



2023 ANNUAL REPORT



CARLTON COUNTY SOIL & WATER CONSERVATION DISTRICT

*Assisting landowners in protecting and enhancing the natural resources of Carlton County.
est. 1961*



The Carlton SWCD experienced growth in staff, programs, and funding in 2023.

Staffing



In April, Cameron Gustafson joined the SWCD as our Community Conservationist. Cameron brings a great background in outreach to the SWCD, along with technical skills he is developing to help the SWCD implement projects with landowners.

In May, with special funding from Carlton County and the MN Department of Agriculture, John Stoltz joined the SWCD as an Ag Engineering Technician. John leads up the SWCD's Seeder Rentals program providing renters with more focused assistance on set up, seed mixes, and troubleshooting the aging equipment. John also works to provide landowners across 12 NE MN counties with technical assistance on practices that need engineering designs like roof runoff, heavy use area protection, and manure storage.



In December of last year Tim Byrnes joined the SWCD to fill a forestry position vacancy. Tim brings a passion for working with landowners on forestry planning and practice implementation, built over 20 years of working in this region.

Joe Quehl was hired in October to replace Jacob Granfors, as the Wildlife Biologist. This position is housed in the Aitkin SWCD and is a shared position between Aitkin and Carlton SWCDs. Joe will continue to work on wildlife habitat projects with landowners and leads up our conservation easement program. With approval of more 1W1Ps in our county, the easement program is expanding to include priority parcels in specific watersheds.



SWCD Board Engagement

In September the Carlton SWCD Board hosted the Annual NE Region 3 fall meeting. Presentations included 3 board supervisors presenting on Buck Thorne control, cover crops, and land and water connections through Local water planning.



2023 Outstanding Conservationists Heather Marie Bloom and John Hatcher with Rising Pheonix Farm



Rising Pheonix Farm is highly regarded in our community as conservation stewards of the land, leaders in Consumer Supported Agriculture (CSA), and farming community. They show passion and care for our natural resources through a whole farm sustainability approach to water conservation, irrigation, soil health, promoting all various types of biodiversity through different vegetable plantings, cover crops, and pollinator plantings. Not only do they grow vegetables, but they also educate others about the importance of seeing the local community connection to food systems.

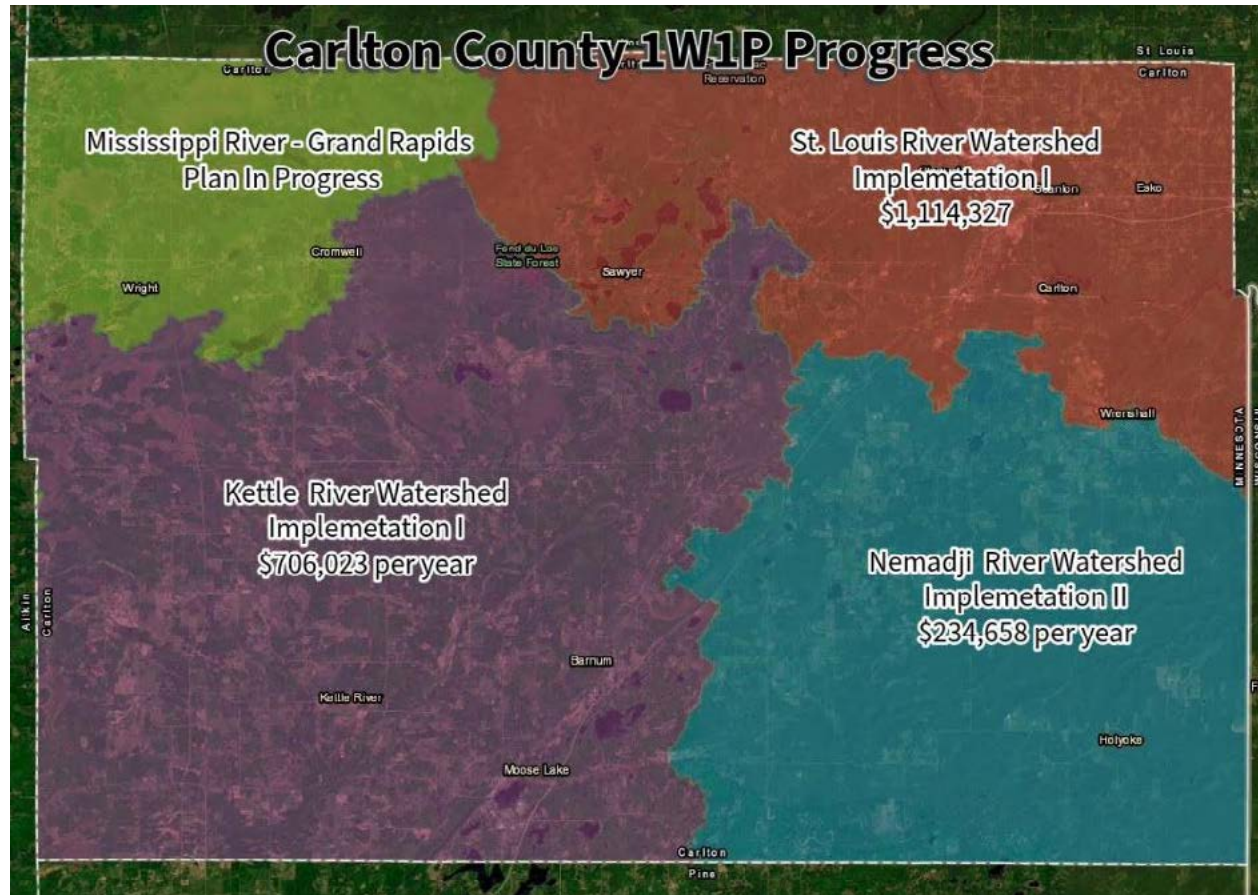
Heather Marie and John went on to be recognized at the MN Association of Conservation District annual convention in December. They joined SWCD Board members Bob Fox and Barb Dahl along with Ryan Clark and Cameron Gustafson at the luncheon where their conservation efforts were recognized and celebrated with other SWCD's Outstanding Conservationists from around the state.



