minnesota River	07020008-501	Aquatic Recreation	Fecal Coliform	Approved
		Aquatic Life	Turbidity	Required
		Aquatic Consumption	Mercury in Fish Tissue	Approved
Cottonwood River	07020008-502	Aquatic Life	Turbidity	Required
		Aquatic Recreation	<i>Escherichia coli</i>	Required
Plum Creek to Dutch Charlie Creek	07020008-504	Aquatic Recreation	Fecal Coliform	Approved
		Aquatic Life	Turbidity	Required
		Aquatic Consumption	Mercury in Fish Tissue	Approved
Dutch Charlie Creek to Dry Creek	07020008-505	Aquatic Consumption	Mercury in Fish Tissue	Approved
Dry Creek to Mound Creek	07020008-506	Aquatic Consumption	Mercury in Fish Tissue	Approved
Mound Creek to Coal Mine Creek	07020008-507	Aquatic Consumption	Mercury in Fish Tissue	Approved

Coal Mine Creek to Sleepy Eye Creek	07020008-508	Aquatic Recreation	Fecal Coliform	Approved
		Aquatic Life	Turbidity	Required
		Aquatic Consumption	Mercury in Fish Tissue	Approved
Sleepy Eye Creek to JD 30	07020008-509	Aquatic Consumption	Mercury in Fish Tissue	Approved
Cottonwood River	07020008-509	Aquatic Life	Turbidity	Approved
Judicial Ditch 30	07020008-511	Aquatic Recreation	<i>Escherichia coli</i>	Required
Headwaters to Cottonwood River	07020008-512	Aquatic Recreation	Fecal Coliform	Approved
		Aquatic Life	Turbidity	Required
		Aquatic Life	Fishes Bioassessments	Required
Headwaters to Cottonwood River	07020008-515	Aquatic Recreation	<i>Escherichia coli</i>	Approved
Headwaters to Cottonwood River	07020008-516	Aquatic Recreation	Fecal Coliform	Approved
		Aquatic Life	Turbidity	Required
Highwater Creek to Cottonwood River	07020008-517	Aquatic Recreation	Fecal Coliform	Approved
		Aquatic Life	Turbidity	Required
		Aquatic Life	Fishes Bioassessments	Required
Headwaters to Highwater Creek	07020008-518	Aquatic Life	Turbidity	Required
		Aquatic Life	Fishes Bioassessments	Required
Highwater Creek	07020008-519	Aquatic Recreation	<i>Escherichia coli</i>	Required
		Aquatic Life	Turbidity	Required
Dry Creek	07020008-520	Aquatic Recreation	<i>Escherichia coli</i>	Required
Mound Creek	07020008-521	Aquatic Recreation	<i>Escherichia coli</i>	Required
Pell Creek	07020008-523	Aquatic Recreation	<i>Escherichia coli</i>	Required
T109 R39W S7, west line to Cottonwood River	07020008-524	Aquatic Recreation	<i>Escherichia coli</i>	Approved
Headwaters to T109 R38W S29, east line	07020008-535	Aquatic Life	Turbidity	Required
Coal Mine Creek	07020008-604	Aquatic Recreation	<i>Escherichia coli</i>	Required
Judicial Ditch 30	07020008-609	Aquatic Recreation	<i>Escherichia coli</i>	Required
Lake Bean	17-0054-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	Required
Double (North Portion) Lake	17-0056-01	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	Required
Rock Lake	42-0052-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	Required
Sleepy Eye	08-0045-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	Required
Bachelor Lake	08-0029-00	Aquatic Recreation	Nutrients	Required
Altermatt Lake	08-0054-00	Aquatic Recreation	Nutrients	Required
Boise Lake	08-0096-00	Aquatic Recreation	Nutrients	Required
Redwood River Reach Description(s)	ID(s)	Impaired Use(s)	Impairment Cause(s)	TMDL Status
Ramsey Creek to Minnesota River	07020006-501	Aquatic Recreation	Fecal Coliform	Approved
		Aquatic Life	Turbidity	Required
		Aquatic Life	Nutrients (stream)	Required
		Aquatic Consumption	Mercury in Fish Tissue	Approved
T111 R42W S33, west line to Threemile Creek	07020006-502	Aquatic Recreation	Fecal Coliform	Approved
		Aquatic Life	Turbidity	Required
		Aquatic Consumption	Mercury in Fish Tissue	Approved
		Aquatic Life	Fishes Bioassessments	Required
		Aquatic Life	Chloride	Required
Threemile Creek to Clear Creek	07020006-503	Aquatic Life	Turbidity	Required
		Aquatic Life	Fishes Bioassessments	Required

