Clean Water Fund Project (pre-WRAPS)

Mississippi River-La Crescent Watershed Activities Project

2017-2020

Final Report

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This project was conducted in cooperation with the State of Minnesota Pollution Control Agency.

Photo credit: Nancy North

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Grant Project Summary

Project title: Mississippi River- LaCrescent Watershed Activities Project

Organization (Grantee): Winona County

Project start date: 10/31/2016 Project end date: 6/30/2020 Report submittal date: 7/24/2020

Grantee contact name: Sheila Harmes Title: Winona County Water Planner

Address: 202 West Third Street

City: Winona State: MN Zip: 55987

Phone number: 507-457-6522 Fax: 507-523-3717 E-mail: sharmes@co.winona.mn.us

Basin (Red, Minnesota, St. Croix, etc.): Lower Mississippi County: Olmsted, Wabasha, Winona

Project type (check one):

- ☐ Clean Water Partnership (CWP) Diagnostic
- ☐ CWP Implementation
- ☐ Total Maximum Daily Load (TMDL) Development
- ☐ 319 Implementation
- ☐ 319 Demonstration, Education, Research
- ☐ TMDL Implementation
- X Other: Clean Water Fund Project (WRAPS)

Grant Funding

Final grant amount: $203,391.00 Final total project costs: $203,391.00

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

Contract number: 115850 MPCA project manager: Emily Zanon

For TMDL Development or TMDL Implementation Projects only

Impaired reach name(s):

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 (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.)

When the Minnesota Pollution Control Agency (MPCA) initiated the Watershed Approach, it was discovered that some HUC-8 watersheds along the State's boundaries had little information to support watershed strategy development. The Mississippi River-La Crescent (MR-LC), the primary focus of this grant, is one of those watersheds. Work included efforts to better understand people and land. Other watersheds, Mississippi River-Reno and Upper Iowa River, were included in some project work along with region-wide assessment.

The MR-LC is part of a large HUC-8 watershed extending into Wisconsin; 60,500 acres of its 450,000 acres are in Minnesota. Nearly 70% of the Minnesota portion lies in Winona County and 30% in Houston County. Major land use cover is forest (47%) and cropland (27%). After Intensive Monitoring began in 2015, data were assessed and WRAPS and TMDL reports completed by Emmons and Oliver Resources. Both reports are currently going through a comment period before final approval. The TMDL addresses the lower portion of Pine Creek (AUID 07040006-576), which is listed for Total Suspended Solids (TSS) and bacteria (*E. coli*).

Deliverables for this project identified strategies to strengthen social capacity and effectively engage in implementation of watershed strategies. Most significant project deliverable is an assessment completed by NewGround. Based on interviews with local leaders, review of regional water plans, and connections between conservation and agricultural retail staff, a "Next Wise Steps" document provides a framework for developing future watershed restoration strategies. An in-depth community capacity survey was completed including maps depicting areas where landowners would be more receptive to conservation.

This grant initiated a number of projects to provide needed watershed data. A community capacity survey and focused interviews were completed to identify beliefs, conservation activities and potential for effective outreach. Education initiatives involved videos and outreach to children.

Goals (Include three primary goals for this project.)

1st	Goal:	Compile watershed data useful for determining social capacity for conservation and best options for conservation practices to help identify effective strategies for WRAPS.
2nd	Goal:	Investigate public outreach and civic engagement goals currently used in region water plans and identify next steps of implementation in southeast Minnesota watersheds.
3rd	Goal:	Establish groundwork for improved collaborations between conservation staff and agricultural retail sector.
4th	Goal:	Initiate and expand opportunities for civic engagement/education that support watershed activities.

Results that count (Include the results from your established goals.)

1st	Result:	Under various objectives/sources the following were completed: Agricultural Conservation Planning Framework (ACPF) on three HUC-12 subwatersheds within the MR-LC Watershed, demographic data gathered for MR-LC and Mississippi River-Reno Watersheds, focus interviews completed with local leaders, and community assessment survey of landowners in MR-LC and Mississippi River-Reno Watersheds.
2nd	Result:	Outreach, education and civic engagement goals/tasks were identified in southeast Minnesota watershed plans and follow-up interviews were completed with people responsible for implementing those plans.
3rd	Result:	Connections were cultivated between agricultural retailers, conservation staff and farmers. Six collaborative stories showcasing successful implementation on nutrient management were written, published and disseminated.
4th	Result:	Civic engagement/educational activities included a pollinator workshop; funding rain garden videos; sponsorship of Master Waters Stewards, and educational signage related to karst.

Picture (Attach at least one picture, do not imbed into this document.)

Description/location:

Master Water Steward retention basin demonstration (planting and results)/ Apple Blossom Overlook Park near La Crescent, MN

Karst education signage/ Dresbach Rest Area on Highway 61, near Dresbach, MN

Farmers/Crop advisor photos involved with regional ag retail and conservation collaborations/ Regional SE Minnesota, Mower and Winona Counties

Soil health demonstration and farmer picnic event/ Fillmore County

Acronyms (Name all project acronyms and their meanings.)

ACPF: Agricultural Conservation Planning Framework

BMP: Best Management Practice

DNR: Department of Natural Resources

DOT: Department of Transportation

EOR: Emmons & Oliver Resources

GIS: Geographic Information System

HUC: Hydrologic Unit Code

MAWQCP: Minnesota Agricultural Water Quality Certification Program

MCPRA: Minnesota Crop Production Retail Association

MDA: Minnesota Department of Agriculture

MPCA: Minnesota Pollution Control Agency

MR-LC: Mississippi River-La Crescent

NGO: Non-Government Organization

PTMapp: Prioritize, Target, and Measure Application

SWCD: Soil and Water Conservation District

TMDL: Total Maximum Daily Load

TSS: Total Suspended Solids

UMN: University of Minnesota

WRAPS: Watershed Restoration and Protection Strategies

Partnerships (Name all partners and indicate relationship to project)

Center for Changing Landscapes, University of Minnesota – Subcontractor for social science assessment of landowner conservation behavior

City of La Crescent – provide input for civic engagement initiatives

Emmons & Oliver Resources (EOR) – Under a separate contract with MPCA, developed WRAPS and TMDL reports for Mississippi River-La Crescent Watershed

Farmers, crop advisors and leadership within agricultural retail sectors – Guidance for connecting agricultural retail and conservation communities

Freshwater Society – Conducts the Master Water Stewards Program

Minnesota Department of Agriculture – Involvement with Root River Field to Stream Partnership and consultation with opportunities for connections with agricultural retail

Minnesota Department of Natural Resources – Groundwater experts provided input for design and text of karst educational sign

Minnesota Department of Transportation – provided accommodations for educational signage at Dresbach

Minnesota Pollution Control Agency - Implementation of the Watershed Approach within the project area

NewGround, Inc. – Subcontractor for civic engagement development, qualitative interviews work and fostering connections with Ag retailers

Saint Mary's University of Minnesota Geospatial Services – Subcontractor for completion of Agricultural Conservation Planning Framework

Introduction

Background

The Minnesota portion of the Mississippi River – La Crescent Watershed (MR-LC) is the primary focus watershed for this grant. Some funding efforts within this overall grant, include analysis of nearby watersheds, such as the Mississippi River-Reno watershed and the Upper Iowa River watershed, as well as some region-wide assessment for southeast Minnesota.

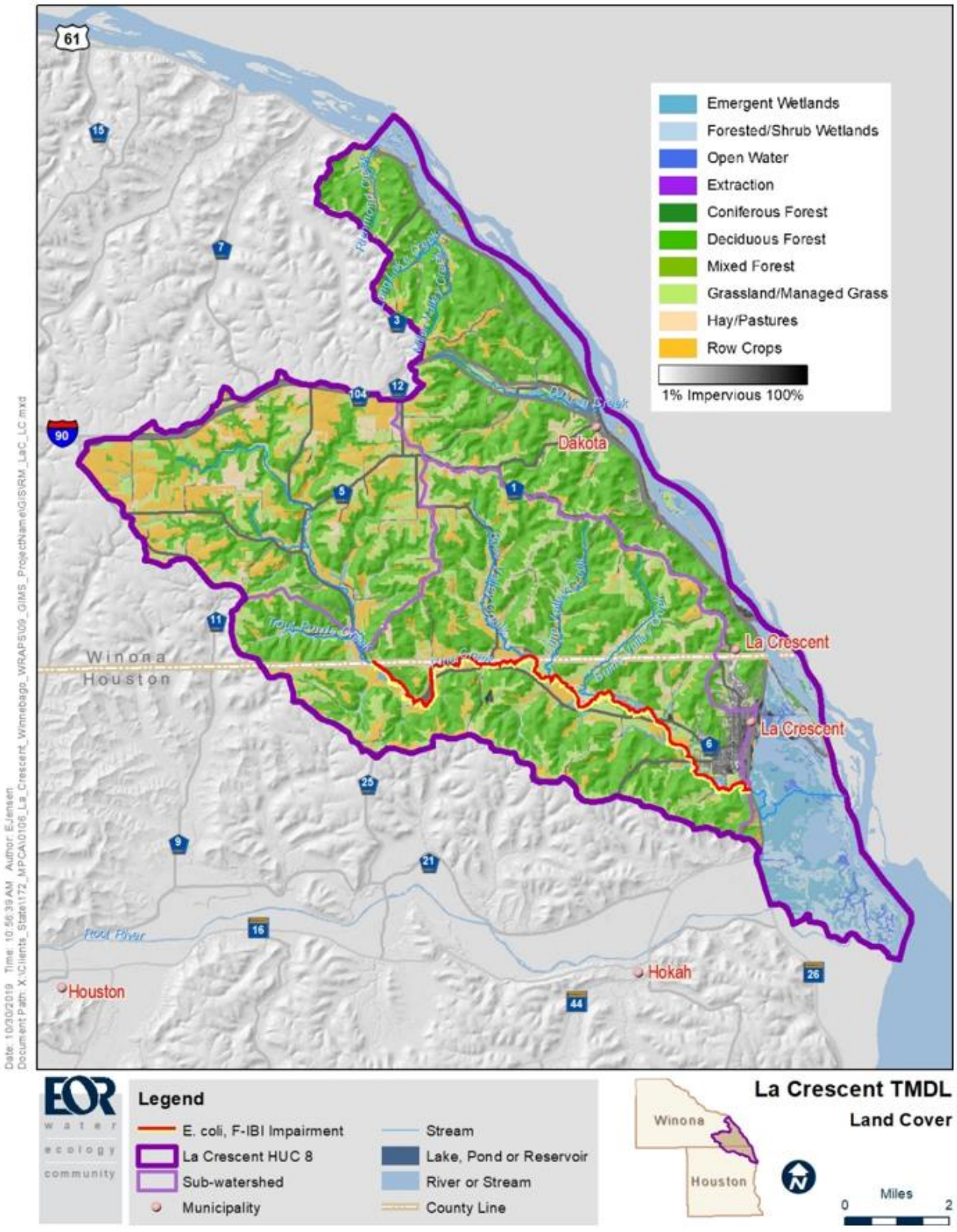
The area defined as the MR-LC Watershed is a small part of a much larger HUC-8 watershed that extends into Wisconsin. This large watershed covers 450,000 acres, of which only 60,500 are in Minnesota.

The Mississippi River-La Crescent Watershed is part of the HUC-8 watershed identified as 07040006 that extends into Wisconsin.