Programs

2003 saw completion of another **Comprehensive Watershed Plan**, this one in the Kettle River Watershed. The plan is moving through its final approval process in early 2024 and implementation funds should be available sometime this summer.

This map shows the status of the 4 watershed plans in Carlton County and the annual implementation funding tied to each plan for that entire watershed.



Comprehensive Watershed Management Planning (Minnesota Statutes §103B. 801) provides large funding pools for SWCD's and Counties to use for landowner projects and staffing to get those projects planned, designed, and implemented with those landowners.

In 2023, the Nemadji Watershed Implementation Funding provided funds for a large Woodland Stewardship plan for a landowner, and 2 erosion control projects. The total cost share used was \$77, 629. That is considerable given that the Carlton SWCD receives only \$10,000 for our annual cost share funding pool.

The Lower St. Louis River Watershed Implementation Funding just became available in late 2023. Although no funds were expended in 2023, \$467,000 has been allotted to projects in Carlton County for 2024-2025.

Soil Health is a big topic these days in multiple programs from various state and federal conservation agencies. Locally, the Carlton SWCD implemented the first year of special funding for soil health practices. With the 2023 allocation of \$8,000, the SWCD Board decided to focus on cover crops through hay land and pasture renovation practices using the counties seeder equipment. On a snowy night in March, 32 farmers gathered at the Barnum Community Center to see presentations from SWCD staff as well as regional extension educators on cover crops and seeding equipment.



6 Farmers signed up for assistance that night.

Four fields were seeded totaling 41.5 acres of cover crops in 2023 using this special cost share funding.

Due to drought conditions in the county until September, some seeding projects were put on hold for better soil moisture conditions.

Biochar application is another option for producers to improve soil health. Biochar is a charcoal like material made by heating biomass to above 1000° F in the absence of oxygen (pyrolysis). Then the biochar is mixed with on-farm manure stocks to "charge" the biochar. The advantage of adding biochar to manure farmers regularly spread on their fields is that it releases the nutrients of the manure slower so plants can utilize it more. Biochar also loosens tight compacted soils, provides increased water holding in sandy soils, and provides habitat for fungi, microorganisms, and bacteria in the soil, all of which converts more elements into useable nutrients for crops.

The SWCD partnered with Dovetail Partners and MN Power in 2023 in applying for a Wood Innovation Grant. The grant was awarded in August providing biochar from a supplier in Missouri that was delivered to 3 sites in the county where it was mixed with on farm manure supplies and applied to crop and pastureland. The project is also funding extensive soil analysis to document the impacts of this mixed soil health building amendment to clay, sand, and loamy soils on 7 crop and pasture fields in the county.

Below are 3 different soil amendment application methods used in this project.