		Aquatic Consumption	Mercury in Fish Tissue	Approved
Headwaters to Redwood River	07020006-504	Aquatic Recreation	Fecal Coliform	Approved
		Aquatic Life	Turbidity	Required
Headwaters to Coon Creek	07020006-505	Aquatic Recreation	Fecal Coliform	Approved
		Aquatic Life	Fishes Bioassessments	Required
		Aquatic Consumption	Mercury in Fish Tissue	Approved
Headwaters to Redwood River	07020006-506	Aquatic Recreation	Fecal Coliform	Approved
Clear Creek to Redwood Lake	07020006-509	Aquatic Recreation	Fecal Coliform	Approved
		Aquatic Life	Turbidity	Required
		Aquatic Consumption	Mercury in Fish Tissue	Approved
Coon Creek to T110 R42W S20, north line	07020006-510	Aquatic Recreation	Fecal Coliform	Required
		Aquatic Life	Turbidity	Required
		Aquatic Consumption	Mercury in Fish Tissue	Approved
Lake Benton to Redwood River	07020006-511	Aquatic Recreation	Fecal Coliform	Approved
		Aquatic Life	Fishes Bioassessments	Required
CD 14 to Redwood River	07020006-512	Aquatic Recreation	Fecal Coliform	Approved
T110 R42W S17, south line to T111 R42W S32, east line	07020006-513	Aquatic Consumption	Mercury in Fish Tissue	Approved
Ramsey Creek	07020006-521	Aquatic Recreation	<i>Escherichia coli</i>	Required
Clear Creek	07020006-568	Aquatic Life	Turbidity	Required
Dead Coon (Main Lake)	41-0021-01	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	Required
		Aquatic Consumption	Mercury in Fish Tissue	Approved
Lake Benton	41-0043-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	Required
		Aquatic Consumption	Mercury in Fish Tissue	Approved
Pochardt Slough	42-0080-00	Aquatic Life	Aquatic Macroinvertebrate Bioassessments	Required
School Grove Lake	42-0002-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	Required
Goose Lake	42-0093-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	Required
Weltz Slough	42-0092-00	Aquatic Life	Aquatic Macroinvertebrate Bioassessments	Required
Island Lake	42-0096-00	Aquatic Recreation	Nutrients	Required
Unnamed Wetland	41-0128-00	Aquatic Life	Aquatic Macroinvertebrate Bioassessments	Required
		Aquatic Life	Aquatic Plant Bioassessments	Required
Unnamed Wetland	51-0124-00	Aquatic Life	Aquatic Macroinvertebrate Bioassessments	Required
		Aquatic Life	Aquatic Plant Bioassessments	Required
Unnamed Wetland	51-0128-00	Aquatic Life	Aquatic Macroinvertebrate Bioassessments	Required
		Aquatic Life	Aquatic Plant	Required

			Bioassessments	
Unnamed Wetland	59-0008-00	Aquatic Life	Aquatic Macroinvertebrate Bioassessments	Required
		Aquatic Life	Aquatic Plant Bioassessments	Required

Executive summary of project (300 words or less)

This summary will help us prepare the Watershed Achievements Report to the Environmental Protection Agency. (Include any specific project history, purpose, and timeline.)