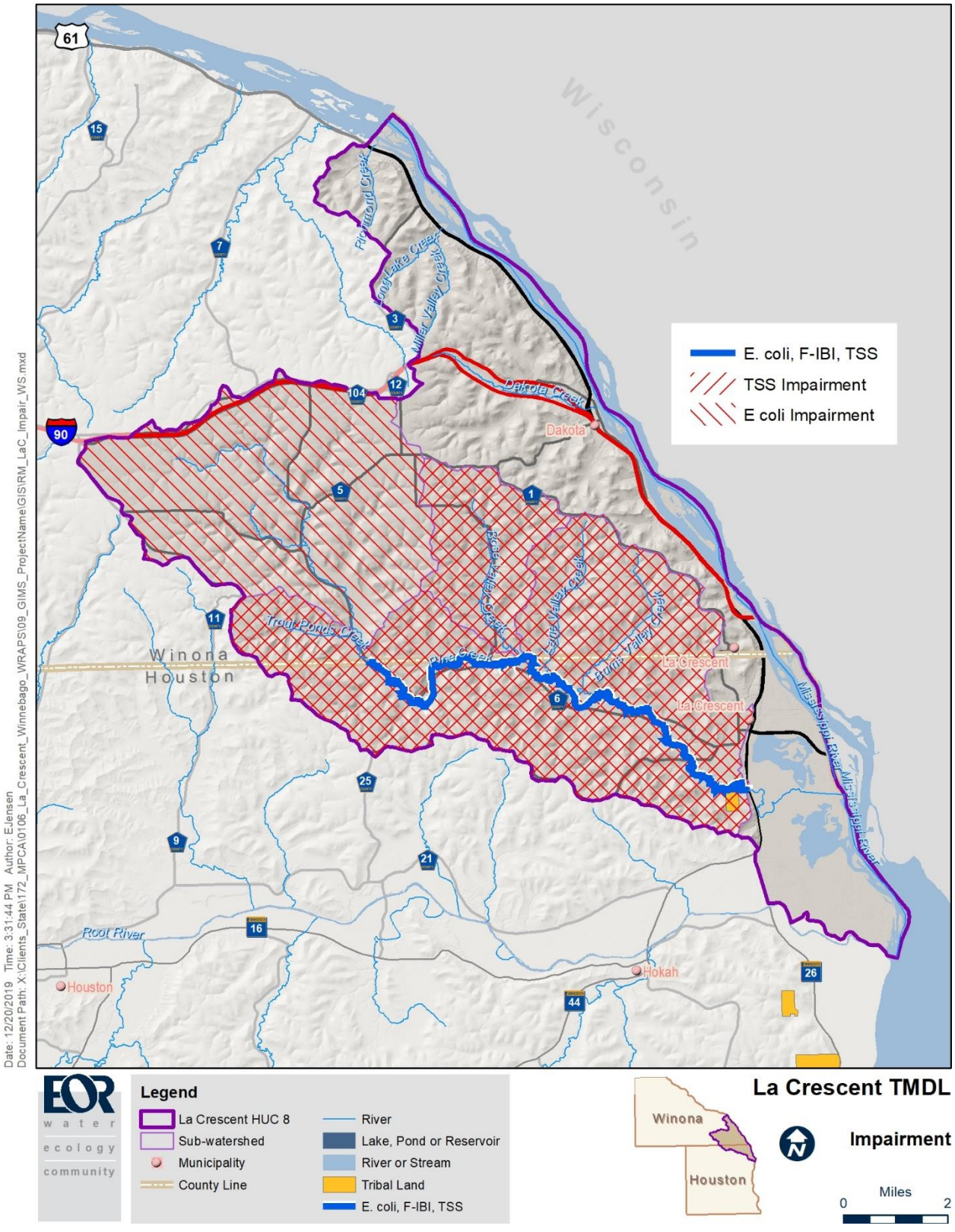
Nearly 70% of the Minnesota portion of this watershed lies in southeast Winona County and the remaining 30% lies in northeast Houston County. The major land use cover is forest (47%), with 27% of the watershed in cropland. In Minnesota, Pine Creek is the largest stream in the watershed; Pine Creek and the other watershed tributaries flow directly into the Mississippi River.

Like its neighboring watersheds in southeast Minnesota, the MC-LC is entirely within the Driftless Area characterized by blufflands, karst topography, coldwater streams, and is known for trout fishing opportunities. The City of La Crescent is the largest community of the watershed.

Generally, streams within the MR-LC watershed have good water quality, except the lower portion of Pine Creek. Pine Creek is impaired for *E. coli* (bacteria) and Total Suspended Solids (TSS). High sedimentation contributes to poor water quality. Fish and macroinvertebrate are also impacted by lack of habitat and temperature conditions. All other streams within the MR-LC meet water quality standards. Dakota Creek, in particular, has very high quality conditions for aquatic biology and warrants protection strategies to maintain exceptional use criteria.



Mississippi River-La Crescent Watershed Land Use Map



Mississippi River-La Crescent Watershed water quality impairments

Project Description

The Watershed Restoration and Protection Strategies (WRAPS) process started in the MR-LC watershed in 2015 with Intensive Watershed Monitoring. After the monitoring data were assessed to determine whether surface water meets water quality standards, the WRAPS report and Total Maximum Daily Load (TMDL) reports were completed. Both reports are currently going through a comment period before final approval.

This grant was initiated to compile data to help inform MPCA's WRAPS and TMDL reports for the Watershed. Project emphasis was placed on the MR-LC, but some analyses were completed in the Mississippi River-Reno and Upper Iowa River watersheds. Deliverables for this project identified areas for potential Best management Practices (BMP) placement, strategies to strengthen social capacity and effective implementation of watershed goals. Some objectives within project work are more regional in scope.

As the Minnesota Pollution Control Agency starts the second ten-year cycle of the State's Watershed Approach, the MR-LC Watershed schedule was synchronized to match the schedule of the Mississippi River-Winona Watershed, located on its north boundary. Intensive Watershed Monitoring is scheduled for 2020 and 2021 to inform the next watershed approach cycle for the combined Mississippi River-Winona and La Crescent Watersheds.

Section 1 – Work Plan Review

Detail of Approved Changes from Original Work Plan and Staff:

Staff Changes

In the original work plan, Justin Watkins served as MPCA's Watershed Project Manager. Emily Zanon replaced him as Project Manager in early 2018 and served in this position until the end of the grant.

The original grant identified Winona County GIS staff to complete BMP suitability maps (Objective 1). County staffing changes led to a contract for services between Saint Mary's Geospatial Services and Winona County to complete this mapping project.

Summary of Approved Change Orders

- CO#1 (February 2018) – Funds shifted from "GIS Analysis" and "Project Management" to "Education Outreach" to better support expanded educational outreach goals.
- CO#2 (July 2018) – On request of Winona County Board, clarified language of Objective 2 to include "SWCD staff/Supervisors" in list of local leaders to include in qualitative interviews.
- CO#3 (December 2018) – Expand Objective 4 (Educational Outreach) to include development and distribution of signage that promotes and showcases effective conservation practices.
- CO#4 (September 2019) – Due to staffing changes, change order allowed for contract for services with Saint Mary's University Geospatial Services to complete BMP suitability maps for three La Crescent HUC-12 watersheds. Funds shifted to fund contract.
- CO#5 (May 2020) – Due to COVID-19 restrictions, final outreach/civic engagement activities were not possible. Remaining funds shifted to Project Management to complete final report activities.

None of the change orders impacted the final end date of the project or overall budget.

Summary of Grant Amendment

Additional funding was provided by MPCA to add an additional objective (Objective 5: Civic Engagement to support watershed activities). The approved amendment was approved June 2018. It added $27,500 to the overall budget and extended the end date of the grant from June 30, 2018 until June 30, 2020.

Activity/Task Report

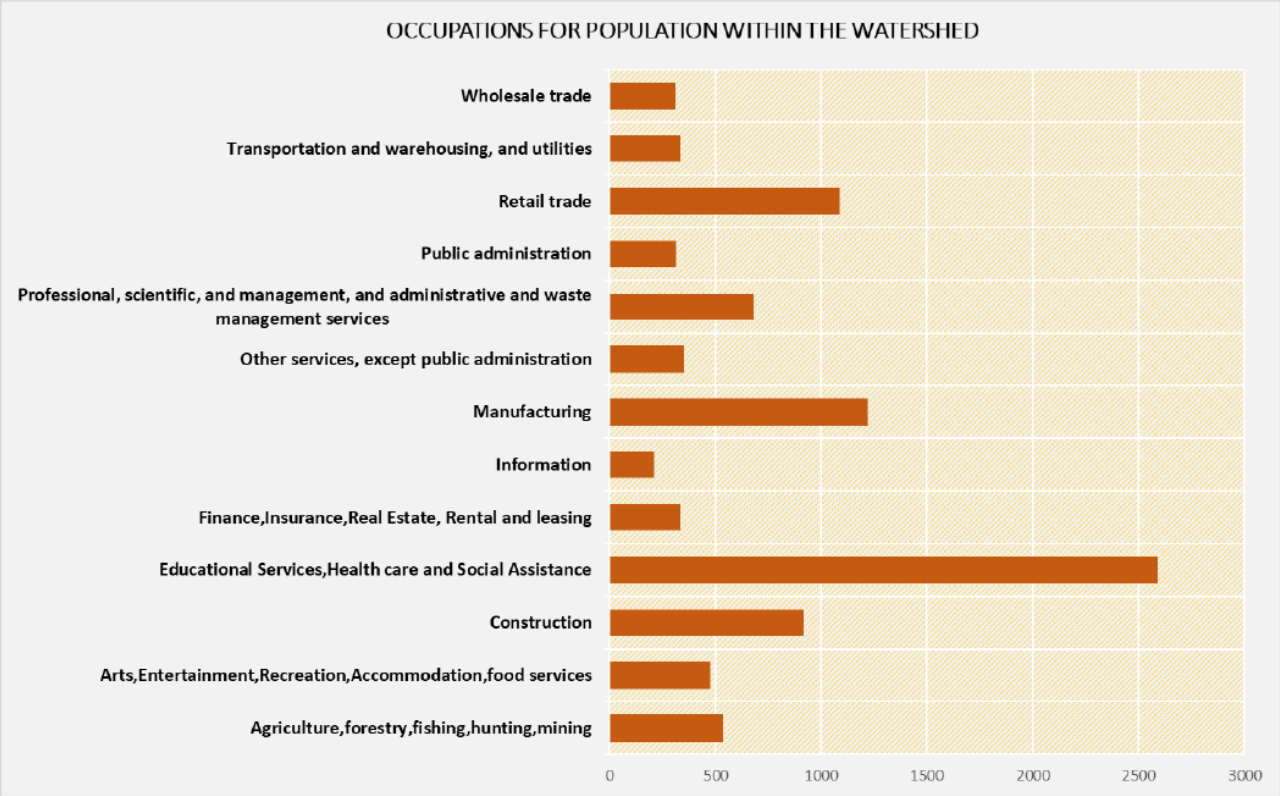
Objective 1: GIS Analysis

In order to better prepare for WRAPS development with the MR-LC Watershed and other nearby watersheds, two data assessments using GIS technologies were used. Project deliverables will help identify areas for potential BMP placement and provide a better understanding of the people who live within the watershed.

Task A: Create BMP suitability maps using ACPF

Due to staff and interdepartmental changes at Winona County, the County was unable to complete the GIS analysis for the project within the original work plan. The original grant detailed completing the Agricultural Conservation Planning Framework (ACPF) tools for all of the MR-LC Watershed in Minnesota as well as 1-2 HUC-12 watersheds within the Root River Watershed. (PTMapp modeling was completed for the Root River Watershed as part of the One Watershed One Plan planning process. PTMapp results could be compared with ACPF outputs to evaluate integrity of each.)

Through a Change Order, funds were secured for a contract for services with Saint Mary's University of Minnesota Geospatial Services. They completed ACPF tools for three of the four MR-LC HUC-12 watersheds using default settings. Attachment A includes land use maps of targeted HUC 12 watersheds as well as technical memorandum of work completed.



Demographic assessment included data on main occupation Sectors in Mississippi River-La Crescent and Reno Watersheds. Data source: US Census Bureau ACS (2015)

Task B: Watershed Demographic Analysis

A demographic analysis was completed by Winona County's GIS Technician. Demographic assessment used census data, property and tax assessment information and associated municipal authorities. Gathered data will help in better understanding residents of the MR-LC and Mississippi River-Reno watersheds. Final report in Attachment B includes a narrative.

Objective 2: Community Assessment

Task A: **Qualitative Interviews with Local Leaders**

Nancy North of NewGround invested time researching the watersheds' characteristics, and sought to help understand social dynamics. The goal of this effort was to understand landowner values, beliefs, norms, and behaviors associated with water resource conservation. She developed a work plan and questions for the qualitative interviewing process and attended local government and NGO meetings to introduce the work and identify people to interview.

Qualitative interviews were conducted to inform WRAPS outreach strategies in MR-LC, Mississippi River-Reno and Upper Iowa River watersheds, as well as work across the region. The impact of Root River One Watershed One Plan priorities on this project were also assessed, to inform efficient use of time.

Connections with leaders in focused watersheds led to planning and hosting a meeting for key regional staff to coordinate work, make best use of resources, and understand how Minnesota Upper Iowa River watershed outreach relates to current work in Iowa. A meeting was also held with the Rush-Pine Farmer-Led Council.

A final report of this research was compiled, along with other grant deliverables, into a document entitled, "Next Wise Steps" (Attachment C).

