

Lac qui Parle River
Watershed Restoration and Protection Strategies
(WRAPS) Final Report



July 31, 2020

Table of Contents

Table of Contents	2
Grant Project Summary.....	3-5
Work Plan Review	5-10
Grant Results	10-13
Final Expenditures.....	13

Attachments:

- **Final Budget**
- **Photos**
- **2015 Monitoring Data Charts**
- **Watershed Survey & Results**
- **WRAPS Brochure**
- **BMP Input Worksheet**
- **Family Fun Evening Folders**
- **Sampling Day Folders**
- **Terrain Analysis**
- **Professional Judgement Group Mapbook**

Grant project summary

Project title: Lac qui Parle River WRAPS Project Phase 2

Organization (Grantee): Lac qui Parle – Yellow Bank Watershed District

Project start date: 10/19/2015 Project end date: 6/30/2020 Report submittal date: 7/27/2020

Grantee contact name: Mitch Enderson Title: Program Coordinator

Address: 600 6th Street, Suite 7

City: Madison State: MN Zip: 56256

Phone number: 320-598-3319 Fax: 320-598-3125 Email: mitch.enderson@lqpc.com

Basin (Red, Minnesota, St. Croix, etc.) /Watershed & 8 digit HUC:: Minnesota/Lac qui Parle/07020003 County: Lac qui Parle, Yellow Medicine, Lincoln

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: \$155,060.00 Final total project costs: \$67,795.58

Matching funds: Final cash: \$NA Final in-kind: \$NA Final Loan: \$NA

MPCA project manager: Katherine Pekarek - Scott

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

Impaired reach name(s): <https://public.tableau.com/profile/mpca.data.services#!/vizhome/CWAA-TMDLStatus/TMDLStatus>

AUID or DNR Lake ID(s): _____

Listed pollutant(s): _____

303(d) List scheduled start date: _____ Scheduled completion date: _____

AUID = Assessment Unit ID

DNR = Minnesota Department of Natural Resources

Executive summary of project

Problem

The state of MN is working on creating a more unified approach to water management than previously used to focus specific strategies to respective watersheds. Development of strategies that incorporate local input and knowledge and will most efficiently restore impaired water bodies while providing protection to those waters meeting water quality standards. The continuation of the WRAPS cycle will help to document and measure improvements in water quality following the implementation of the developed strategies. This report involves all waterbodies that drain into the Lac qui Parle River, which is the second major basin out of 13 that outlet into and comprise the Minnesota River Basin.

Waterbody improved

Strategies developed through the Lac qui Parle River WRAPS will help guide conservation implementation and improvement on all impaired waterbodies comprising the Lac qui Parle River watershed in Minnesota, as well as protect those bodies in the watershed currently meeting water quality standards. Strategies developed through this project are intended to be used by local water management partners to help inform a future One Watershed, One Plan.

Project highlights

Throughout the WRAPS project, many discoveries were made and large amounts of recommendations were utilized from both landowners and local agency stakeholders. Partners worked together to plan and conduct numerous public activities, ranging from local stakeholder meetings to fun activities like canoe trips.

Results

The completion of the WRAPS contract produced numerous outcomes that will benefit both public and private future water management. Local partnering staff and landowners assisted and created a set of strategies that can be utilized amongst all to provide the greatest water quality benefits. Knowledge was shared at numerous meetings and private stakeholders were engaged through a series of public engagement events designed to familiarize landowners with the watershed they live and work in.

Partnerships

Lac qui Parle Soil and Water Conservation District (SWCD)
Yellow Medicine SWCD
Lincoln SWCD
Lac qui Parle County
Yellow Medicine County
Lincoln County
National Resources Conservation Service
Board of Water and Soil Resources
Department of Natural Resources
Area II Minnesota River Basin Projects
United States Fish and Wildlife Service
Upper Minnesota River Watershed District

Pictures (attached)

Attached are pictures from various project meetings and events along with descriptive captions.

Section 1: Work Plan Review

Staffing changes, unforeseen water sampling requirements, and the covid-19 pandemic led to changes from the original workplan. Four changes orders and one project amendment were completed during the life of the project. In February 2017, a change order was completed to reallocate funds from an intern (Objective 2 Task A) to stressor identification water sampling shipping expenses and supplies. Contractor and subcontractor information was also updated to reflect changes in staff. A second change order was completed in June 2017, to move funds from stressor identification shipping expense into supplies to purchase solution needed for maintenance of the monitoring probe. A third change order was completed in March 2018, to move funds from intern hours to bus rentals (Objective 1, Task B) after receiving an estimate from a local bus rental company for a watershed tour. Additional staff changes were also made at this time. In April 2019, an amendment to the work plan was completed to extend the project deadline from 6/30/2019 one additional year to 6/30/2020. The timeframe extension was necessary to allow for the hiring of a consultant (Houston Engineering – HEI) to develop the project reports (TMDL and WRAPS) as the original internal Minnesota Pollution Control Agency staff anticipated to author the reports was unable to fully complete the reports. A final change order was completed to allow funds to be used for a potential virtual tour rather than the originally planned bus tour due to the Covid-19 pandemic.