Problem (one paragraph)

The Minnesota Pollution Control Agency (MPCA) is committed to working with a range of partners using a Watershed Approach that addresses all of Minnesota’s 81 8-digit HUC watersheds, within a ten-year cycle. The Watershed Approach is also known as the Watershed Restoration and Protection Strategies (WRAPS) process. The major components of the watershed approach include unified methods to: 1) watershed monitoring and data collection, 2) assess the monitoring data, 3) develop implementation strategies to meet standards and protect waters, and 4) implement water quality protection and restoration activities. In this first phase of the Pre-WRAPS process, the three primary objectives will be Project Planning, development of a Public Participation Process, and Project Administration. The WRAPS process will establish a guide for RCRCA, County staff, SWCD staff, and state agencies to use for their involvement in the WRAPS process over a period of four years (2017-2020) in the Cottonwood and Redwood watersheds.

Waterbody improved (one paragraph)

This Pre-WRAPS project focused on two waterbodies: Cottonwood River and Redwood River watersheds.

The Cottonwood River watershed is approximately 1,312 square miles and drains part of five counties, while the Redwood River watershed is approximately 703 square miles and drains parts of six counties. There are 13 major watersheds in the Minnesota River Basin of which these are two. Both rivers originate on the Coteau des Prairies, an escarpment approximately 1,000 feet higher than the floodplain below. The Cottonwood River flows eastward approximately 152 miles to the Minnesota River with a drop in elevation of about 750 feet while the Redwood River flows northeastward approximately 90 miles to the Minnesota River with a drop in elevation of about 1000 feet. Both watersheds are primarily rural with corn and soybeans being the primary crop production; swine and cattle are the primary livestock production. There are fifteen incorporated and seven unincorporated communities within the Cottonwood Watershed with a total population of approximately 29,187 people (2010 census data). The Redwood Cottonwood has eleven incorporated and three unincorporated communities with a total population of approximately 23,709 people (2010 census data). In 2017 and 2018, a Surface Water Assessment Grant (SWAG) monitored the conditions of 7 lakes and 16 streams for the Cottonwood watershed, and 2 lakes and 8 streams for the Redwood watershed. The results from this intensive sampling were used to determine new impairments.

Project highlights (one paragraph)

The development of a four-year WRAPS Work Plan outlined information needs, and the roles and responsibilities of project partners to complete the Cottonwood River and Redwood River WRAPS and TMDL documents. Consultants were interviewed based on qualifications with the consensus to hire Wenck Associates, Inc. to help guide the planning efforts.

A Local Work Group (LWG) of county and SWCD staff was established to develop a Public Participation Process for the WRAPS. LWG meetings began April 2017 and continue through the current time.

Results (one paragraph)

This grant provided project planning of and coordination for the public participation component for the WRAPS process. Staff from RCRCA, partner counties and SWCDs, and state agency partners defined the roles, responsibilities, and public involvement needed to complete the WRAPS and TMDL documents for the Cottonwood River and Redwood River watersheds. RCRCA provided the coordination and grant administration to successfully utilize the grant funding as outlined in the Work Plan. The grant also provided for the collection of additional samples and field data to supplement the Intensive Watershed Monitoring to ensure sufficient findings for the subwatersheds analyzed. New impairments were listed while Sleepy Eye Lake is tentatively scheduled for delisting.

Partnerships (Name all partners and indicate relationship to project)

Local Work Group: Brown, Cottonwood, Lincoln, Lyon, Murray, Pipestone, Redwood, Yellow Medicine County Environmental Offices (County Staff) and Soil and Water Conservation Districts (SWCD Staff)

Wenck Associates, Inc. – plan consultant for TMDL and WRAPS development as well as LWG facilitation.

Body of main report

The original Work Plan was altered twice by Amendments and twice by Change Orders. Amendment #1 added the Gap Monitoring objective and \$7,000.00 to the grant, while Amendment #2 extended the grant deadline from December 18, 2018 to June 30, 2020. The Change Orders simply moved funds to where they were needed. No major changes to the outlined goals of Project Planning, Public Participation Process, Grant Administration and Gap Monitoring were made.