Unlocking the Land's Potential

by your local Soil and Water Conservation District

Water and Sediment Control Basin

Who & Where:

Landowner: Janaki Fisher-Merritt
 Location: 2612 County Road 1 Wrenshall, MN 55797
 Watershed: Nemadji

Project Details:

Practice:
 - (638) Water and Sediment Control Basin (WASCB)
 Quantity: 1 Each Completed: 9/1/2023

Resources Protected:
 -Mud Creek, Nemadji River Watershed

Project Description:

Janaki's vegetable field on the west side of the road across from the farmstead was experiencing serious gully erosion. The site is located on the west side of the field with two steep sloping gullies approximately 15 vertical feet by 50 horizontal feet. It discharged large amounts of sediment into Mud Creek, which ultimately flows into the Nemadji River to Lake Superior. A WASCB is an earthen embankment across a minor slope to form a sediment trap and water detention basin with a stable outlet. Basins help improve water quality, gully erosion, and reduce runoff.

Benefit	Saved
Sediment (tons/yr)	8.14
Soil Erosion (tons/yr)	34
Phosphorus (tons/yr)	17.97

Before Photo



After Photo



Funding Overview	
Total Cost	\$56,637.98
Federal	\$0
SWCD	\$50,241.60
Cooperator	\$6,396.38

Project Output
Watershed Storage
Trap sediment
Reduce gully erosion
Reduce runoff



Unlocking the Land's Potential

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Shoreline Protection

Who & Where:

Landowner: Brad and Sue Walters
 Location: 1421 S. Lake St Cromwell, MN 55726
 Watershed: Upper. Mississippi- Grand Rapids

Project Details:

Practice:
 - Shoreline Protection, Critical Area Planting
 Quantity: 119 Ln. Ft Completed by: 8/1/2023

Resources Protected:
 -Lower Island Lake, Upper Mississippi- Grand Rapids

Project Description:

The Walters are currently building a new cabin and wanted to improve the water quality of Lower Island Lake by removing old telephone poles along their shoreline, replace them with biodegradable coir logs, and replacing the lawn with native grasses and flowers. Shoreline protection paired with native plantings prevent the loss of land by reducing erosion with building of soil with coir logs and deep roots of native plants. It also acts as a buffer or filter for pollutants and other runoff before entering a waterbody. Colorful native blooms provide a food source for pollinators and aesthetics for humans.

Benefit	Saved
Soil Erosion (tons/yr)	30.3
Phosphorus (tons/yr)	30.3

Before Photo



After Photo



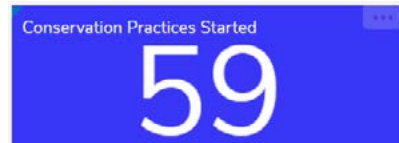
Funding Overview	
Total Cost	\$9,572.00
Federal	\$0
SWCD	\$7,179.00
Cooperator	\$2,393.00

Project Output
Reduce erosion
Filter pollutants and build soil
Pollinator habitat and food source all growing season
Aesthetics for human enjoyment

Carlton SWCD 2023 Measures of Success



New Landowners



New Projects Started



Projects Completed

2023 Completed Project Outcomes



270 tons of soil saved = 22 dump trucks



1 pound of phosphorus can support 775 pounds of aquatic weed growth

Pollinator Habitat
for our smallest conservation partner creatures



Woodland Stewardship Plans
promoting sustainable working forest management



Timber Harvests
Linking private landowners with consulting foresters to help plan timber sales and get more private timber to market.

Major species volumes in Woodland Stewardship plans in Carlton County (at right)

Predominate Cover Type	Estimated Prescription Volume (cords) (tot)
Aspen	37,299.7
Ash	5305
Oak	932
Birch	4987
Spruce	2364.5
Red Pine	7277.5
White Pine	223
Mixed Hardwoods	18,689.5
Mixed Conifer	2361
Totals (9 groups)	79,439.2

Funding

Along with substantial funding through Water Planning, the MN Association of Soil and Water Conservation Districts (MASWCD) was successful in getting legislation passed in 2023 to establish SWCD funding from the legislature as statutory like other LGU aid. This moves the state funding support for SWCDs out of the Clean Water Fund (old SWCD Capacity Grants through the BWSR) to an allocation from the MN Department of Revenue. This is a major accomplishment and a huge step in providing reliable funding year to year as opposed to Clean Water Land and Legacy funds that have been zeroed out in past legislative sessions.