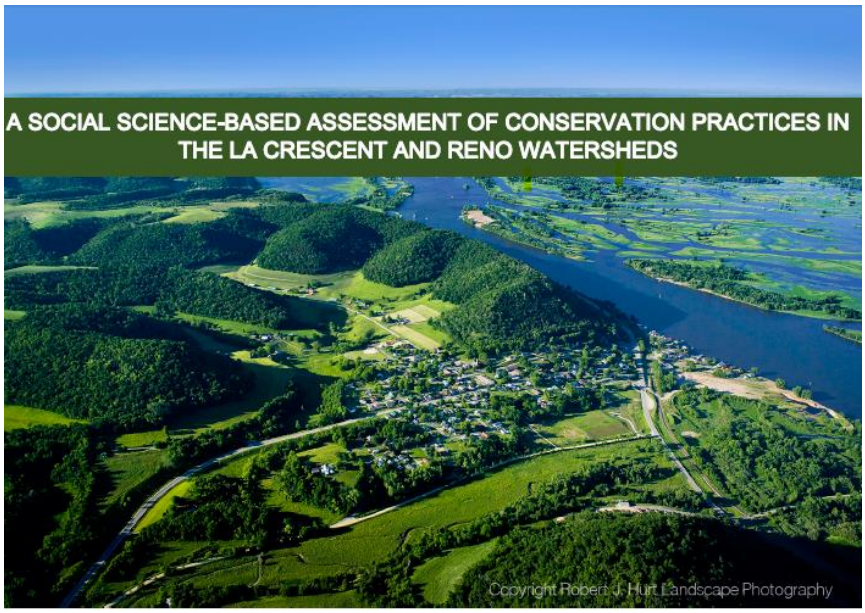
Task B: Community Capacity Surveys

Under a contract for services, University of Minnesota (UMN) Center for Changing Landscapes conducted community capacity surveys of residents in the MR-LC and Mississippi River-Reno watersheds with a goal of assessing landowner values, beliefs, norms and behaviors associated with water resource conservation. Winona County provided parcel data and UMN generated a random list of survey recipients. With coordination from Winona County staff and other partners, Amit Pradhananga, University of Minnesota, developed the survey. It was mailed out to 3000 (1500 to each watershed) randomly selected landowners. Nearly 600 survey responses were received (304 from Reno; 286 from La Crescent) were received.

Key findings include:

- Landowners are influenced by their family, other farmers, SWCDs and state agencies
- Perceived benefits of conservation practices drive behavior
- Barriers to implementing conservation practices include lack of financial resources or equipment and community leadership
- While most landowners reported feeling a sense of personal obligation to use conservation practices, considerably fewer landowners feel obligated to engage in civic action

Task C: Geospatial Analysis of survey data



Amit Pradhananga, PhD
Mae Davenport, PhD
And
Jennifer Moeller, M.S.

CLEAN WATER LAND & LEGACY AMENDMENT

Center for Changing Landscapes
University of Minnesota
Driven to Discover℠

The University of Minnesota used the landowner survey results to synthesize the data using ArcGIS to create geospatially referenced data visualizations and findings for water resource decision-making. The resulting data was used to map four broad themes: perceived value of clean water, familiarity with water issues, current use of conservation practice, and intention to engage in conservation in the future. A map of each theme and watershed were produced in the report (Attachment D).

Objective 3: Development of Model Civic Engagement Program

Task A: **Evaluation of SE Minnesota water plans**

Southeast Minnesota water management plans were carefully reviewed to identify goals/objectives related to public outreach, education and communications. Common goals were identified, and gaps noted. Analysis included interviews with all individuals responsible for plan implementation and development of recommended messaging that can be shared by regional partners. Conclusions were developed in the Next Wise Steps report. Presentations were made at two regional meetings.

Task B: Connections made between Water Resources Professional and Ag Business Sector

Prior to this project, NewGround identified that a gap existed conservation efforts involving farmers – outreach events seldom had representation from members of the agricultural retail sector. Even though farmers rely on them for many of their agronomic decision, these members were not involved in conservation discussions. This project provided an opportunity to explore options to foster collaborations between conservation technical staff and members of the agricultural retail community. Connections were strengthened and six collaborative projects were located and stories developed that showcase farmers and crop consultants who are making progress in nutrient management work.

Strip tilling into cover crops

Objective 4: Educational Outreach

Task A: Educational workshops, educational video development and expanded educational outreach to youth through social media and interactive learning

Educational events enhanced understanding of natural resources, and support was provided to initiatives that focused on outreach to youth. Educational initiatives were driven by a goal to provide opportunities for citizens to increase awareness of ways that they can become involved to make a difference in their own back yard. Being able to accomplish small steps leads to larger accomplishments. A Pollinator Workshop was held; it provided information on how each one can make improvements in their property to attract beneficial insects. Specific support was contributed toward production of rain garden construction and maintenance videos, as well as sponsoring the training of Master Water Steward volunteers. These volunteers completed capstone projects and are prepared to continue educate community members about ways to improve water quality within watersheds. Funding was provided to help support the Whitewater Watershed LEGO project. A to-scale topographic model of the watershed was constructed using LEGOs. The completed model is available to various groups to educate children and their parents on watershed concepts. Research was completed on farm economic/suitability issues. Plans are being made for educational workshops focused on improving farm business bottom line through effective conservation.

Allison Bender, Whitewater State Park GreenCorps member, spearheaded the Whitewater LEGO project. Dr. Dylan Blumentritt, Assistant Professor at Winona State University, provided GIS technical assistance for the project.

Objective 5: Civic Engagement to Support Watershed Activities

This Objective was added to the grant's overall budget when the grant was amended. As a final TMDL was being completed for the MR-LC watershed, citizen and landowner input would be needed to develop local strategies to improve water resources. Public input provides opportunities for ideas that identify at risk streams and follow-up protection in the MR-LC Watershed. After this grant is completed, public engagement efforts can expand to include both the Mississippi River-Winona and La Crescent Watersheds in preparation for comprehensive watershed planning.

Tasks completed during the timeline of the grant included input from City of La Crescent staff. Coordination, design and installation of a sign educating about karst in southeast Minnesota was placed at the Dresbach rest stop. Communications about the WRAPS process and the Watershed Approach were developed and provided to the City of La Crescent for their internal use and for newsletters. The City of La Crescent researched and decided to join become a member of the La Crosse Stormwater Group, providing this small community with support and resources to efficiently educate and engage its citizen in reducing stormwater runoff.

Due to COVID-19 restrictions, civic engagement work planned for March through May 2020 were not possible. These initiatives can be picked in future grant objectives.

Objective 6: Project Management

Coordination of all activities under the grant, including contract preparation as well on-going fiscal tracking; general project administration preparation of semi-annual report were completed on time. An amendment to the grant was coordinated and approved during 2018, adding $27,500 and extending the grant end data two years. Five Change Orders were completed.

Section II – Grant Results

Measurements:

Data Analysis

Assessments and surveys including GIS analysis, demographic and community assessments and interviews were completed in order to better prepare for WRAPS development. Some of the project objectives took a closer look at what currently exists within the watershed. GIS techniques were used to locate conservation practices and for creating a demographic assessment. Inventories of social capacity for conservation were evaluated using qualitative interviews with local leaders and a community assessment survey of landowners. Knowing the current conditions help inform strategies for future conservation efforts.

Agricultural Conservation Planning Framework (ACPF)

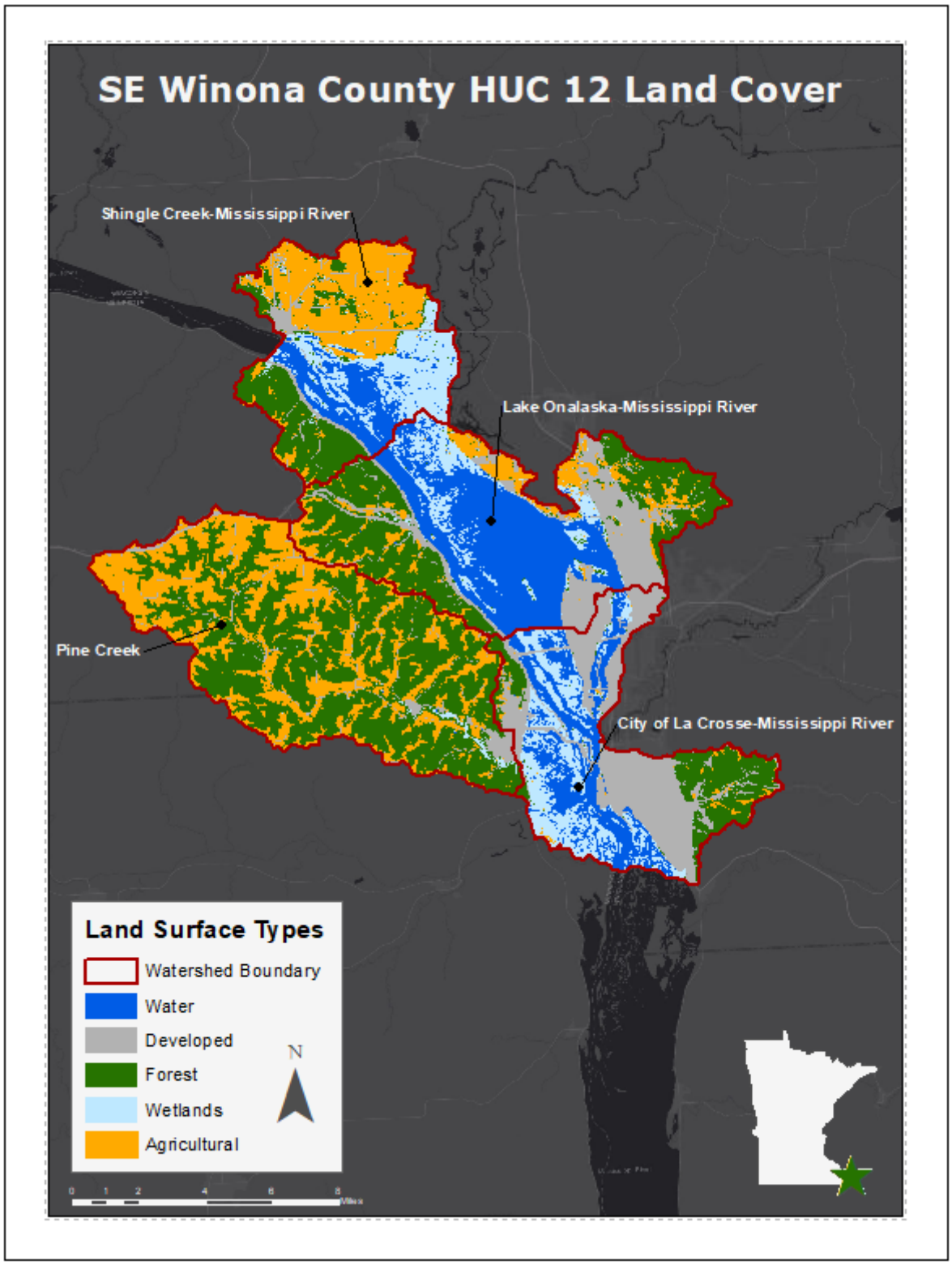
ACPF is a set of GIS tools that provide spatial data that can be used to support agricultural planning. ACPF uses high resolution digital data, soils and land use data to identify most suitable locations for various conservation practices in small agricultural watersheds.

The most time-intensive step in completing the ACPF is hydrologic conditioning. Hydrologic conditioning is commonly done for other watershed modeling efforts, as well. It involves creating an accurate representation of how water flows across the landscape. For example, digital elevation-derived data cannot identify where culverts exist. These “digital dams” need to be manually removed before any modeling can be completed. If not corrected, the model will cause roads to act as dams within the watershed.

Saint Mary’s Geospatial Services completed the ACPF in the Minnesota portion of three HUC-12 subwatersheds of the La Crescent Watershed: Shingle Creek, Lake Onalaska-Mississippi River, and Pine Creek. Of the three, Pine Creek is the only one with significant agricultural land (42%). The City of La Crosse-Mississippi River subwatershed has an insignificant amount of agriculture (less than 2 square miles), therefore ACPF was not completed for this area.

The various ACPF tools were applied to the watersheds, but in some cases no outputs were generated for Shingle Creek or Lake Onalaska. Either the tool did not identify any locations within the watershed, or field boundaries did not meet the selection criteria.