Objective 1: Project Planning was developed by utilizing the LWG and RCRCA knowledge to identify successful approaches for the Cottonwood and Redwood WRAPS projects. LWG experience from prior WRAPS projects were shared and used to form the basis of these two watershed assessments. The only challenge encountered was selecting a monthly meeting date (3rd Thursday) that did not interfere with other scheduled meetings of other WRAPS projects, ongoing One Watershed One Plan projects, or organizational board meetings. Many counties struggle to provide the level of involvement that they wish to provide as they have been stretched thin by numerous meetings.

Objective 2: Public Participation Process was developed by utilizing that past experience from prior WRAPS projects. Identification of key stakeholders helped to form ways to involve and educate them on the information being collected as part of the WRAPS, but also the transition into One Watershed, One Plan for implementation. It was very apparent that public informational meetings should not be held unless good information can be shared with these people who are taking time out of their day to attend the meeting. Meetings for the general public were advertised and held in the cities of Lake Benton, Marshall and Redwood Falls for the Redwood River on July 24-26, 2018. Meeting locations and dates for the Cottonwood River watershed were Walnut Grove and Sleepy Eye on July 16, 2018 and July 18, 2018 respectively. A separate meeting for Elected Public Officials was held on March 9, 2018 to offer a more in depth explanation of the WRAPS process and the timeline of events to follow. The only difficulty encountered was low attendance for the public meetings despite advertising efforts.

Objective 3: Administration was completed by RCRCA staff to timely pay grant expenses, oversee grant spending and request quarterly reimbursements, and submit semi-annual and final reports to complete the grant requirements.

Objective 4: Gap Monitoring was completed by RCRCA staff to supplement the Surface Water Assessment Grant (SWAG) and the intensive watershed monitoring approach of both watersheds. Gap sampling would fill in the voids to ensure that an adequate number of samples would be collected for analysis and to avoid insufficient data findings which had happened routinely in previous WRAPS projects. The samples collected provided invaluable information. The challenge to obtain the samples was that they were collected during scheduled sampling runs for the SWAG grant, Watershed Pollutant Load Monitoring Network (WPLMN) grant, and the MN Department of Ag Statewide Pesticide Monitoring grant. The key to this success was preprinting of bottle labels, and accurate Chain of Custody forms to identify the samples and the appropriate grant/program. Tremendous savings were realized by eliminating extra staff time and mileage by collecting these samples at the same time.

Section II – Grant results

- **Measurements:**

Objective 1: Project Planning -- This objective was successfully achieved by the high level of participation by the partners and the amount of input provided by them based on past WRAPS/TMDL experience. With this knowledge, duplication of efforts was avoided as well as excess project expenditures. A clear and concise approach to the Cottonwood and Redwood WRAPS/TMDL project was developed.

Objective 2: Public Participation Process – This objective was achieved by utilizing the past knowledge of the project partners. Public involvement in southwestern Minnesota has always been difficult to achieve when the meetings are for information only. Should drainage or a regulatory matter be the subject, public participation is much greater. From the discussions held at the the five public informational meetings, fear of additional environmental regulations or restrictions drove attendance. Past experience has also shown that paper publications (newsletters, newspapers, etc) are not a cost-effective means of information as well.

Objective 3: Administration – Reimbursement invoices to MPCA were submitted quarterly and semi-annual reports were submitted by the deadline required. A voucher was developed for LWG members to accurately claim their time committed to the LWG meetings. Invoices for the Gap Monitoring were verified and timely payments to the laboratory were made. All grant funds were successfully expended.

Objective 4: Gap Monitoring – All planned samples and field data were collected as outlined in the Work Plan. RCRCA verified the data submitted to the EQuIS database by the MVTL laboratory.