The Carlton SWCD uses this SWCD aid from the state legislature and the Carlton County annual allotment to provide the core services for SWCD operations. These 2 sources make up 44% of the SWCD's annual budget. The other 56% comes from leveraging those funds in grants and contracts.

Fund Name	Fund Start Date	Project Funds	SWCD Operation Funds	Fund Starting Balance
CWPP Development	12-01-2023		\$18,000.00	\$18,000.00
Wood Innovation Grant	08-01-2023	\$23,680.00	\$72,300.00	\$95,980.00
Nemadji WSP Biennium 1	09-01-2023	\$11,551.19		\$11,551.19
Enbridge County Road 104 Culvert	01-31-2023			\$80,068.00
St. Louis River WBIF B1 Enhanced Street Sweeping & Carlton County Stormwater Project Design	12-11-2023	\$100,000.00	\$0.00	\$100,000.00
St. Louis River Riparian Shoreline BMPs & Raingarden Cost Share	12-11-2023	\$27,000.00	\$0.00	\$27,000.00
St. Louis River WBIF B1 Woodland Stewardship Planning Cost Share	12-11-2023	\$10,000.00	\$0.00	\$10,000.00
St. Louis River WBIF B1 Street Sweeper	12-11-2023	\$330,000.00	\$0.00	\$330,000.00
BWSR 2023 Cost Share	01-01-2023	\$8,001.00		\$8,001.00
Nemadji Watershed Wetland Restoration	07-31-2023	\$10,000.00		\$10,000.00
Nemadji Watershed Second Biennium Ag Practices	07-31-2023	\$50,000.00		\$50,000.00
Nemadji Watershed Lakeshore Practices	06-30-2023	\$15,000.00		\$15,000.00
Enbridge CSAH 4 Culvert Project	01-31-2023			\$842,451.00
TOT		\$585,232.19	\$90,300.00	\$1,598,051.19



In 2023, Carlton County contributed \$228,229 to the SWCD's operations. Through leveraging that local funding, the SWCD brought in an additional \$1,598,051 for projects with landowners and operation funding. That is a \$7.00 return per local dollar invested in soil and water conservation in Carlton County.

2023 Outreach and Education



Type	Number of Outreaches
Mailing	5
Workshop	12
Event	17
Field Demo	6
Newsletter	11
Totals (5 groups)	51

In 2023, 51 outreach events engaged 13,598 people in programs and projects with the SWCD.



Last year 82 landowners engaged the SWCD specifically for technical assistance with projects ranging from forestry and agriculture to urban storm water and shorelines.

Main Interest	Number of Landowners
Ag	36
Ag Erosion Issue	1
Forestry	14
Forestry Forestry Plan	2
Forestry Invasive Species Technical Guidance	1
Forestry Plan	1
Native Plantings	11
Native Plantings Invasive Species Shoreline Restoration	1
Urban Storm Water	1
Invasive Species	8
Invasive Species Technical Guidance	1
Erosion Issue	1
Erosion Issue Shoreline Restoration	1
Shoreline Restoration	1
Technical Guidance	1
Conservation Easement	1
Totals (16 groups)	82

2023 Outreach and Education Events



Cameron hands on soil health at Barnum HS



Alyssa presenting on native plants



South Terrace Elementary students cleaning out their "Adopted" storm drain



Unlocking the Land's Potential by your local Soil and Water Conservation District

The Carlton SWCD Team

The Carlton SWCD Board meets monthly on the second Monday of the month. Board members are:

- District 1 - Barb Dahl, Treasurer
- District 2 - Tim Michaelson, Vice Chair
- District 3 - Bob Fox, Chair
- District 4 - Bruce Heikes, PR Officer
- District 5 - Kim Samuelson, Secretary

The Carlton SWCD has an experienced staff of professionals waiting to provide technical assistance to landowners no matter where they are in the county.

- Alyssa Bloss, Conservation Specialist
- Ryan Clark, Ag Specialist
- Cameron Gustafson, Community Conservationist
- Tim Byrns, Forestry Technician
- John Stoltz, Seeder Manager and Engineering Technician
- Julie Radovich, Office Administrator
- Brad Matlack, SWCD Manager

Find us at 808 3rd. St. in Carlton. Our office is open to the public. For an appointment, call 218-384-3891.

Also find us on the web at CarltonSWCD.org

On Facebook at [CarltonSWCD](https://www.facebook.com/CarltonSWCD)

And on YouTube at [@carltonswcd](https://www.youtube.com/@carltonswcd)