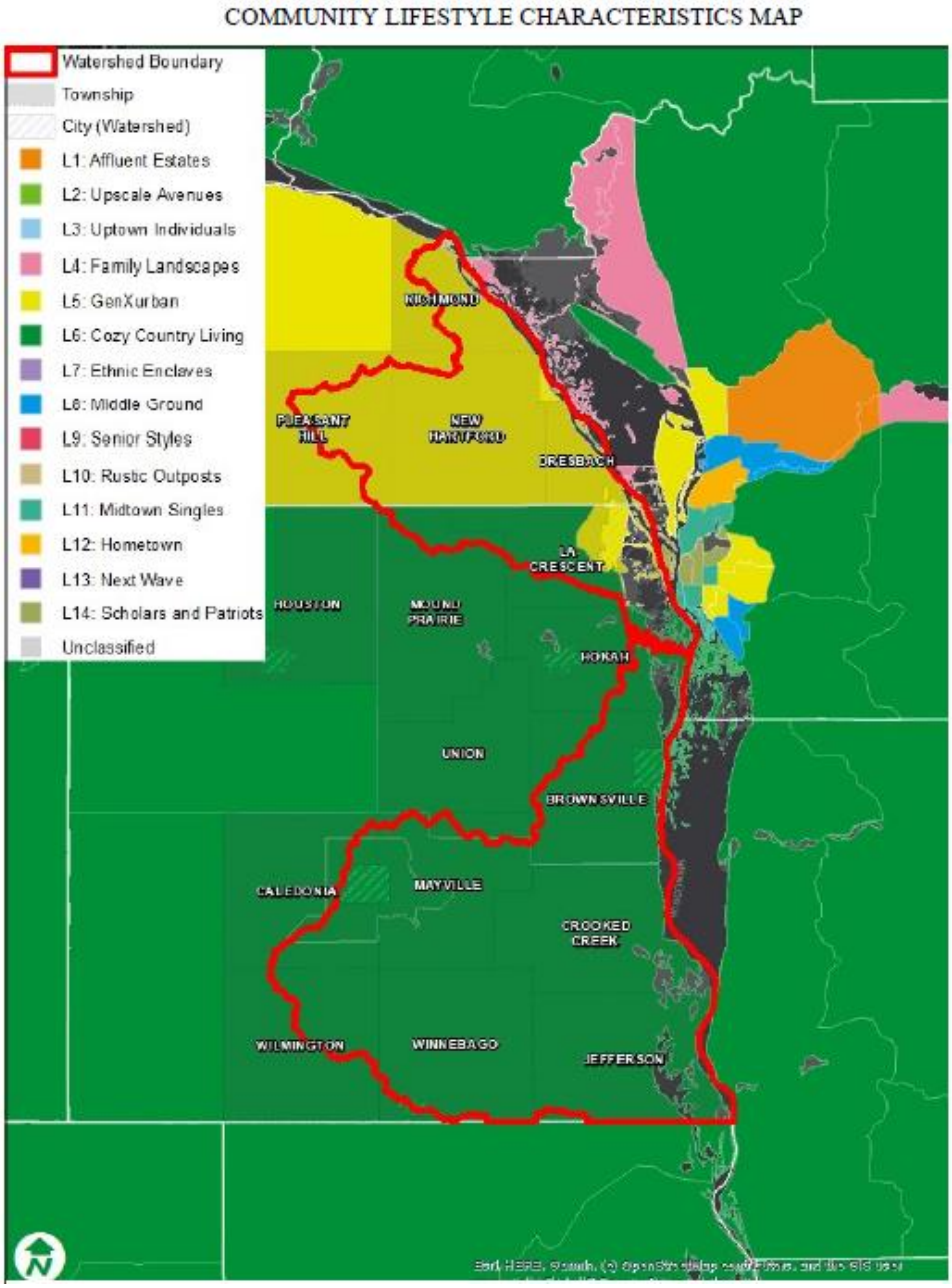
Further analysis of the data will need to include adjustments from the default settings to better meet local watershed conditions. Incorporating local knowledge into the user-defined inputs has the potential to create more accurate outputs for use in watershed planning. Pine Creek subwatershed, which lies entirely within the state of Minnesota and has significant agriculture did have outputs – suitable locations were identified for various best management practices.



Land Use of the Mississippi River-La Crescent Watershed: The La Crescent Watershed in Minnesota consists of four HUC-12 subwatersheds. The City of La Crosse-Mississippi River HUC 12 was not assessed using ACPF as its percentage of Agricultural lands is insignificant.

Demographic Assessment

In order to better understand residents of the MR-LC and Mississippi River-Reno watersheds, Winona County's GIS Analyst completed a demographic analysis by extrapolating available data from existing datasets. Efforts were made to explore rural and non-rural characteristics, land ownership, property values, work occupations and other socio-economic demographics.



US Census Bureau socio-economic and demographic tabulations were used to identify dominant communities of the watershed

Sources of data mined included US Census data, US Department of Agriculture, Minnesota Department of Education, Minnesota Department of Natural Resources and local county assessment data.

The non-spatial data were aggregated to the Township and City scale and aligned to the watershed boundaries, then linked to map locations using Topologically Integrated Geographic Encoding and Referencing (TIGER) shapefiles. Maps in the report (Attachment B) were generated using GIS methodology. The final demographic report includes a narrative summary.

The following are highlights of the demographic analysis:

- Predominant land use for both watersheds is Forest and Agricultural (80% for MR-LC and 84% for the Mississippi River Reno).
- 6,900 households are in the two watersheds; 11% of households within urban (Cities of Caledonia and La Crescent) areas are female.
- Highest population concentrations are in the Cities of Caledonia and La Crescent.
- A proportionally higher percentage of adults living in the rural areas of the watersheds had attained at least an Associate Degree.
- Occupations within Education, Healthcare and Social Services are the predominant occupations within the watersheds. The average commute time is 22 minutes.
- Property value comparisons reveal that the MR-LC Watershed has properties that are assessed at a significantly higher rate than parcels within the Reno watershed.

Focus Interviews with Local Leaders

Qualitative Interviews focused on individuals who represent one or more of the following groups: agricultural stakeholder, local government leader (elected and staff), conservation staff, and/or landowner having a presence in one of the following watersheds: Mississippi River-La Crescent, Mississippi River-Reno or Upper Iowa and Root River. Over several months Nancy North held 21 phone interviews with individuals and four in-person small group interviews. Each interview focused on 1) Identification of what is working well; 2) Identify what local leaders need to meet goals; and, 3) What we need to inform future WRAPS work. These focus interviews were scheduled concurrently with a landowner survey conducted by the University of Minnesota's Center for Changing Landscapes. The survey was sent to randomly selected landowners of the Mississippi River – La Crescent and Reno watersheds. Summary of interviewee responses are detailed within the Wise Next Steps report in Attachment C.

Community Capacity Survey and Geospatial Analysis

Under contract, University of Minnesota Center for Changing Landscapes completed a social assessment of landowner conservation behavior in the MR-LC and Mississippi River-Reno Watersheds. The purpose of the study was to understand landowner values, beliefs, norms, and behaviors associated with water resource conservation. Local resource professionals wanted to better understand drivers and constraints of landowners' actions with respect to conservation.

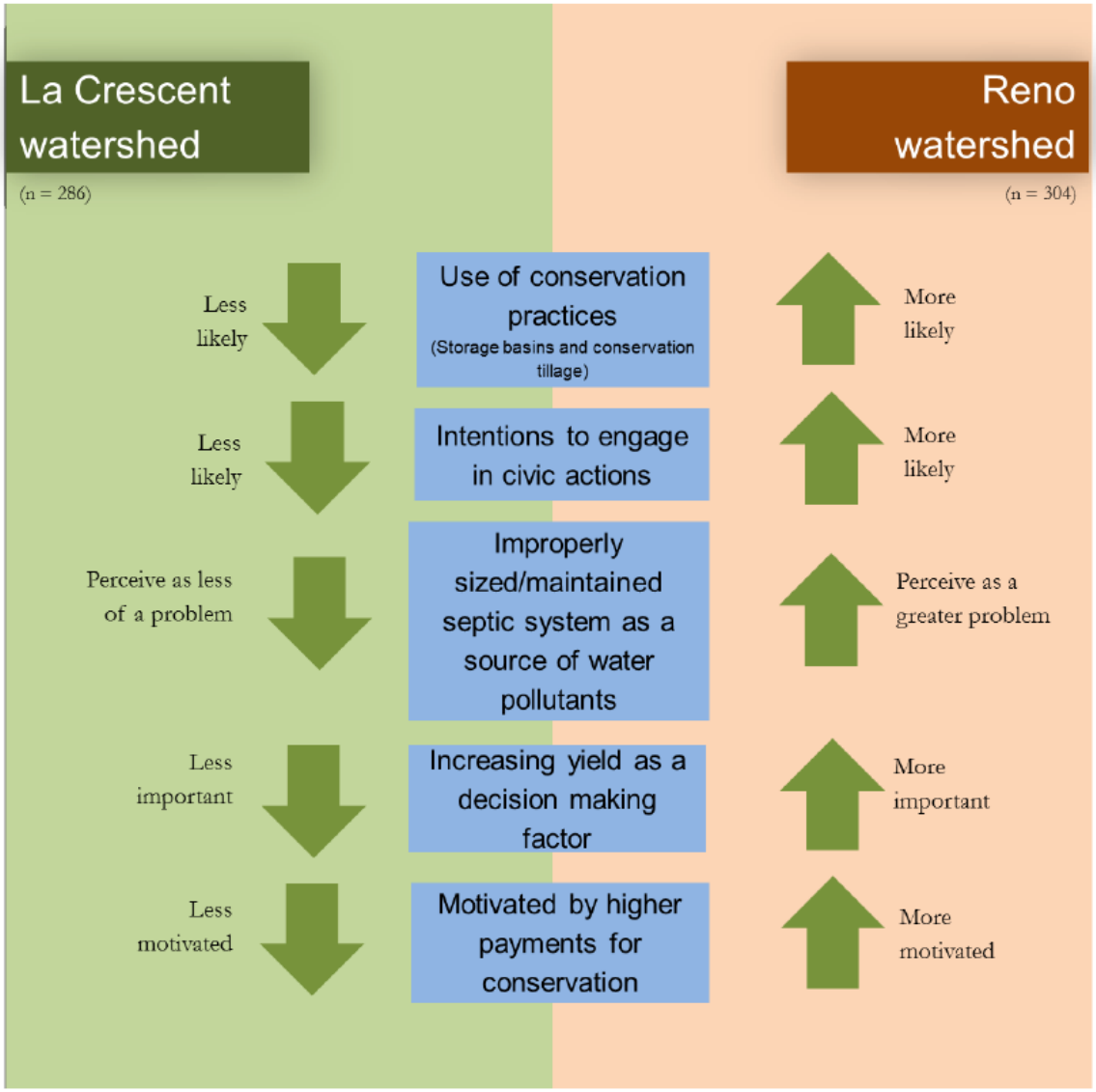
The Center for Changing Landscapes (under the direction of Amit Pradhananga) generated a random list of landowners within the two watersheds. Based on extensive literature review and feedback and in collaboration with Winona County and its partners, a written survey was created to identify attitudes, beliefs, and values of conservation behaviors in Minnesota. The developed questionnaire was mailed to 3000 landowners (1500 in each watershed) in early 2018.

Overall, nearly 600 landowners completed and returned the survey for an overall response of 23%. In the MR-LC watershed, 286 responded to the survey; 304 surveys were returned from landowners in the Mississippi River-Reno Watershed. Statistical analysis of the returned surveys included subgroup comparisons between the two watersheds as well as differences between socio-demographic, property characteristics and social influences.

In addition to statistical analysis, survey results were also synthesized using GIS to create geospatial visualizations of the data. In essence, being able to map areas where landowners are more receptive to implementing conservation.