- **Products:** A tri-fold brochure was developed that each partner could print with their own local contact information upon it. PowerPoint presentations for each watershed was developed, as well as another presentation for the Public Elected Officials meeting.
- In 2017, Gap samples were collected and analysed for TSS and Chlorophyll-a, while in 2018, collected samples were analyzed for TSS, Total Phosphorus and Chlorophyll-a with three sites receiving field observation parameters of Secchi tube, specific conductance, temperature, pH, dissolved oxygen, photographs and stream conditions. Total samples per analyte are as follows: TSS, 143 samples; Chlorophyll-a, 120 samples; and Total Phosphorus, 40 samples. Data entry into the EQUIS system was the responsibility of MVTL Testing Laboratories, New Ulm, MN while RCRCA reviewed the data submissions for accuracy.

A summary of the WRAPS progress was prepared by RCRCA for inclusion in the SWCD's annual reports. The summary recapped the highlights of the year and expectations of the coming year.

Public outreach and education: The effectiveness of the public participation and educational outreach varied by location.

Meetings for the general public were advertised and held and attended as follows:

• July 18, 2018	1:00 PM	Walnut Grove Community Center	3 agency staff in attendance
• July 19, 2018	7:00 PM	Sleepy Eye – Brown County REA Building	12 total, 1 was agency staff
• July 24, 2018	1:00 PM	Lake Benton - Hole in the Mountain Park Chalet	4 total, 3 were agency
• July 25, 2018	3:00 PM	Marshall – Marshall/Lyon County Library	6 total, 5 were agency
• July 26, 2018	7:00 PM	Redwood Falls Area Community Center	2 total, 1 was agency staff.

A separate meeting for Elected Public Officials was held on March 9, 2018 to offer a more in-depth explanation of the WRAPS process and the timeline of events to follow.

Additionally, Houston Engineering Inc. developed a “WRAPS Handbook” as commissioned by the Minnesota Soybean Research & Promotion Council and local workshops were held to distribute the handbooks and to lead discussion with farmers to encourage their participation for positive outcomes. The four workshops were held in Melrose (November 28, 2018), Redwood Falls (December 7, 2018), Madison (December 8, 2018) and St. James (December 19, 2018). Several project partners attended the meeting held in Redwood Falls.

Long-term results:

- ***Do the results of this project build capacity that can increase the likelihood of long-term outcomes?*** The results of this project included the planning of and coordination for the public participation component for the WRAPS process. Efforts were made to inform the public of the ongoing watershed assessments and how that information is used to identify impairments. Strategies are then developed to improve the health of the watersheds and implement practices accordingly.
- ***Did you form new partnerships or alliances as a result of the project?*** All the partners of this project have collaborated for decades as members of the Redwood-Cottonwood Rivers Control Area joint powers organization. Although staff changes have occurred in the recent years, the cohesiveness of the existing partnerships have only strengthened through this project, as well as other watershed assessment projects. Lessons learned from one watershed are used to better the next one.
- ***What future efforts are anticipated as a result of the partnership(s)?*** The second round of the 10 year assessments are beginning just as the Cottonwood and Redwood watersheds are assessed at the end of the first round. Since the initiation of the first round, the One Watershed One Plan effort has been developed. Throughout this planning process, the emphasis has been to shorten the 4-year WRAPS process into 3 years and to avoid the overlapping civic engagement that takes place at the 4th year of WRAPS and 1st year of One Watershed One Plan. A smooth transition from WRAPS to One Watershed One Plan is a goal of this project, and for those future projects.
- ***Is there a plan to continue the project beyond the end date of the grant agreement or contract?*** The WRAPS/TMDL for both watersheds continues today as both watersheds are covered by separate grant agreements. Each watershed will have its own reports although the discussion and planning effort will still continue a combined effort by the LWG.
- ***Describe how you shared the results of your project. List any information or technology transfer and dissemination (newsletters, web sites, training, reports, disseminated project activities, accomplishments, and lessons to the general public). Where and to what audiences have you made presentations?*** As a pre-WRAPS project, no results were produced to be shared. All collected field data and samples were analyzed with results submitted into the EQUIS database. This information was combined with other planned sampling to ensure an adequate number of samples for analysis. Information about the WRAPS process and all grant reports are available on the RCRCA website (www.rcrca.com).
- ***Please describe any lessons learned during this project that would be valuable for future projects, even if the project didn't succeed as expected. What other recommendations or advice would you make for future activities related to this priority project area?*** For these agricultural watersheds in southwestern Minnesota, the residents have provided feedback as follows: 1) Residents are aware of the impairments and can visually see them. 2) Residents care about the impaired waters, however feel that they cannot individually contribute and that it must be a watershed-wide effort to clean up our waters. 3) Public meetings are not a successful way to deliver information as

