



**Minnesota Pollution
Control Agency**

520 Lafayette Road North
St. Paul, MN 55155-4194

Project Work Plan

Doc Type: Contract

MPCA Use Only	
Swift #:	
CR #:	

Project Title: Lac qui Parle River WRAPS Project Phase II

1. Project Summary:

Organization: Lac qui Parle-Yellow Bank Watershed District
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Subcontractor(s)/Partner(s): *[list all subcontractors, partners if applicable]*

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Project information

Latitude/Longitude: 44°50'51"N/96°20'54"

***County:** Lac qui Parle, Yellow Medicine, Lincoln

Start date: 09/01/2015
(mm/dd/yyyy)

End date: 06/30/2019
(mm/dd/yyyy)

Total cost:

***Full time equivalents:**

***Major watershed(s):**

- | | | | | |
|---|--|---|---|--|
| <input type="checkbox"/> Statewide | <input type="checkbox"/> Kettle River | <input type="checkbox"/> Miss Rvr – GrandRpds | <input type="checkbox"/> Rainy Rvr – Baudette | <input type="checkbox"/> So Fork Crow River |
| <input type="checkbox"/> Big Fork River | <input checked="" type="checkbox"/> Lac Qui Parle River | <input type="checkbox"/> Miss Rvr –Headwaters | <input type="checkbox"/> Rainy Rvr – Black Rvr | <input type="checkbox"/> Lower St. Croix Rvr |
| <input type="checkbox"/> Upper Big Sioux Rvr | <input type="checkbox"/> Lake of the Woods | <input type="checkbox"/> Miss Rvr –LaCrescent | <input type="checkbox"/> Rainy Rvr – Rainy Rvr | <input type="checkbox"/> Upper St. Croix Rvr |
| <input type="checkbox"/> Lower Big Sioux Rvr | <input type="checkbox"/> Lake Superior – North | <input type="checkbox"/> Miss Rvr – Reno | <input type="checkbox"/> Rapid River | <input type="checkbox"/> St. Louis River |
| <input type="checkbox"/> Blue Earth River | <input type="checkbox"/> Lake Superior – South | <input type="checkbox"/> Miss Rvr – Sartell | <input type="checkbox"/> Red Lake River | <input type="checkbox"/> Red Rvr of the North
Tamarac River |
| <input type="checkbox"/> Bois de Sioux River | <input type="checkbox"/> Le Sueur River | <input type="checkbox"/> Miss Rvr – St. Cloud | <input type="checkbox"/> Upper Red Rvr | <input type="checkbox"/> Thief River |
| <input type="checkbox"/> Buffalo River | <input type="checkbox"/> Leech Lake River | <input type="checkbox"/> Miss Rvr – Twin Cities | <input type="checkbox"/> Redeye River | <input type="checkbox"/> Two Rivers |
| <input type="checkbox"/> Cannon River | <input type="checkbox"/> Little Fork River | <input type="checkbox"/> Miss Rvr – Winona | <input type="checkbox"/> Redwood River | <input type="checkbox"/> Upper/Lower Red Lk |
| <input type="checkbox"/> Cedar River | <input type="checkbox"/> Little Sioux River | <input type="checkbox"/> Miss Rvr – Lake Pepin | <input type="checkbox"/> Rock River | <input type="checkbox"/> Upper Iowa River |
| <input type="checkbox"/> Chippewa River | <input type="checkbox"/> Long Prairie River | <input type="checkbox"/> Mustinka River | <input type="checkbox"/> Root River | <input type="checkbox"/> Vermillion River |
| <input type="checkbox"/> Clearwater River | <input type="checkbox"/> Red Rvr of the North
Marsh River | <input type="checkbox"/> Nemadji River | <input type="checkbox"/> Roseau River | <input type="checkbox"/> Upper Wapsipicon
River |
| <input type="checkbox"/> Cloquet River | <input type="checkbox"/> MN Rvr – Yellow
Medicine River | <input type="checkbox"/> No Fork Crow River | <input type="checkbox"/> Rum River | <input type="checkbox"/> Watonwan River |
| <input type="checkbox"/> Cottonwood River | <input type="checkbox"/> MN Rvr – Headwaters | <input type="checkbox"/> Otter Tail River | <input type="checkbox"/> Red Rvr of the North
Sandhill River | <input type="checkbox"/> DesMoines Rvr Hdwtrs |
| <input type="checkbox"/> Crow Wing River | <input type="checkbox"/> MN Rvr – Mankato | <input type="checkbox"/> Pine River | <input type="checkbox"/> Sauk River | <input type="checkbox"/> Lower DesMoines Rvr |
| <input type="checkbox"/> E Fork DesMoines Rvr | <input type="checkbox"/> Lower MN River | <input type="checkbox"/> Pomme de Terre Rvr | <input type="checkbox"/> Shell Rock River | <input type="checkbox"/> Wild Rice River |
| <input type="checkbox"/> Red Rvr of the North
Grand Marais Creek | <input type="checkbox"/> Miss Rvr – Brainerd | <input type="checkbox"/> Rainy Rvr – Hdwtrs | <input type="checkbox"/> Snake River | <input type="checkbox"/> Winnebago River |
| | | | | <input type="checkbox"/> Zumbro River |