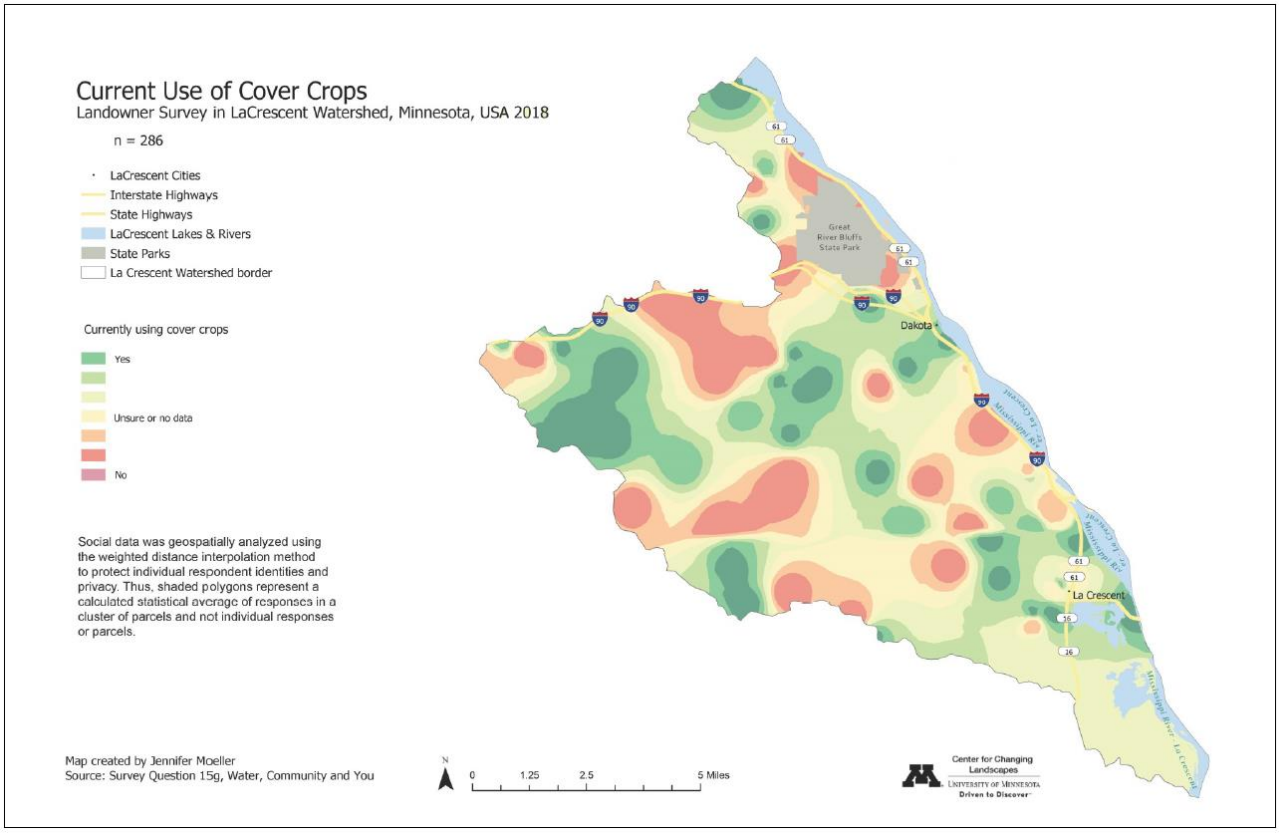
Key Findings of the survey

- Landowners and farmers are influenced in their land use decisions by family, farmers, local Soil and Water Conservation Districts and state agencies
- Conservation behavior is driver by values and norms, perceived benefits and access to financial resources
- The biggest constraint to conservation is lack of finances, equipment and community leadership
- There is a significant gap between individual and collective norms and actions. Most landowners have a sense of personal obligation to use conservation practices, few landowners feel obligated to engage in civic action (talk to their neighbors about it)



The community capacity survey identified differences between landowners in the Mississippi River-La Crescent and Mississippi River-Reno Watershed.

The Center for Changing Landscapes created maps of each watershed depicting four major themes: Perceive value of clean water, Familiarity of water issues, Current use of conservation practices, and Intentions to engage in conservation. Findings from the survey and geospatial analysis are intended to inform and enhance future conservation programming and to facilitate future communications about conservation.



Geospatial analysis of current use of cover crops within the Mississippi River-La Crescent Watershed. This data was generated from landowner responses to survey.

Evaluation of SE Minnesota Water Plans

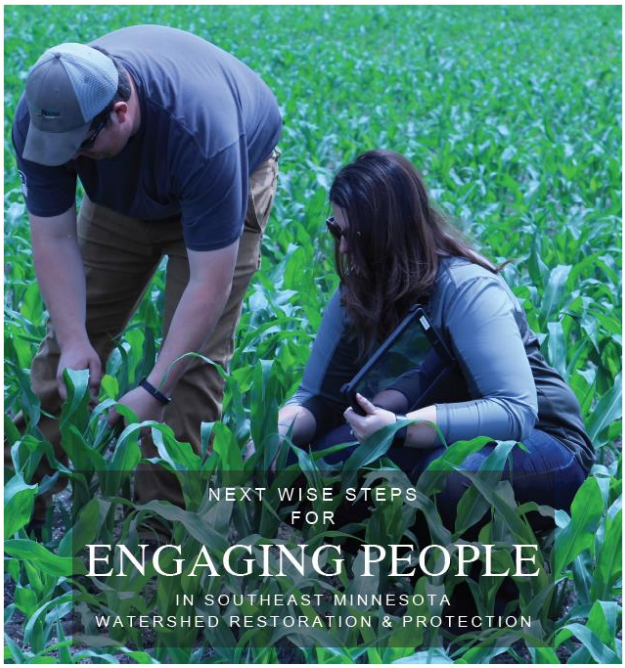
Under contract for services, Nancy North of NewGround, systematically reviewed 58 water plans in 11 major watersheds in southeast Minnesota to identify the focus and clarity of outreach commitments, trends across the region, needs and essential pieces for an effective, repeatable civic engagement program. This work involved charting civic engagement priorities within each plan, identifying gaps to effective implementation, interviewing local plan managers, lifting out next wise steps to improve outreach, and strategically choosing and developing clear messaging that can be shared with regional partners.

Step 1: Watershed plans were reviewed and outreach and education goals and tasks identified and charted for the following southeast Minnesota watersheds: Cedar River, Shell Rock River, Winnebago River, Cannon River, Mississippi River-La Crescent, Mississippi River-Lake Pepin, Mississippi River-Reno, Mississippi River-Winona, Root River, Upper Iowa River and Zumbro River.

Step 2: Follow-up interviews were conducted with all the individuals who were responsible for writing and implementing those plans to confirm civic engagement goals, current activities and identified barriers to implementation.

Step 3: It is important to note that charted goals identified in each plan were goals. "Current activities may differ, reflecting new circumstances, new decisions, or updated plans."

After evaluations of 58 water plans in SE Minnesota, the following needs were noted and are explored further in "Next Wise Steps" (Pages 63-70):



An assessment completed by NewGround for
Winona County & Minnesota Pollution Control Agency
December 2019

Staff the work – Staff who are responsible for implementing pieces of a water management plan need increased and continued training to improve outreach skills, as well as professional outreach staff to support their work in strategic ways.

Share – Within budget constraints of many local governments, civic engagement and communications needs may be met most practically through shared services across political/watershed boundaries and across agencies and NGOs.

Core Communications and Civic Engagement Assets – Basic communications tools such as clear, up-to-date websites are needed in all southeast Minnesota major watersheds, as well as coherent regional leadership for outreach, organization of resources and tools, engagement support, and skill-building.

Target Outreach – To be effective, strategic outreach and civic engagement must be targeted, and must include all sectors of a community. But inconsistent and unpredictable funding sources, lack of training and expertise, and staff time that is inadequate to meet demand are barriers.

Funding – Although civic engagement is a specific goal of all WRAPS efforts in the state, many local staff see that capacity is lacking and the most common barriers to implementation are social. With this in mind, investment must be increased to more closely match those of on-the-ground conservation work.

Connections with Ag Retailers

This task focused on efforts to establish and strengthen communication between resource professionals and agriculture commodity/crop consultant groups. This has been a missing piece in conservation efforts. Initial work began with conversations, and meetings with Minnesota Department of Agriculture southeast Minnesota project leaders, a Department of Agriculture director, MPCA staff members, UM Extension staff, Board of Water and Soil Resources staff, local conservation staff, regional ag retail staff, and the state-wide Minnesota Crop Production Retail Association staff and its consultants.

Work centered on a goal to help agricultural retail partners understand nutrient management best practices. Project work was completed in three phases:

- NewGround worked with Minnesota Crop Production Retail Association and Minnesota Department of Agriculture to pilot Minnesota's Agricultural Water Quality Certification Program (MAWQCP) assessment tool with crop consultants. It was hoped that the assessment tool could help crop consultants gain confidence in discussing nutrient management with their clients and motivate conservation action. Three meetings were held to explain the Assessment Tool; agriculture co-op staff were invited to pilot the Tool with farming customers. Although the assessment tool pilot was not fully implemented, the project work did foster other collaborative efforts.
- With a goal of connecting growers and professionals in the conservation and retail sectors in practical, socially valid ways, existing collaborations between producers, resource professionals, and retail crop advisors were identified. All contributed content for stories.
- Six inspiring SE Minnesota collaborations were identified. Participants were interviewed and stories completed. A website was built to showcase the full series of stories. Ag co-ops and suppliers were contacted and agreed to publish and share stories about their own customers and crop advisors. Statewide partners such as AFREC, Minnesota Corn Growers, and MCPR Association, plus Bluff Country News (a regional network of local newspapers) agreed to publish and share the full series of stories. Stories were added to www.smartertogether.info, the website developed to make stories easy to access for social media posts and news links. A total of six Ag retailers used the stories within their internally used blogs and newsletters to customers. The stories were used in thirteen different news outlets (including newspapers, TV and radio).They also had exposure within the Farm Bureau, Minnesota Corn Growers Association, research entities, all local governments in the project area and all Minnesota State agencies associated with the project.

Public Outreach and Education

A Civic Engagement Objective was added to the grant's overall budget when the grant was amended. As a final TMDL was being completed for the Mississippi River-La Crescent watershed, citizen and landowner input would be needed to develop local strategies to improve water resources. Public input at various events would provide opportunities for ideas that identify at risk streams and follow-up protection efforts. Within the grant timeline, initial public engagement focused on local strategies for the MR-LC Watershed. After this grant is completed, public engagement efforts can expand to include both the Mississippi River-Winona and La Crescent Watersheds in preparation for comprehensive watershed planning.

Nancy North of NewGround met with staff at the City of La Crescent to provide WRAPS progress reports. City of La Crescent staff helped identify the most productive, practical education and outreach activities for this watershed. Together NewGround and City of La Crescent staff chose three activities: 1)installation of a sign educating the public about karst landscape, to be located at the Dresbach Rest Area on US Highway 61; 2) a story about Minnesota's watershed approach and WRAPS in La Crescent, provides to the City of La Crescent for media and municipal newsletter use, in combination with photos and stories about local work for water quality; 3) City of La Crescent membership in La Crosse Urban Stormwater Group, a collaboration of 10 local governments in the La Crosse MS4 area, united to educate and engage people in reducing stormwater runoff.

Activity 1: In collaboration with DNR experts, locations for the educational sign were evaluated, and the Dresbach rest area was selected because it hosts nearly 200,000 visitors each year. Working with the DOT, a site was selected at the rest area and size and installation parameters were defined. Sign content was developed, photos and art obtained, and design completed. Sign design matched the design of three existing signs at the rest area.

Activity 2: A story was developed and approved by MPCA, and delivered to the City of La Crescent for local use with supporting photos and direction.

Activity 3: Through the Mississippi River-La Crescent WRAPS process, the City of La Crescent learned about and joined the La Crosse Urban Stormwater Group. They are now part of an on-going shared outreach effort, benefitting from engagement projects such as the annual Soak It Up! Award for water-friendly landscaping on private property, educational emails to a large and expanding outreach network, and LaCrosseAreaWaters.org, an online resource for education and connection.

In addition to the above, the following events or support were provided to promote education around water resource issues within watersheds:

- A Pollinator Workshop was held in Rushford, MN in early 2017 at a location centrally located for watersheds of interest. Thelma Heidel-Baker, Conservation Biocontrol Specialist of the Xerces Society, was the featured speaker. Participants learned how to protect crops from pests as well as ways to increase habitat for pollinators. Over 70 attended.
- In an effort to expand outreach to youth, support was provided to the Whitewater State Park-led effort to complete a to-scale topographic model of the Whitewater Watershed (using LEGOs). This completed model is available to local entities as an interactive tool to engage children and their parents in better understanding watershed concepts. The Whitewater LEGO model has been used by many entities for events such as County Fairs.
- Support was provided toward the development of a series of rain garden videos that instruct how to construct and maintain a rain garden that will mitigate small rain events. This work was completed by Lauren Jensen, Minnesota GreenCorps member at Winona County. These videos are available region-wide and are available on The Winona County web site at https://www.co.winona.mn.us/page/3585
- Efforts were also directed to design an eye-catching cover crop road sign that can be used region-wide. The sign describes cover crop benefits to non-farmers and farmers alike.
- Funds were used to sponsor three individuals to complete the Master Water Stewards Program. This was a pilot of the first Master Water Stewards Program offered outside of the Metro area. The capstone project of one volunteer is located at Apple Blossom Scenic Drive Park in the MR-LC watershed. Phase 1 of the project included removal of invasive species, and construction of a water retention demonstration for a home rain garden. Phase 2 will include educational signage for visitors to the Park.
- Support was given to hosting a picnic and learning event at a local farm for a local Farmer-Led Council. Soil health information was provided; 27 people attended this event.