people attend to either voice their frustrations with the current system, or in fear of future regulations/restrictions which may impact them or their livelihood. 4) There is a large disparity between the rural and urban communities in terms of finger-pointing as to who is causing the impairments. 5) Most residents feel that our weather and climate are large contributing factors to our sediment impairments as the floods of 2018 and 2019 have left lasting scars on the landscape.

Section III – Final Expenditures

 Minnesota Pollution Control Agency 520 Lafayette Road North St. Paul, MN 55155-4194						Change Order Amendment #2 Revised Attachment A <h2 style="text-align: center;">Project Budget</h2>
						MPCA Use Only
Project title: Cottonwood Redwood Pre-WRAPS					SWIFT #	118176
					CR #	8949
	1. Personnel	2. Subcontracting		3. Other Expenses		Totals (Extended)
Project Budget	RCRCA Staff	County Staff	SWCD Staff	Lab Analysis	Mileage	
\$ Rate per Hour/Unit	\$58.00	\$40.00	\$40.00		Commissioner's rate	
Objective 1: Project Planning						
Task A: Coordination	311	175	175			
Total for Objective 1 Hrs	311	175	175			
Total for Objective 1 \$	\$18,038.00	\$7,000.00	\$7,000.00	\$0.00	\$0.00	\$32,038.00
Objective 2: Public Participation Process						
Task A: Stakeholder Planning	290	145	145			
Total for Objective 2 Hrs	290	145	145			
Total for Objective 2 \$	\$16,820.00	\$5,800.00	\$5,800.00	\$0.00	\$0.00	\$28,420.00
Objective 3: Administration						
Task A: Organization & Oversight	104	0	0		\$610.00 \$634.00	
Total for Objective 3 Hrs	104	0	0			
Total for Objective 3 \$	\$6,032.00	\$0.00	\$0.00	\$0.00	\$610.00 \$634.00	\$6,642.00 \$6,666.00
Objective 4: Gap Monitoring						
Task A: Sample Collection	79.5	0	0	\$6,459.00 \$5,135.00	\$130.00	
Total for Objective 4 Hrs	79.5	0	0			
Total for Objective 4 \$	\$4,611.00	\$0.00	\$0.00	\$6,459.00 \$5,135.00	\$130.00	\$9,900.00 \$9,876.00
Total Project Hours	785.5	320	320	0	0	1425.5
Total	\$45,501.00	\$12,800.00	\$12,800.00	\$5,459.00 \$5,135.00	\$740.00 \$764.00	\$77,000.00
Project Hours	1425.5					
Total FTE	0.68					

Projects should use the format they used in their work plan for the budget to report on the final expenditures. This should list the tasks or activities outlined in their original (or amended) work plan.

Pictures



Collecting Lake Sediment Cores



Jeff Strom from Wenck Associates demonstrating the core collection process to the Local Work Group members at Sleepy Eye Lake



ABOVE: Jeff Strom and Tom Langer from Wenck Associates electrofishing Double Lake to estimate carp population. BELOW: Local Work Group observing electrofishing at Sleepy Eye Lake.





ABOVE: WRAPS Informational Meeting for Elected Officials – March 9, 2018