- *Organization type:**
- | | |
|---|---|
| <input type="checkbox"/> Federal government | <input checked="" type="checkbox"/> Local/Regional government |
| <input type="checkbox"/> For-profit | <input type="checkbox"/> Private college/university |
| <input type="checkbox"/> Individual | <input type="checkbox"/> Public college/university |
| <input type="checkbox"/> Non-profit | <input type="checkbox"/> State government |

- *Project type:**
- | | | |
|--|-------------------------------------|--|
| <input type="checkbox"/> Analysis/Interpretation | <input type="checkbox"/> Modeling | <input type="checkbox"/> Research |
| <input type="checkbox"/> Assessment/Evaluation | <input type="checkbox"/> Monitoring | <input type="checkbox"/> Restoration/Enhancement |
| <input type="checkbox"/> Demo/Pilot project | <input type="checkbox"/> Planning | X Technical assistance |
| X Education/Outreach/Engagement | | |

2. Statement of Problems, Opportunities, and Existing Conditions

This project provides an opportunity to assess and leverage the capacity for the local community to engage in the process of watershed management and to adopt protection and restoration practices.

Why the Project is Taking Place

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 major components of the approach include unified methods to: 1) monitor and gather information, 2) assess the data, 3) develop implementation strategies to meet standards and protect waters, and 4) implement water quality protection and restoration activities. Intensive watershed monitoring began in the Lac qui Parle River (LqP) watershed in 2015. This monitoring work expands on previously established routine water quality and flow sampling to include extensive fish and aquatic invertebrate surveys. Following

completion of the intensive watershed monitoring, subsequent steps include assessment of the monitoring data to determine impairments, identification of stressors that are causing impairments, development of Total Maximum Daily Loads (TMDLs) using identification of pollutant sources using computer modeling and other techniques, and community involvement as approaches in progress towards water quality goals. The project will culminate in a set of strategies to restore impaired waters and protect unimpaired waters. These strategies will ultimately be executed by state and local governments, citizen organizations, businesses, and individuals.

In 2015, the LQPYB watershed initiated the MPCA's Major Watershed Restoration and Protection Project process. This process encompasses a ten-year timeline where data collection, assessment, and implementation occur. The project commenced with intensive monitoring where biological data was collected along with physical and chemical data of streams and lakes in selected subwatersheds. There 57 proposed stream sites to be sampled for biological data, 16 stream sites for water quality, and one site for fish tissue. Water samples will be collected on two lakes. A majority of the data collection will be done by the MPCA with the exception of water samples collected by the LqPYB Watershed District. This monitoring will be conducted at 16 sites, is funded through the surface Water Assessment Grant (SWAG) program, and is not reflected in this work plan.