Products:

"A Social Science-Based Assessment of Conservation Practices in the La Crescent and Reno Watersheds", November 2018, completed and prepared by Amit Pradhananga, PhD, Mae Davenport, PhD and Jennifer Moeller, M.S. of the Center for Changing Landscapes of the University of Minnesota

"Next Wise Steps for Engaging People in Southeast Minnesota Watershed Restoration and Protection: An Assessment Completed by NewGround for Winona County & Minnesota Pollution Control Agency", Summary and recommendations for future outreach efforts based on focus interviews of local leaders, evaluation of civic engagement components of SE Minnesota water plans and collaborations made between local conservation professionals and agricultural retail sectors. December 2019, prepared by Nancy North, NewGround, Inc.

"Reno - La Crescent Watershed: Maps and Demographic Trends", GIS analysis and preparation by Frankie X. Mpagi, GIS Analyst, Winona County Government

Technical Memorandum - La Crescent Watershed: Spatial Data Development using the Agricultural Conservation Planning Framework ArcGIS Toolbox Version 3.0", November 2019. ACPF completed by Kevin Benck of Saint Mary's University Geospatial Services

www.smartertogether.info, website developed by Nancy North of NewGround to make showcased agricultural retail and conservation stories easy to access for social media posts and news links

Long-term results

Potential for Long-Term Outcomes

The thorough investigation of southeast Minnesota water plans completed for this grant confirmed conclusions made in other projects. In the process to develop the WRAPS report for the Mississippi River-Winona Watershed in 2015, it was evident that a need existed to better define communications and citizen engagement strategies. Local staff, alone, do not have the necessary time or expertise to effectively do public outreach, but a regional hub could provide communications templates and assist local staff with civic engagement coordination more efficiently, rather than each local entity working alone. Not enough resources are dedicated to effective civic engagement. Building social capacity for engaging the public in watershed issues requires a long-term, sustained effort that extends beyond the time-frame of a three-year grant.

The Next Wise Steps document completed for this project will have long-term impact for SE Minnesota. Its recommendations are applicable state-wide and are already being referenced and used by others - serving as a resource guide for local staff to improve restoration and protection efforts.

New Partnerships Created

A new partnership was formed with the City of La Crescent. With a population of 4800, the City of La Crescent is the largest community within the Mississippi River-La Crescent Watershed. Contacts made by Nancy North resulted in the City becoming an active participant in developing civic engagement strategies for members of its community and for their membership in La Crosse's MS4Urban Stormwater Group.

New partnerships were made with senior area crop advisors in southeast Minnesota. Connections made with the agricultural sector through the development of collaborative stories that were disseminated state-wide was a beneficial endeavor for all involved. This work laid the groundwork for more collaboration.

Project work beyond end date of grant:

The Watershed Approach schedule for the MR-LC watershed has now been synchronized with the Mississippi River-Winona watershed to better accommodate comprehensive watershed planning. Cycle II of the Watershed Approach for the combined Mississippi River-Winona and La Crescent watersheds begins in 2020 with Intensive Monitoring. Components of this project's work will continue with the new pre-WRAPS initiatives for Cycle II.

Lessons Learned

Two data issues were encountered during the ACPF process for the three subwatersheds of the MR-LC watershed. It was discovered that when certain tools of the ACPF would be completed, no output was produced. In particular, little or no data outputs were generated for Shingle Creek, or for Lake Onalaska-Mississippi River subwatersheds. Geospatial Services Analysts identified two possible reasons for lack of output:

- A Field Boundary dataset that is based on parcel boundaries is required for most of the ACPF tools. Shingle Creek and Lake Onalaska did not have any data for the area of the watershed that is within Minnesota. To compensate, this dataset was edited to represent actual land cover rather than parcel boundaries so that the ACPF could be run.
- Some of the geoprocessing tools are based on certain criteria. During the ACPF processing, no outputs were generated if no locations met criteria, or if possible locations for BMPs did not meet specified criteria.

Default settings were used in this analysis. These default settings can be adjusted to address unique watershed characteristics, changing possible outputs. Due to budgetary constraints, the ACPF was not re-calibrated. Future steps should include incorporation of local knowledge of the watershed to create a set of outputs for land use decision-makers.

Section III – Final Expenditures

Budget

Original Budget	Additional Funds Available through Amendment	Total Budget
$175,891.00	$27,500.00	$203,391.00

Expenditures

Objective/ Task	Description	Total Budget	Cumulative Total Expended	Budget Balance
Objective 1 Task A	ACPF Development	$11,236.20	$11,236.20	$0.00
Objective 1 Task B	Demographic Analysis	$3145.00	$3145.00	$0.00
Objective 2 Task A	Qualitative Interviews	$17,304.00	$17,304.00	$0.00
Objective 2 Task B	Community Capacity survey	$53,448.80	$53,448.80	$0.00
Objective 2 Task C	Geospatial Analysis	$4723.60	$4723.60	$0.00
Objective 3 Task A	Water Plan Evaluation	$22,304.00	$22,304.00	$0.00
Objective 3 Task B	Ag Retail Connections	$49,165.60	$49,165.60	$0.00
Objective 4 Task A	Educational Outreach	$9045.00	$9045.00	$0.00
Objective 5 Task A	Civic Engagement	$17,616.81	$17,616.81	$0.00
Objective 6	Project management	$15,401.99	$15,401.99	$0.00
TOTAL		**$203,391.00**	**$203,391.00**	**$0.00**

Section IV - Conclusion

The Mississippi River-La Crescent Watershed Activities Project made progress toward building social capacity in addressing the primary issues that impact water quality within the watershed, and took an insightful close look at the state of collaborative water restoration and protection. Community capacity surveys and focus interviews helped us to better understand what motivates landowner to implement conservation on their land and identified barriers or constraints. A number of outreach events were held and support provided for various efforts to increase awareness of water resource issues.

Most significant project deliverable is NewGround's "Next Wise Steps". This document has value as a resource for local staff to identify ways to improve outreach and communications strategies within a watershed. The in-depth community capacity survey completed in the grant includes maps depicting areas where landowners would be more receptive to conservation. This will allow for more focused and specific messaging for landowners in the watershed.

Attached Documents

Attachment A: ACPF Development

Attachment A.1: Mississippi River-La Crescent Watershed Land Use Map used to determine feasibility of completing ACPF for Minnesota portion of the watersheds HUC 12 subwatersheds, prepared by Winona County GIS

Attachment A.2: Technical Memorandum

Attachment B: Demographic Analysis for Mississippi River-La Crescent and Reno watersheds

Attachment C: Next Wise Steps Recommendations

Attachment C.1: Next Wise Steps for Engaging People in SE Minnesota Watershed & Protection

Attachment C.2: BWSR 2020 April Snapshots – "Reaching out to restore, protect water"

Attachment D: A Social Science-Based Assessment of Conservation Practices in the La Crescent and Reno Watersheds

Attachment E: Outreach and Education

Attachment E.1: Pollinator Workshop flyer

Attachment E.2: City of La Crescent WRAPS press release for Local Use

Attachment E.3: City of La Crescent WRAPS press release for Media Use

Attachment E.4: Smarter Together Website outreach cards

Attachment E.5: Smarter Together Web page

Attachment E.6: Winona County website with links to rain garden video series

Attachment F: Photos

Attachment F.1: Photos showcasing ag retail and conservation collaborations

Attachment F.2: Master Water Steward project at Apple Blossom Overlook Park

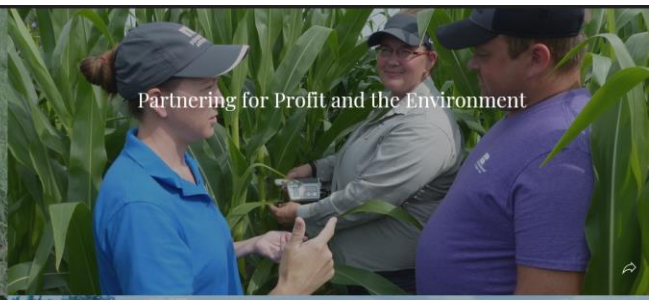
Attachment F.3: Soil Health presentation at Farmer picnic

Attachment F.4: Karst education sign

Nitrogen is a valuable crop input for southeast Minnesota farmers. At the same time, excess applied nitrogen can enter both surface and groundwater, threatening human health and the environment.

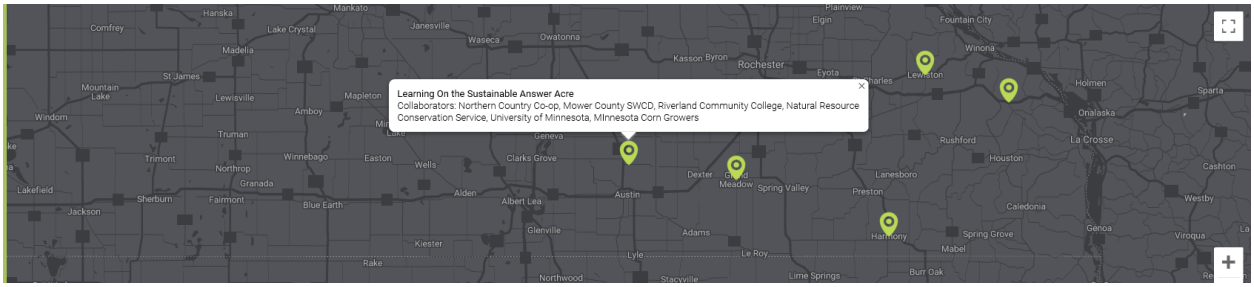
WHAT ARE WE LEARNING IN 2019?

This series of articles showcases farmers and agronomists who are working with neighbors, suppliers, and third party, private and public researchers to define optimum rates and ways to manage and apply nitrogen. Collaborations and findings are different in every place, but the mission is the same: to support growers in making decisions for their families, farm businesses, land, water, and communities.



LOCATIONS

People featured in these stories are working across a diverse southeast Minnesota landscape, on broad upland fields and rolling bluffland slopes. The location of each collaboration is shown on the map below.



ABOUT THIS PROJECT

This series of articles began in conversations with retail crop advisors who were looking for ways to support customers, increase nutrient efficiency, and address water quality concerns.

This project is collaborative southeast Minnesota work funded by Minnesota Pollution Control Agency and Minnesota's Clean Water Land and Legacy Fund, administered by Winona County and led by NewGround, an independent strategic communications group focused on community and watershed health.

Series author JIm Ruen is an agricultural journalist who lives and works on a small farm outside La Crescent, Minnesota. "I have had the good fortune to spend the bulk of my career sharing the work of exceptional farmers and their agronomists, as well as public and private researchers, working in agriculture and related fields throughout the U.S. and Canada. The farmers and agronomists in these stories, as well as the researchers working with them, are committed to making a difference on their farms and in their communities and sharing what they learn with other farmers and the public at large."

Rain garden

Welcome
Clean Water Management
Feedlots
Forests & Timber Harvesting
Invasive Species & Weed Management
Shoreland & Buffer Management
Stormwater
Planning & Environmental Services Home

STORMWATER

WHAT IS IT? WHY IS IT IMPORTANT?

Stormwater is precipitation (from either a rain event or snow melt) that falls on impervious surfaces, like streets or the roof of our house, and flows over them to storm drains that eventually lead to lakes and rivers.

Picture: 9 Mile Creek Watershed District

Rain Gardens - What's the big deal?

Maintaining Your Rain Garden: Video Series

Guide to Creating DIY Rain Barrel

Establish a Prairie or Pollinator Yard

Everyday Ways to Reduce Pollutants in Stormwater Runoff

Winter Maintenance: Smart Salting

Seasonal Yard Tips for Stormwater Management

Water flowing over hard surfaces cannot infiltrate, therefore it moves faster causing more damage and picks up pollutants along the way. Common pollutants include yard waste, motor oil, leaf litter, trash, and salt used during the winter. Runoff containing these pollutants and flowing into storm drains is NOT treated before entering our local water bodies. Lake Winona, Garvin Brook, and the Whitewater River are a few of our locally impaired waters.

Keeping water on the land and intercepting it before it hits impervious surfaces helps to infiltrate it back to the earth. Pollutants can be absorbed and filtered out by plants and groundwater can be recharged.

Photos:

Figure 1. butterfly at Apple Blossom Overlook Park

Figure 2. Conversation farmer in Winona County

Figure 3. Dresbach Rest Area.

Figure 4. Karst educational sign.