Specific work plan tasks and a review of what was accomplished for each task is as follows:

Objective 1: Community Outreach

The watershed approach relies on a collaboration of multiple state and local agencies, as well as community organizations. An objective of this approach is to engage local stakeholders at the onset of the watershed effort and utilize their capacity to continue projects through the implementation stages. This requires local partners to be part of the project early in the process.

Tasks A: Together Everyone Achieves More (TEAM) Coordination

Subtask 1: Twelve meetings and workshops were held throughout the project to discuss priorities, data needs, and provide input to Houston Engineering on local implementation preferences and most efficient BMP practice types. All local partnering staff were active in the project as availability allowed. Convening of well attended meetings proved challenging

throughout the project due to the majority local partners additionally required to attend and participate in a multitude of meetings for separate ongoing WRAPS and One Watershed, One Plan (1W1P) projects. Additionally, meetings to recap the project were unable to be held in person due to the Covid-19 pandemic of 2020.

Subtask 2: HSPF results were shared with TEAM partners early in the project. Additionally, TEAM members have been notified of the availability of Prioritize, Target, Measure (PTMApp) and Agricultural Conservation Planning Framework (ACPF) data. Partners were notified when the Monitoring and Assessment Report and Stressor Identification Report were posted and made available. A TEAM meeting was held to describe to partners how the Stressor Identification Report development process was completed. TEAM members were also given an overview of the Watershed Health & Assessment Framework report by DNR staff. HEI hosted a meeting to seek feedback on draft TMDL and WRAPS reports, which were also sent electronically to request review and comments. TMDL and WRAPS drafts were received later than anticipated and feedback from partners was limited.

Subtask 3: Inventories and data needs were discussed early in the WRAPS project and include different conservation modeling results such as PTMApp, HSPF, and ACPF. Initial program coordinator spent time field verifying accuracy and potential for projects indicated by the terrain analysis.

Subtask 4: Multiple meetings were held with the TEAM partners to provide input. Due to unforeseen changes internally in the MPCA, information was instead provided to HEI.

Tasks B: Public Participation and Education

Subtask 1: The initially formed Education Committee consisted of four members who all retired from their positions within months of each other in late 2016 to early 2017. Due to these retirements, the initial committee was only able to meet alone one time. Multiple attempts to form a new committee were initiated but with little success, including a meeting with new members to develop a spreadsheet of remaining tasks and responsibilities. Lack of participation on a new committee resulted in unrealized budget dollars intended for committee member time and efforts. Partners often still assisted the project coordinator with public events, but often without submitting voucher requests to the project coordinator.

Subtask 2: The program coordinator consistently attended and provided project updates, including annual township meetings (cancelled in 2020 due to Covid-19), and once as a guest for Kiwanis, Lake Hendricks Improvement Association, Corn & Soybean Growers annual meetings, and Lac qui Parle study club. Additionally, a booth was annually set up at the Lac qui Parle County fair and updates were given per request for the Lac qui Parle SWCD board. County commissioners were also given updates as asked. Area II board meetings were attended regularly with updates given. Annual resource commission meetings were attended and provided updates in Lac qui Parle, Yellow Medicine, and Lincoln Counties by the program coordinator. Many updates highlighting the results of the project coming to completion were unable to be given as public meetings were cancelled in 2020 due to the Covid-19 pandemic.

Subtask 3: The program coordinator worked in conjunction with HEI to host public meetings/workshops to provide information, discuss reports, and gather feedback used in the finalization of restoration and protection strategy priorities. A public meeting held in Canby in July, 2019, was attended by only two landowners, while a separate public workshop was held in Madison in February, 2019, where nine citizens voted and completed worksheets. Scores were taken from the workshop to notify HEI of preferences for effective BMPs that landowners have interest in. A third meeting intended for the end of the project to provide project results was unable to be held due to the Covid-19 pandemic.