The program coordinator time will be allocated to community involvement and education, assisting MPCA with biological monitoring and stressor identification, participating in meetings, analyzing information, identifying and using tools, developing priority areas and restoration/protection strategies, and coordinating the project.

Watershed Description

The Lac qui Parle River originates at Lake Hendricks on the Minnesota-South Dakota border. A unique feature of this watershed is the tremendous drop in elevation. From the highest point in the watershed to Lac qui Parle Lake there is an elevation change of 1,070 feet; from Lac qui Parle Lake to New Orleans there is an elevation change of 970 feet. With this drop in elevation the water flows very fast and transports sediment, nutrients, and bacteria to Lac qui Parle Lake where it merges with the Minnesota River.

The Lac qui Parle watershed is approximately 1,100 square miles and drains parts of Lac qui Parle, Yellow Medicine and Lincoln counties in Minnesota as well as parts of Grant, Deuel, and Brookings counties in South Dakota. The river is divided between the West Branch and South Branch that merge together east of Dawson. The Lac qui Parle River discharges ultimately to the Minnesota River just above Lac qui Parle dam and the County Highway 33 river crossing. There is 69.7% of the watershed located in Minnesota.

The watershed is primarily rural with corn and soybeans being the primary crop production and swine and cattle being the primary livestock production. The urban communities in the Lac qui Parle watershed consist of Boyd, Canby, Dawson, Hendricks, Madison and Marietta in Minnesota. The 2010 census data showed population of 11,848, an approximate 8% reduction in population from 2000 to 2010.

Existing Conditions

There are 11 stream reaches, two lakes, and one wetland identified as being impaired on the draft 2014 Impaired Waters List. There are a total of 23 impairments with some of the 11 stream reaches having multiple impairments. Of the 23 impairments, only four currently are in need of a Total Maximum Daily Load (TMDL) study. There are three impairments on the two lakes and two impairments on the wetland. Three of these five impairments still require a TMDL be completed. In 2012, a TMDL Report was approved by the Environmental Protection Agency addressing 19 impairments on 11 stream reaches. Table 1 identifies those stream reaches and lakes that have been identified as impaired.

Table 1: Impaired Waters List

Reach Description	ID	Impaired Use	Impairment Cause	TMDL Status
Lac qui Parle River: W Br Lac Qui Parle R to Ten Mile Cr	07020003-501	Aquatic Recreation	Fecal Coliform	Approved
		Aquatic Life	Oxygen, Dissolved	Approved
		Aquatic Life	Turbidity	Approved
Lac qui Parle River: Headwaters to Lazarus Cr	07020003-505	Aquatic Recreation	Fecal Coliform	Approved
		Aquatic Life	Turbidity	Approved
		Aquatic Life	Fishes Bioassessments	Required
Lac qui Parle River: Lazarus Cr to W Br Lac Qui Parle R	07020003-506	Aquatic Recreation	Fecal Coliform	Approved
		Aquatic Life	Turbidity	Approved
Lazarus Creek: Canby Cr to Lac Qui Parle R	07020003-508	Aquatic Recreation	Fecal Coliform	Approved
		Aquatic Life	Turbidity	Approved
Lazarus Creek: MN/SD border to Canby Cr	07020003-509	Aquatic Life	Fishes Bioassessments	Required
Ten Mile Creek: Headwaters to Lac Qui Parle R	07020003-511	Aquatic Recreation	Fecal Coliform	Approved