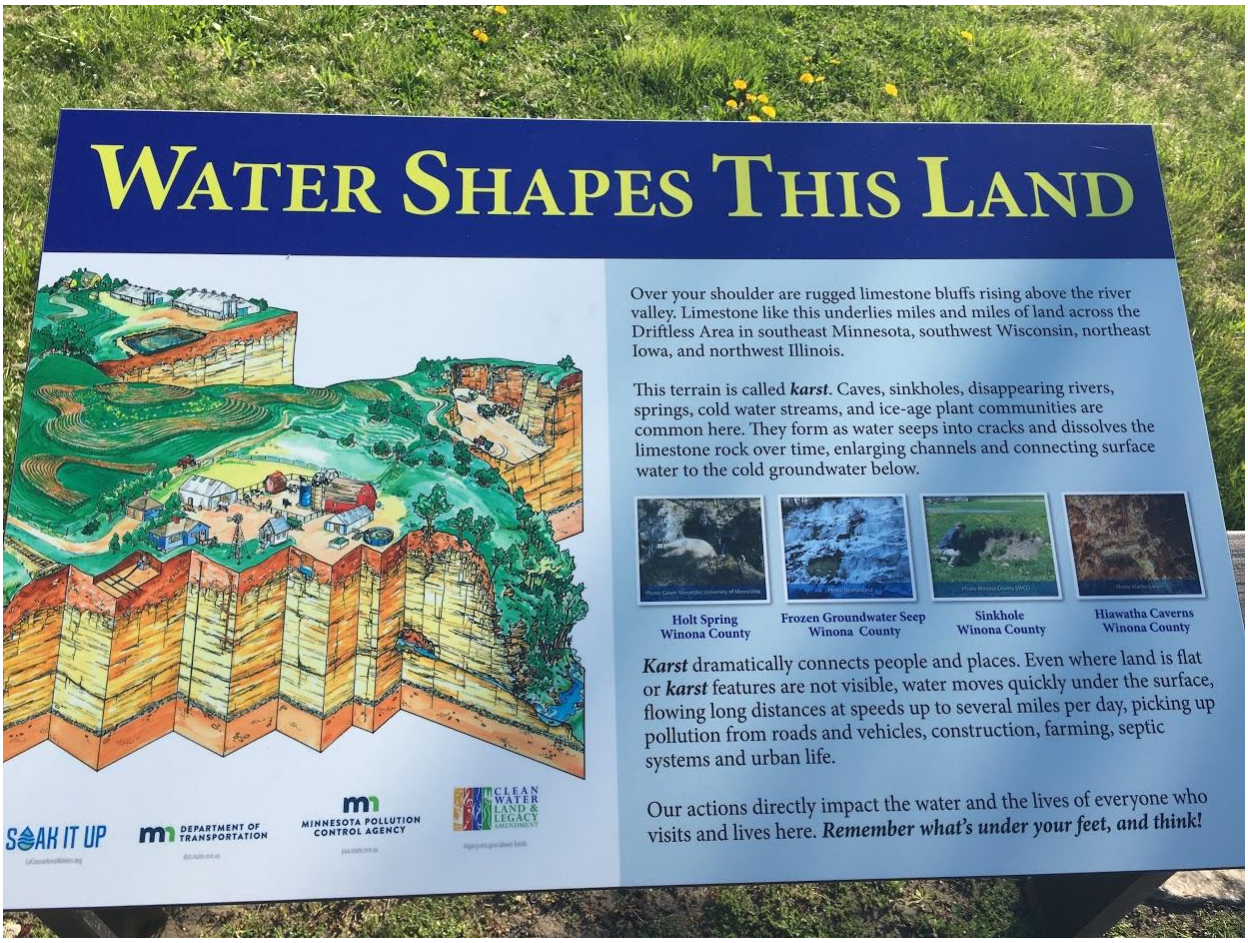


Figure 5. Prairie planting

Figure 6. Root River Field to Stream Leaders.

Figure 7. Rush-Pine Farmer Led Council Picnic 2019.

Figure 8. Rush-Pine Farmer Led Council Picnic 2019.

Figure 9. Strip tilling into cover crops.

Figure 10. Strong partnerships between farmers and CHS agronomist result in higher yields.

Reaching out to restore, protect water

A new resource could guide local conservation staff seeking ways to achieve more robust and collaborative water restoration and protection.

"Next Wise Steps for Engaging People in Southeast Minnesota Watershed Restoration and Protection," a recently released report, recommends four action areas. Clean Water Funds administered through a Minnesota Pollution Control Agency contract with Winona County paid for the report, which drew from 21 interviews, watersheds' outreach goals, and conversations with ag businesses, crop advisors and conservation staff.

Its recommendations are applicable statewide. The report includes specifics about what motivates people to act with soil and water in mind, what gets in the way, and how it's possible to do better.

Cedar River Watershed District outreach coordinator Tim Ruzek, at center in gray shirt, helps a family in June 2019 during Austin's annual 4th Ave Fest. CRWD teamed up with the Jay C. Hormel Nature Center to offer free canoe and kayak rentals on the Cedar River State Water Trail at Austin Mill Pond. More than 120 individuals paddled the river that evening.
Photos Courtesy Cedar River Watershed District

After reading 58 watershed plans directing work in southeastern Minnesota's 11 major watersheds, report author Nancy North looked at engagement goals and charted action trends. Because most barriers to improving soil and water are social, not technical, she noted the ratio of engagement to on-the-ground conservation.

> **"I noticed agriculture retail partners were rarely, if ever, at the table."**
>
> — Nancy North, report author

North, who has developed conservation-related marketing and websites, said she hoped the findings would spark discussion among agencies, conservation staff and community partners. In the report, she noted emerging patterns of effective engagement. She posed questions to help staff discern what is needed, what is possible — and how everyone can benefit.

The report states: "Collectively, our next wise step is do-able, and can be facilitated inside the conservation delivery system now, without radical change. It is to insert more professional communications and engagement technical services, staff training, and peer-to-peer learning strategically, at scale, into the good work already being done."

The report elaborates on the following four action areas.

STAFFING OUTREACH AND ENGAGEMENT: Accomplishing more outreach requires staff dedicated to that work, the report notes. Hiring

must be done strategically to meet needs; work should be results-oriented and cost-effective.

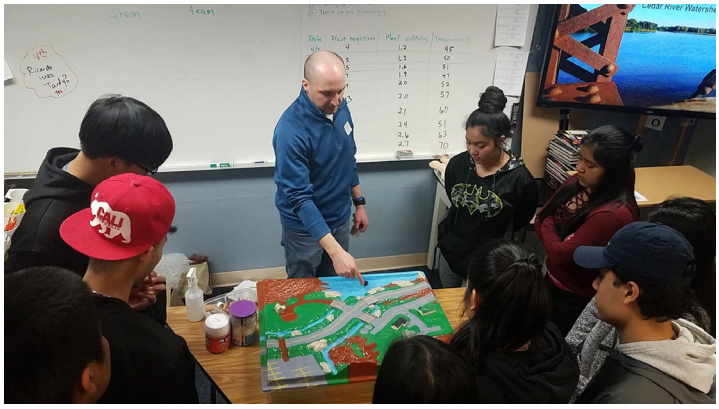
The report recommends training existing staff, and potentially adding professional communications and engagement staff if that need is identified. It suggests considering whether those needs are best met at the local, regional or state level.

Among the questions asked: Is it possible to more fully develop outreach by building upon existing resources such as BWSR Academy, regional BWSR training, the University of Minnesota Watershed Specialist Training program and peer-to-peer learning?

SHARING SERVICES: Work could be coordinated to meet the needs of more than one office. Interviewees mentioned shared services as an option, North noted in the report. Among their suggestions: Coordinate decisions, resources, tasks, trainings, communications and outreach tools and support to lower the cost.

Among the questions asked: "How can staff expertise be more readily and regularly shared, so others succeed and momentum increases?"

BUILDING COMMUNICATIONS ASSETS: Building and maintaining communications and engagement assets extends to digital tools and related maintenance, relevant training and outreach leadership capacity. Leaders interviewed stated the need for clear, engaging communications and help developing, distributing and maintaining them. Leadership, speaking and organizational training was among their requests.



Ruzek uses an interactive watershed- demonstration table in April 2019 during an annual visit to teacher Arik Andersen's English Language Learners at Austin High School. Ruzek uses the model to show some of the ways a community can negatively affect water quality — including through residential, agricultural, recreational, industrial, roadway and construction uses.

Among the questions asked: "Which outreach assets are needed by all major watersheds? Which needs can be met with localized templates? How are important digital tools maintained and kept up to date?"

TARGETING OUTREACH: Targeted outreach would meet the needs outlined in watershed plans. To effectively target conservation work to local priorities — which the shift to comprehensive watershed management requires — it's necessary to support that on-the-ground work with outreach. The report noted small staffs, large workloads, unpredictable funding and inadequate training made it difficult to deliver.

Among the questions asked: "Who is best prepared to design, model and teach staff how to host events that effectively engage citizens as catalysts? What two simple steps can be taken to intentionally educate local government elected officials and staff about Minnesota's water management framework?"

Tim Ruzek, the Mower SWCD-based outreach coordinator for the Cedar River Watershed District, developed a public outreach program for Mower SWCD.

Ruzek earned a degree in journalism, worked as a newspaper reporter and was the communications representative for the Hormel Institute before he joined the district in 2016. At the SWCD, he connects people to the watershed by focusing on the beauty, fun and interesting aspects of the resource.

His widest-reaching effort likely comes from the 25 to 30 media releases he sends each year.

Ruzek also helped the Root River watershed transition through the One Watershed, One Plan program to a Comprehensive Watershed Management Plan. He designed a fact sheet about the plan, and serves as a communications and outreach resource for other watershed staff.

A watershed-wide outreach and communication strategy is underway in order to better align staff and resources with this aspect of conservation work.

At A Glance

Mower SWCD-based Tim Ruzek's duties as outreach coordinator for the Cedar River Watershed District have included:

- Sending 25 to 30 news releases a year;
- Getting more than 600 fourth- through sixth-graders on the water, using state Aquatic Invasive Species (AIS) funding to bring Wilderness Inquiry's Canoemobile programming to town;
- Curating CRWD's Facebook page, which has more than 1,800 followers;
- Organizing a weekly, river-based photo contest hosted on Facebook, which has drawn about 300 entries from about 50 photographers;
- Collaborating with a nature center to offer free canoe and kayak rentals, and with an art center to showcase watershed scenes.

Pollinator Workshop

Tri-County Electric Cooperative (MiEnergy Cooperative)
31110 Cooperative Way, Rushford, MN
Tuesday, January 31, 2017
9:30 AM – 3:00 PM

Don't miss this opportunity to learn about strategies that promote and protect pollinators and other beneficial insects on your farm.

Learn how to:

- **Protect crops from pests**
- **Identify and create habitat for beneficial insects**
- **Improve on-farm biodiversity and yields**

Guest Speaker: Thelma Heidel-Baker

Xerces Society Conservation Biocontrol Specialist

Thelma has extensive experience in promoting beneficial insects into agricultural cropping systems for practical pest management and biological control

Lunch is provided at no cost. RSVP by January 28 (for meal count).
Register by calling 507-457-6521.

Funding provided by the state of Minnesota through the Clean Water Land and Legacy Amendment

Photo credit: Ivan Bianca
Background photo credit: Daryl Buck

Mississippi River-La Crescent Watershed Restoration and Protection Strategies

Story for City of La Crescent | Community and Media Use

January 2020

Headline:
Care For What We Share: The Watershed Approach

Lead-in subheadline:
Some tasks can't be done alone. Minnesota's Watershed Restoration & protection Strategies are helping Minnesotans work smarter and better for water quality.

First sentence of story text (bold, larger type, or different color, in same paragraph as first sentence below):
The condition of streams, lakes and rivers depends primarily on the actions of people on the land draining to them.

Story body text:
In other words, what you do affects me and what I do affects you. It's the most basic kind of community.

To help Minnesotans work together to protect water in the places where they live, a new approach was adopted by the Minnesota Pollution Control Agency (MPCA) in 2008. It's called the watershed approach.

The state's 80 major watersheds are now managed in a cycle, with four activities done every 10 years, in every watershed:

1) **MONITORING** The condition of watershed water bodies is monitored by Minnesota Pollution Control Agency over two years. Water chemistry and stream biology data collected by state, federal and local organizations is compiled. Land use, topography, soils and pollution sources are evaluated.

2) **DATA ASSESSMENT** Specialists evaluate data to determine which waters are impaired, which conditions are stressing water quality, and which factors are fostering healthy waters.

3) **STRATEGY** Based on the assessment, strategies are developed to restore the water bodies. These are reported in a document called Watershed Restoration and Protection Strategies (WRAPS).

4) **IMPLEMENTATION** Local partners implement projects to restore and protect waters. These efforts are coordinated in local water plans or One Watershed-One Plan.

This work is funded by Minnesota's Clean Water, Land and Legacy Amendment, which was approved by voters on November 4, 2008 to protect drinking water sources; protect, enhance, and restore wetlands, prairies, forests, and fish, game, and wildlife habitat; preserve arts and cultural heritage; support parks and trails; and protect, enhance, and restore lakes, rivers, streams, and groundwater.