Subtask 4: Only one of the two planned boot camps was able to be held. The boot camp consisted of the program coordinator, MPCA staff biologists, and Lac qui Parle SWCD staff hosting sophomore biology students from Dawson – Boyd High School for a demonstration day to learn about water sampling and quality. Topics included water quality impairments, monitoring and assessing processes, performing chemical and biological samples, and viewing real samples of fish and macroinvertebrates found in the watershed. MPCA biologists concluded the event with a live fish shocking that the students very much enjoyed. This was one of the most successful public engagement events and requests were made by teachers to hold similar events in the future. The second planned boot camp was intended to be a classroom style tour of the watershed in advance of the bus tour. Due to the Covid-19 pandemic, these were unable to be held.

Subtask 5: Rain barrel installations were held intended as a Women’s Day event. While two of the rain barrels installed were done with students at their schools (Hendricks middle school and St. Peter’s in Canby), a third rain barrel was installed with residents of Hilltop Assisted Living in Madison. A second planned Women’s Day field demonstration event was forced to be cancelled to a lack of RSVPs. To gain better attendance, this was amended to a Family Fun Evening at Stonehill Park near Canby. Families were given opportunities to play water-based games, including water balloon toss and minnow races. Additionally, an education station with multiple booths and demonstrations was available for children to find quiz answers and receive prizes. Multiple local partnering SWCD staff assisted with the event and brought aquatic robots to show families, which was very much enjoyed by attendees.

Subtask 6: Annual canoe trips were a very anticipated event by the public with attendance reaching a peak in 2018 at twenty – nine paddlers. Weather and safety concerns prevented a trip in 2016. The 2017 canoe trip included thirteen participants, while twenty – three people attended in 2019. Dawson – Boyd high school science teacher Greg Wyum was instrumental in assisting as a guide and lending canoes/lifejackets for use. The 2020 canoe trip, which would have been threatened by low river levels, was cancelled due to the Covid – 19 pandemic.

Subtask 7: This anticipated large event was planned for the end of the project but was cancelled due to the Covid – 19 pandemic. A change order was made to allow for a potential virtual event. However, the limited time remaining in the contract combined with staff working from home and other challenges presented by the Covid-19 pandemic ultimately made it unable to complete.

Subtask 8: Ten radio programs were held as needed or when relevant content was available to share. Content covered included promotion of public events (rain barrel installations, canoe

trips, Women's Day, Family Fun Evening, landowner workshop). Also covered was Professional Judgement Group results, stressor identification sampling, fair booths, and highlights of the WRAPS grant. Additionally, local partnering staff have gone on the radio during the normal timeframe in weeks where the program coordinator was not performing a show.

Subtask 9: Four retractable banners were designed and ordered. Two of the banners were ordered early in the project timeframe. One banner highlighted the WRAPS process, and the other gave an overview of what a watershed is. These banners were highlighted at public meetings, fair booths, and the Family Fun Evening education station. Two remaining banners were ordered towards the end of the project, with one banner highlighting civic engagement events held, and a second banner highlighting water impairments within the watershed. These banners will be used at future events and meetings, including 1W1P and the next WRAPS cycle. They will additionally be used when setting up booths at fairs and other events where information can be shared.

Subtask 10: Four signs were designed and installed. Each sign gave some watershed and WRAPS project background, in addition to history/information relevant to the installation sites. The signs were installed at the Lac qui Parle River headwaters in Hendricks, at Stonehill Park outside of Canby, the Rock Rapids Park on the West Branch of the Lac qui Parle River in Dawson, and the Lac qui Parle County Park.

Subtask 11: The program coordinator has updated the website with semi – annual reports and event highlights.

Subtask 12: Pamphlets have been unable to be distributed at recent public events due to the Covid – 19 pandemic. Previously, informational folders were constructed and handed out to participants at the Family Fun Evening and Sampling Day boot camp events.

Subtask 13: A meeting for elected officials was held just prior to Covid – 19 pandemic concerns. While attendance was moderate, at least one representative from each county and SWCD were present and able to return project information to their respective agencies to assist with potential questions from constituents.

Objective 2: Data Collection and Analysis

Inventories that are amassed across the landscape of the watershed for this objective will be used to help develop and define the characterization of what is happening on the landscape. This characterization will be beneficial in developing strategies to restore and protect the waters in the watershed.

Task A: Watershed Inventories

Subtask 1: Inventories for potential BMPs and high priority areas have been developed through a combination of HSPF, PTMApp, and ACPF tools. The program coordinator has a geodatabase of ACPF results and PTMApp results which can be easily acquired based upon the data

needs/requests. Terrain analysis results for the Lac qui Parle – Yellow Bank Watershed has been completed and in a geodatabase with the program coordinator. The TEAM determined section by section reviews and tillage transects to be unnecessary.