		Aquatic Life	Fishes Bioassessments	Required
Lac qui Parle River, West Branch: Unnamed cr to Unnamed ditch	07020003-512	Aquatic Recreation	Fecal Coliform	Approved
		Aquatic Consumption	Mercury in Fish Tissue	Approved
Lac qui Parle River, West Branch: Florida Cr to Unnamed cr	07020003-515	Aquatic Consumption	Mercury in Fish Tissue	Approved
Lac qui Parle River, West Branch: Lost Cr to Florida Cr	07020003-516	Aquatic Recreation	Fecal Coliform	Approved
		Aquatic Life	Turbidity	Approved
		Aquatic Consumption	Mercury in Fish Tissue	Approved
Lac qui Parle River, West Branch: MN/SD border to Lost Cr	07020003-519	Aquatic Consumption	Mercury in Fish Tissue	Approved
Florida Creek: MN/SD border to W Br Lac Qui Parle R	07020003-521	Aquatic Recreation	Fecal Coliform	Approved
		Aquatic Life	Turbidity	Approved
		Aquatic Life	Fishes Bioassessments	Required
Hendricks: AT TOWN OF HENDRICKS	41-0110-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	Required
		Aquatic Consumption	Mercury in Fish Tissue	Approved
Del Clark: 1 MI SW OF CANBY	87-0180-00	Aquatic Consumption	Mercury in Fish Tissue	Approved
Unnamed Wetland	87-0121-00	Aquatic Life	Aquatic Macroinvertebrate Bioassessments	Required
		Aquatic Life	Aquatic Plant Bioassessments	Required

3. Goals, Objectives, Tasks, and Subtasks

***Goal:** The primary goal of this project is to develop a comprehensive Watershed Restoration and Protection Strategies (WRAPS) Report to be used on the local level. Achieving this goal will require sound working relationships between local government units (LGUs), watershed citizens, and state and federal government. Gathering input from these groups will be critical in drafting WRAPS Report that can be utilized by local decision-makers. Working groups will be convened to become informed of the watershed management process and to assist watershed professionals in engaging the public and producing the WRAPS report.

Objective 1: Community Outreach

Tasks A: TEAM Coordination

- Hold TEAM meetings with partnering Soil and Water Conservation Districts (SWCD), County Water Planners, County Environmental staff, LqPYBWD Program Coordinator, Administrator and Managers, and state and federal government quarterly or as needed.
- Provide TEAM partners with information about existing tools such as Zonation, Hydrologic Simulation Program Fortran (HSPF), Geographic Information Systems (GIS) maps, Terrain Analysis and other tools as they become available.
- TEAM partners will decide the type of inventories needed as the project progresses.
- Use information obtained from available tools and public information meetings to develop priority areas and restoration/protection strategies.

Responsible Parties: Watershed Program Coordinator, LqPYBWD, SWCDs, County Water Planners, County Staff, state and federal government partners

Tasks B: Public Participation and Education

- An Education Committee will be developed from a subgroup of the TEAM partners to plan public participation and education activities. This committee will be made up of LqPYBWD, SWCD, County Water Planners and MPCA.
- Attend organized meetings such as, but not limited to, Rotary, Kiwanis, Lions, Lake Associations and Annual Township workshops to provide information about existing tools such as Zonation, Hydrologic Simulation Program Fortran (HSPF), Geographic Information Systems (GIS) maps and provide project updates to develop priority areas restoration/protection strategies.
- Hold six public meetings to provide information about existing tools such as Zonation, Hydrologic Simulation Program

Fortran (HSPF), Geographic Information Systems (GIS) maps and provide project updates to develop priority areas restoration/protection strategies. Advertising for meetings will be through local newspapers and radio program. Meeting supplies will be required and will include refreshments.