Lead-in text to next section of story (same font style as first section of story text, above):
What's happening here?

Continue story in body text:
Our watershed approach began in 2015.

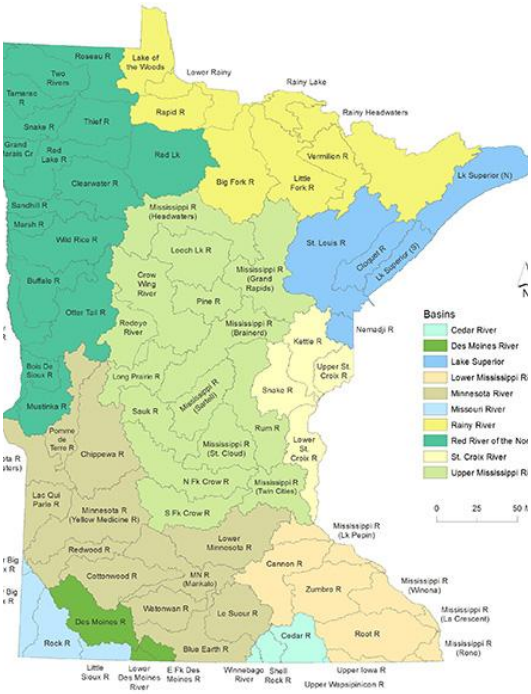
In 2015 the first intensive water monitoring cycle was completed in the watershed, and stressors to fish and bugs were identified. The Watershed Restoration and Protection Strategy (WRAPS) report and Total Maximum Daily Load (TMDL) study draft began to be drafted in late 2019. Water quality priorities of local residents and priority areas for implementing best management practices for water quality improvements are being identified. Next, Houston and Winona Counties will integrate strategies into watershed plans, and take action with townships, cities, nongovernment organizations and citizens.

The goal: Best use of skill, time and money to improve water quality and conditions in our streams.

INSERTS

A watershed map and four highlights are provided to use with this story. *Use boxes, circles, color or alternate font styles to create interest.*

1. Minnesota's 80 major watersheds | Map + caption



Download this map of Minnesota's river basins and major watersheds. Insert in story with text below, including this link: https://www.pca.state.mn.us/water/watershed-approach-restoring-and-protecting-water-quality.

In Minnesota we use a watershed approach to assess, restore and protect water quality in rivers, lakes, and wetlands. This means the condition of all water draining to one place, and the land it flows through, are considered as a whole. It's a community approach, recognizing everything's connected.

Our state's major river basins and 80 major watersheds are shown at *(left, right, below, above…customize to reflect the map's placement in the layout)*. A strategy and locally-developed action plan are developed for each watershed every 10 years, in rotation.

2. Big idea and focus for action | Statement + three directives

Everything we do in this watershed impacts our immediate neighbors and all living things downstream.

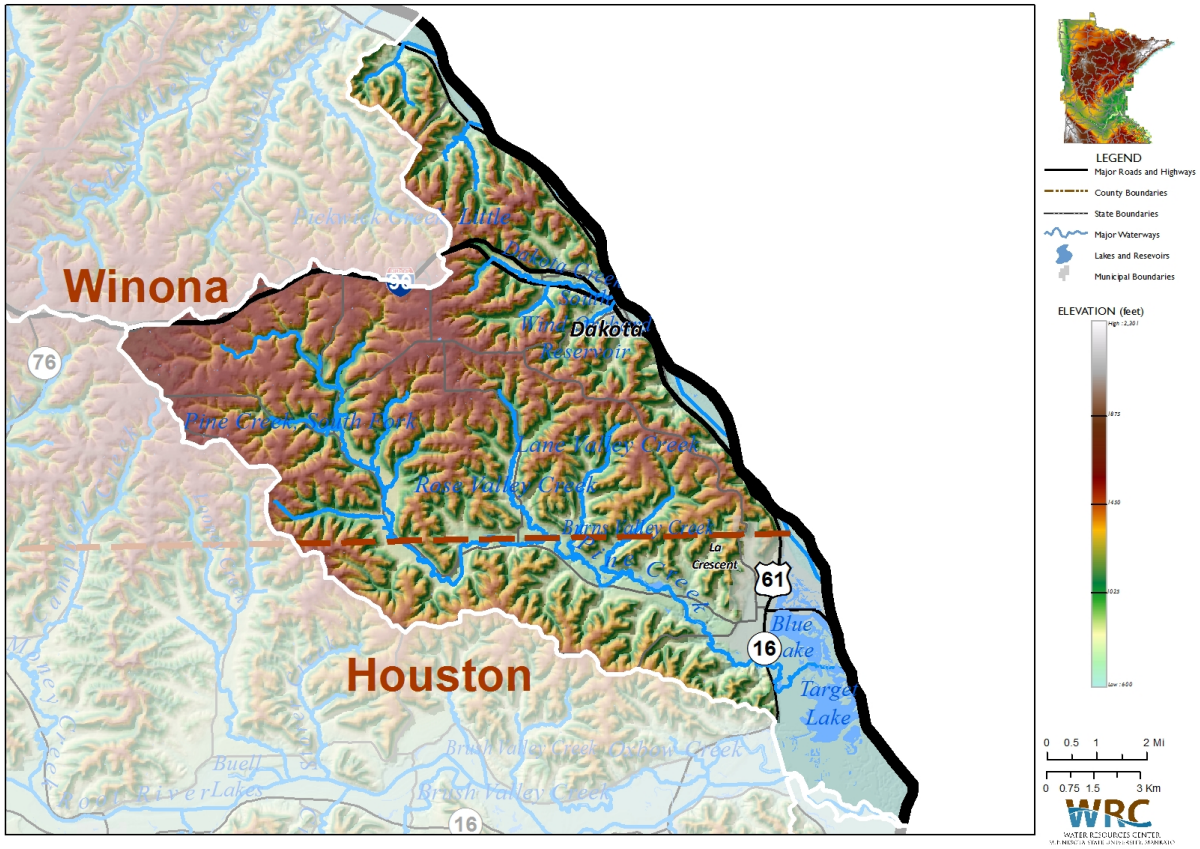
Reduce Nitrogen Reduce Bacteria Keep Soil In Place

3. More information | Where to find it
Learn more about Mississippi River-La Crescent Watershed
www.pca.state.mn.us/water/watersheds/mississippi-river-la-crescent

4. What is a watershed? | Question + answer
What is a watershed?

A watershed is an area of land where all water drains to the same river, stream, lake or ocean.

5. A Mississippi River-La Crescent watershed map (shown below) is provided at this link:
https://drive.google.com/open?id=1Ad-kBMeYPWkWkzMK9lcUfZhJ_DntG6oR



MISSISSIPPI RIVER - LA CRESCENT MAJOR WATERSHED

SIDE BY SIDE LOCAL STORY AND PHOTOS

Next to the story above, add local information including well-captioned photos showing what City of La Crescent is doing to take care of water resources.

Use this story as an opportunity to strengthen connections with collaborators. As possible include information about conversations and shared work with township and county governments, schools, NGOS, partners such as Minnesota Department of Transportation, and independent citizens. This paves the way for good relationships and more action.

Mississippi River-La Crescent Watershed Restoration & Protection Strategies
City of La Crescent | Overview & Information About Local Work for Water Quality

FOR MEDIA USE

January 2020

Care For What We Share: The Watershed Approach

Some tasks can't be done alone. Minnesota's Watershed Restoration & protection Strategies are helping Minnesotans work smarter and better for water quality.

The condition of streams, lakes and rivers depends primarily on the actions of people on the land draining to them.

In other words, what you do affects me and what I do affects you. It's the most basic kind of community.

To help Minnesotans work together to protect water in the places where they live, a new approach was adopted by the Minnesota Pollution Control Agency (MPCA) in 2008. It's called the watershed approach.

The state's 80 major watersheds are now managed in a cycle, with four activities done every 10 years, in every watershed:

1) **MONITORING** The condition of watershed water bodies is monitored by Minnesota Pollution Control Agency over two years. Water chemistry and stream biology data collected by state, federal and local organizations is compiled. Land use, topography, soils and pollution sources are evaluated.

2) **DATA ASSESSMENT** Specialists evaluate data to determine which waters are impaired, which conditions are stressing water quality, and which factors are fostering healthy waters.

3) **STRATEGY** Based on the assessment, strategies are developed to restore the water bodies. These are reported in a document called Watershed Restoration and Protection Strategies (WRAPS).

4) **IMPLEMENTATION** Local partners implement projects to restore and protect waters. These efforts are coordinated in local water plans or One Watershed-One Plan.

This work is funded by Minnesota's Clean Water, Land and Legacy Amendment, which was approved by voters on November 4, 2008 to protect drinking water sources; protect, enhance, and restore wetlands, prairies, forests, and fish, game, and wildlife habitat; preserve arts and cultural heritage; support parks and trails; and protect, enhance, and restore lakes, rivers, streams, and groundwater.

What's happening in the Mississippi River-La Crescent watershed?

Our watershed approach began in 2015.

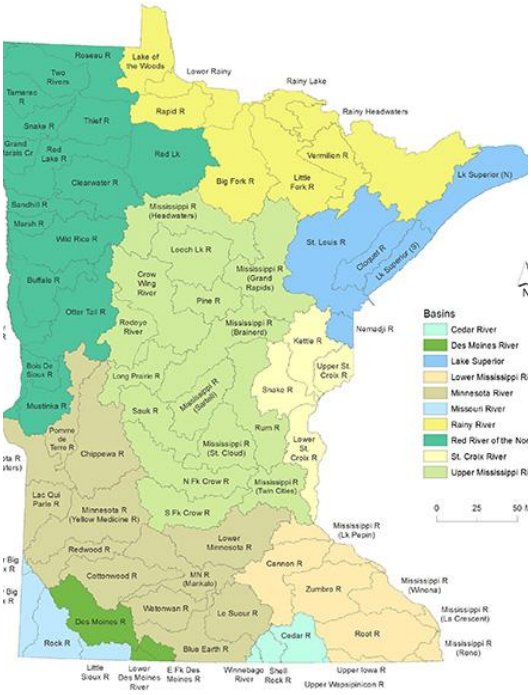
In 2015 the first intensive water monitoring cycle was completed in the watershed, and stressors to fish and bugs were identified. The Watershed Restoration and Protection Strategy (WRAPS) report and Total Maximum Daily Load (TMDL) study draft began to be drafted in late 2019. Water quality priorities of local residents and priority areas for implementing best management practices for water quality improvements are being identified. Next, Houston and Winona Counties will integrate strategies into watershed plans, and take action with townships, cities, nongovernment organizations and citizens.

The goal: Best use of skill, time and money to improve water quality and conditions in our streams.

STORY INSERTS

A watershed map and four highlights are provided to use with this story.

1. Minnesota's 80 major watersheds | Map + caption



Download this map of Minnesota's river basins and major watersheds. Insert in story with text below.

In Minnesota we use a watershed approach to assess, restore and protect water quality in rivers, lakes, and wetlands. This means the condition of all water draining to one place, and the land it flows through, are considered as a whole. It's a community approach, recognizing everything's connected.

Our state's major river basins and 80 major watersheds are shown at *(left, right, below, above…customize to reflect the map's placement in the layout)*. A strategy and locally-developed action plan are developed for each watershed every 10 years, in rotation.

2. Big idea and focus for action | Statement + three directives

Everything we do in this watershed impacts our immediate neighbors and all living things downstream.

Reduce Nitrogen Reduce Bacteria Keep Soil In Place

3. More information | Where to find it

Learn more about Mississippi River-La Crescent Watershed
www.pca.state.mn.us/water/watersheds/mississippi-river-la-crescent

4. What is a watershed? | Question + answer

What is a watershed?

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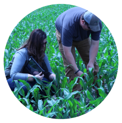
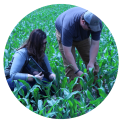


MORE YIELD WITHOUT MORE NITROGEN

SmarterTogether.info

Southeast Minnesota farmers and agronomists are working with neighbors, suppliers, and researchers to define optimum rates and ways to apply nitrogen.
Read what they're learning in 2019.



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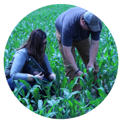

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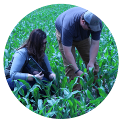

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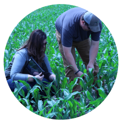

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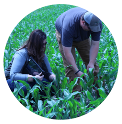

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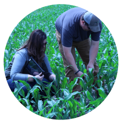

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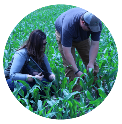

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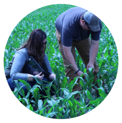

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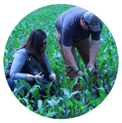

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