Subtask 2: See Subtask 1 Results.

Task B: Stressor Identification

Subtask 1: The program coordinator conducted necessary stressor identification monitoring as directed by lead MPCA stressor ID staff. Two change orders were required to help with shipping expenses and supplies.

Subtask 2: A meeting with the TEAM was held to review results of the stressor identification monitoring. Additionally, notification was given when the report was added to the MPCA website. The program coordinator assisted stressor identification staff with questions on monitoring data as necessary.

Objective 3: Project Coordination

It is important that the project has a lead staff coordinating all local partners and processing information. The LqPYBWD Watershed Program Coordinator will maintain communication between local partners, state agencies, and general public. This will communicate a united front of the TEAM.

Task A: Project Management

Subtask 1: The program coordinator completed reports as required and posted to website.

Subtask 2: The program coordinator completed voucher requests accompanied by budgets as required.

Subtask 3: The program coordinator performed project maintenance and coordination with the MPCA as needed, including three change orders and one amendment. Additionally, the program coordinator assisted HEI with requests.

Subtask 4: The program coordinator assisted the MPCA as requested with meeting planning, including a Professional Judgement Group meeting to discuss impairments.

Obstacles:

Four primary obstacles stand out among others as having a significant impact upon the WRAPS project and required adaptation.

The first obstacle occurred early in the project, with the program coordinator and numerous

other key TEAM partnering staff retiring. The turnover proved an obstacle as new staff were placed in the middle of the project with a workplan developed by the initial group. New members of the TEAM worked well getting acclimated with remaining staff and incoming partners. Although a new Education Committee struggled to meet in person, staff from partnering SWCDs assisted with developing content and coordinating public events, including fair booths, rain barrel installations, Family Fun Evening, and Sampling day.

A second obstacle proved to be partner availability. Most partnering staff also were involved with other watershed WRAPS and 1W1P projects, all of which require numerous meetings. For this reason, TEAM meetings were not always fully attended and were sometimes difficult to schedule. The program coordinator maintained at least a semi – annual meeting schedule for the TEAM to stay up to date. While in person meetings were not as frequent as ideal, necessary reports and comments were shared via email.

A third obstacle occurred when MPCA staff anticipated to write the WRAPS report was unable to do so. As a result, a consultant was picked and hired to complete the report. To allow appropriate time for the consultant to become acclimated with the project and gather input needed from stakeholders, an amendment to the workplan was completed to grant a 1 year extension to the completion date.

A final obstacle was a major challenge as it coincided with the final stages of the project and interrupted numerous anticipated meetings and events. The Covid-19 pandemic proved a challenge for the project just as it did for the entire country in 2020. A boot camp, canoe trip, and watershed bus tour were public engagement events that were ultimately cancelled due to the pandemic. Since the contract end occurred during the pandemic, the events were unable to be rescheduled.

Additional obstacles included the program coordinator not receiving partner vouchers, lack of attendance, and delays in receiving reports.

Section 2: Grant Results

Measurements:

Early in the WRAPS project, approximately thirty – five surveys to determine perceptions of the Lac qui Parle River and its associated watershed were completed. Results measuring beliefs of landowners, citizens, and agency staff are reported in the attached survey results. These surveys provide valuable insight on how to use the strategies developed through WRAPS in a manner that will be agreeable with landowners and stakeholders in the watershed.

Products:

The Lac qui Parle WRAPS workplan was built with an excellent premise of holding events and producing products that can help engage and educate the public. Products that will accomplish these tasks include four large interpretive signs installed at local parks in the watershed. Signs were installed at the Lac qui Parle County Park, Dawson Rock Rapids Park, Stonehill Regional

Park, and City of Hendricks park near the headwaters of the Lac qui Parle River.

Another useful feature in the workplan that was utilized during the project and will continue to be of benefit are four roll-up banners. Two banners produced during the beginning of the workplan allowed for a simple explanation of what watersheds are and what the watershed will go through during the WRAPS process. The final two banners produced later in the workplan highlighted the civic engagement events held and water quality impairments identified that the developed strategies seek to address.

Additional products produced during the project included informational pamphlets, folders for the Family Fun Evening and Sampling Day events, fair booth material, 2015 water sampling data charts, and rain barrels installed in the watershed.

Public Outreach and Education:

Public outreach and education efforts and their effectiveness are discussed more under specific tasks in Section 1: Work Plan Review. While not all public events were heavily attended, there were some highly anticipated and well attended events. Canoe trips were a local favorite, and an excellent way to expose participants to the watershed they live in and features that would not otherwise be known. The Sampling Day event was another highly successful event with an abundance of information for the students attending. Not only were the students able to learn a multitude of new information, but they expressed interest if a field that they may have known little about prior to the event.