- Hold two Boot Camp sessions that will be interactive with hands on activities for ages 12 and up. Each Boot Camp will provide participants with information about watershed history, watershed management, and personal involvement and responsibility. These will include classroom and field trip styles of learning. Advertising for each Boot Camp will be through local newspapers and radio program. Meeting supplies will be required and will include refreshments.
- Educational workshops for women landowners to increase understanding of watershed management practices that will enhance water quality. Two workshops will be held and topics will be decided upon by the educational committee. Advertising for workshops will be through local newspapers and radio program. Workshop supplies will be required and will include refreshments.
- Canoe trips on the Lac qui Parle River for citizens in the watershed. The trips will provide an opportunity to understand river dynamics. Canoes, lifejackets, shuttle transportation, and light refreshments will be provided for one trip per year for four years.
- Watershed tour for citizens to explore the watershed from the headwaters to the confluence with the Minnesota River, showcasing implementation projects on the land and unique characteristics of the watersheds. A chartered bus will be utilized for transportation of participants. Advertising for the tour will be through local newspapers and radio program. Tour supplies will be required and will include refreshments. A lunch will be required since this is an all-day event. Providing meals increases the number of participants which will increase the awareness of the project and watershed concerns. Lunch offers participants time to network and ask questions.
- Current radio program will include project updates and general watershed education content. These programs are held once a week from about April through September or as needed throughout the year.
- Retractable banners will be designed and purchased to promote the project at different organization events, public meetings, boot camp sessions, and other events available.
- Interpretive display signs at four park sites in the watershed. Signs will provide information about the WRAPS project and implementation opportunities. Sign content and design will be decided up by the education committee.
- A webpage will be developed on the LqPYBWD website that will provide project information and updates. This webpage will be updated at least annually by LqPYBWD staff.
- Evaluation forms will be designed for each public meeting and education events to assist with tracking progress towards measurable outcomes

Responsible Parties: Watershed Program Coordinator, LqPYBWD, SWCDs, County Water Planners, County Staff, state and federal government partners

Objective 1 Timeline: September 2015-June 2019

Objective 1 Deliverables: TEAM meetings, priority areas and restoration/protection strategies, public informational meetings, educational events throughout the watershed.

Objective 2: Data Collection and Analysis

Task A: Watershed Inventories

- Inventories may include, but not limited to, buffer, gully/ravine, stream banks, pastures, feedlots, potential wetland storage areas, permanent easements, existing BMPs, crop residue tillage transects, land use changes, flooding areas and crossover areas. These inventories will be decided upon by TEAM partners.
- Inventories will be coordinated by Watershed Program Coordinator with assistance from County and SWCD staff.
- Watershed Program Coordinator will compile inventory results for use in determining priority areas and restoration/protection strategies.

Responsible Parties: Watershed Program Coordinator, LqPYBWD, SWCD, County Staff,

Objective 2 Timeline: September 2015-June 2019

Objective 2 Deliverables: Inventory Results

Objective 3: Project Coordination

Task A: Project Management

- Complete and submit reports in accordance with contract requirements.
- Complete and submit reimbursement requests in accordance with contract requirements.
- General project coordination to assure work plan requirements are met.

Responsible Parties: Watershed Program Coordinator, LqPYBWD

Task B: Assist MPCA

- Biological monitoring – contribute to the bio monitoring process by taking part in data collection

- Stressor identification – assist stressor identification crew with data collection, collect additional water chemistry data, pictures, field data and perform stream recon work.
- Plan and participate in MPCA meetings, provide input to MPCA.

Responsible Party: Watershed Program Coordinator

Objective 3 Timeline: September 2015-June 2019

Objective 3 Deliverables: Reports and reimburse request, provide input and participation, maintenance of partner efforts.

4. Measurable Outcomes

Community outreach programs will be measured:

- Increasing number of citizens participating in education and outreach events.
- Fostering information and idea exchange around watershed issues through relationships and social networks.
- Promoting awareness, concern, and watershed stewardship to community organizations/institutions.

Outcomes will be: A TEAM of project partners that provides leadership for promoting watershed management strategies. Citizens that are engaged and informed about local water resource problems and solutions.

An additional outcome of this project will be a set of complete watershed management strategies and priority areas to address restoration of impaired waters and protection of all waters in the LqP watershed. Upon completion, MPCA technical staff and local partners will have an adequate understanding of the watershed to select and prioritize strategies to move forward with water resource protection and restoration activities.

5. Gantt charts (*Attach Excel spreadsheet*)

6. Project Budget (*Attach Excel Spreadsheet*)