Initial watershed surveys and opinions of the watershed were conducted and discussed in the Measurements section. Additionally, worksheets were completed to determine landowner and local partnering staff preferences for BMP installations and the feasibility of their use in the watershed. An example of a full survey is attached. While more participation would have been ideal, survey results were still very important and utilized by HEI to develop WRAPS strategies tables and are as follows:

Parameter (include non-pollutant stressors)	Description	Example BMPs/actions	Partners	Land Owners	Total
Total Suspended Solids (TSS)	Improve upland/field surface runoff controls: Soil and water conservation practices that reduce soil erosion and field runoff, or otherwise minimize sediment from leaving farmland.	Water and sediment basins, terraces	308.5	121	429.5

Total Suspended Solids (TSS)**	Improve upland/field surface runoff controls: Soil and water conservation practices that reduce soil erosion and field runoff, or otherwise minimize sediment from leaving farmland.	Residue management – conservation tillage	300.5	125	425.5
Total Suspended Solids (TSS)	Improve upland/field surface runoff controls: Soil and water conservation practices that reduce soil erosion and field runoff, or otherwise minimize sediment from leaving farmland.	Cover crops	318	105	423
Total Suspended Solids (TSS)	Improve upland/field surface runoff controls: Soil and water conservation practices that reduce soil erosion and field runoff, or otherwise minimize sediment from leaving farmland.	Grassed waterways	287	119	406
Phosphorus (TP)	Improve upland/field surface runoff controls: Soil and water conservation practices that reduce soil erosion and field runoff, or otherwise minimize sediment from leaving farmland	Strategies to reduce sediment from fields (see above - upland field surface runoff)	284.5	111	395.5
Total Suspended Solids (TSS)	Improve upland/field surface runoff controls: Soil and water conservation practices that reduce soil erosion and field runoff, or otherwise minimize sediment from leaving farmland.	Open tile inlet controls – riser pipes, french drains	285	106	391

**not related to a discrete best management practice

Long term Results:

It is the belief of local partnering staff and relevant stakeholders that activities conducted and products produced under the WRAPS project will be instrumental in long term water management, assisting with the development of the Lac qui Parle 1W1P and helping to adapt to the focus of the state of Minnesota and performing water management on watershed scales rather than county boundaries. A large core of upcoming 1W1P and other planning efforts will be the same members of the TEAM, and thus there will be ample opportunity to share, discuss,

and utilize products and inventories produced through WRAPS. The reports will be used to identify strategies that staff can attempt to seek funding for to implement future projects and work with citizens to examine specific properties and potential project feasibility. Members of the TEAM have consistently enjoyed working together, and relationships built through this project will undoubtedly provide advantages when working towards future water management and project implementation. Due to overlap of watershed legal boundaries and WRAPS project boundaries, additional relationships have been built with stakeholders within the MN River Headwaters Watershed, where many similar inventories such as PTMApp data have also been developed. Continuation of the project beyond the expiration will include using the results to influence 1W1P efforts. Additionally, the WRAPS and TMDL reports continue to go through internal MPCA and EPA review and final reports are anticipated to be available by the end of 2020. Local newspapers and radio stations were instrumental in sharing project information in a mainly rural watershed. Additional discussion on project information sharing and audiences presented to are discussed in Section One.

A large lesson learned is to be realistic in future efforts for planning, especially when determining the number of meetings and specific types of public events as participation is difficult to maintain. In the case of partnering staff, many are also currently involved in additional WRAPS and 1W1P projects and do not have the available time for numerous meetings included in the original workplan.

Section 3: Final Expenditures

The total expenditures for this contract are \$67,795.58 of the \$155,060.00 budgeted. Please refer to final budget attached for details.

Expenses in the original project budget were significantly more than the incurred project expenses. Numerous factors played a role influencing the cost differences between the original and final project budgets. As discussed in the public engagement review, retirements of the original members of the Education Committee led to unrealized budget expenses related to the committee time budgeted. Additionally, local partnering agency staff did not regularly submit reimbursement vouchers for time spent on the project. This led to more than \$33,000 of unrequested budget funds. Another \$13,150 was unrealized from the original budget intended for the salary of an intern. The possibility of the intern hired for the final stages of the project to help collect project data and highlights was quelled by the Covid – 19 pandemic of 2020. The pandemic also forced the cancellation of numerous public events, which would have used additional funds for expenses and staff planning time.