2019 ANNUAL REPORT

BENTON SOIL AND WATER CONSERVATION DISTRICT

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Little Rock Lake, 2019
Photo by Eric Altena

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BENTON SWCD

Our mission is to protect & enhance Benton County's soil, water & natural resources; to nurture a conservation ethic by educating county residents on conservation & environmental issues

One crucial niche districts fill, is that of providing soil and water conservation services to owners of private lands. Privately owned lands make up 78% of the land surface in Minnesota. Managing these private lands, whether agricultural, forest, lakes, or urban, is key to Minnesota's quality of life.

Soil and Water Conservation Districts (SWCDs) are local units of government that manage and direct natural resource management programs at the local level. Districts work in both urban and rural settings, with landowners and with other units of government, to carry out a program for the conservation, use, and development of soil, water, and related resources.

Minnesotans trust SWCDs to provide needed technology, funding and educational services as they are established in each community, governed by local leaders and focused on conservation of local soil and water resources.

BENTON SOIL & WATER CONSERVATION DISTRICT

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

Local and Federal Partnership

Although titled Benton Soil and Water Conservation District annual report, the accomplishments in this report would not be possible without the cooperation of many. One example is our exceptionally strong partnership with the Natural Resources Conservation Service (NRCS), a partnership that is not often apparent. Our agencies share field equipment and supplies, technical support and numerous other items not listed. The partnership provides the most efficient use of taxpayer resources, resulting in the greatest amount of targeted resource protection and restoration possible. It is truly a model for a successful federal/local partnership. The high level of service and diversity of conservation assistance available to the residents of Benton County is certainly the result of the cooperation of many.

SWCD Staff

Gerry Maciej
District Manager

Mike McMillin
District Technician

Casey Gwost
District Technician

Nathan Sanoski
District/Farm Bill Technician

Travis Janson
Watershed Technician

Kelly Molitor
Watershed Technician

Amanda Guertin
Water Plan Technician

Renee Thell
Administrative Assistant

Joe Bastian
Summer Intern

NRCS Staff

Pat Gehling
District Conservationist

Barb Zeroth
Soil Conservationist

Joey Leblanc
Civil Engineer Technician

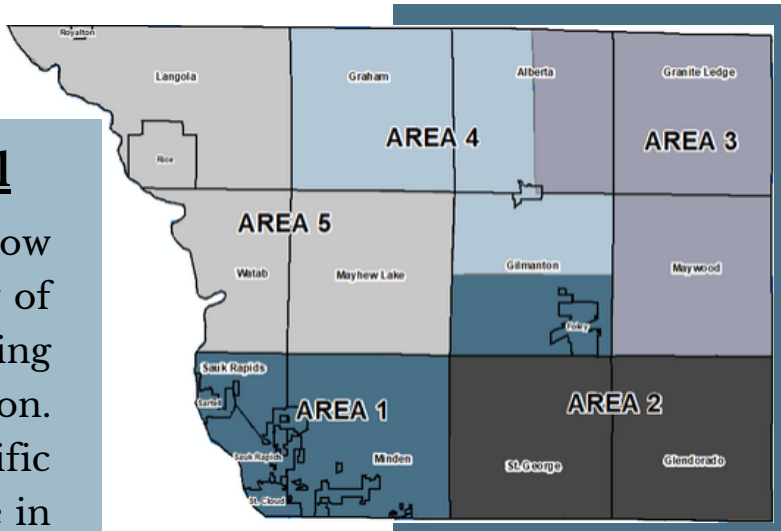
Bonnie Haubenschild
Office Assistant

Back (L to R): Amanda, Gerry, Pat, Joey, Kelly, Bonnie, Barb
Front (L to R): Renee, Casey, Nathan, Mike, Travis

Joe Bastian

Conservation at the Local Level

Supervisors play an important role in how the community deals with a wide variety of resource management issues, including wetlands, water quality and soil erosion. Serving as a supervisor is a terrific opportunity for people who want a voice in how we manage our environment.



AREA 1
Wade Bastian
320-266-6881

AREA 2
Joseph Jordan
763-856-3192

AREA 3
Jake Scherer
320-355-2343

AREA 4
Bernie Thole
320-266-8436

AREA 5
Chuck Rau
320-393-4834

MASWCD Board of Directors - West Central Area 2

Left to right: Wade, Joe, Bernie, Jake, Chuck

Conservation at the State Level

Supervisor Chuck Rau, also serves on the Minnesota Association of Soil and Watershed Conservation Districts (MASWCD) Board of Directors representing West Central Area 2. This nonprofit organization provides leadership and a common voice for SWCDs; maintains a positive, results-oriented relationship with rule making agencies, partners and legislators; and expands education opportunities for districts so they may carry out effective conservation programs.

Partners in Conservation

Thank you to everyone involved including our Benton County Commissioners, state and federal legislators, state conservation agencies, local conservation organizations and our property owners for taking the initiative to improve this community. Also a special thank you to all of the partnering agencies involved with the Clean Water Legacy Program.

Back: Warren Peschl, Jake Bauerly, Spencer Buerkle
Front: Steve Heinen, Ed Popp

2019 Benton County Board of Commissioners

The SWCD would not be able to operate at our current level without the continued support of the Benton County Commissioners. In 2019, $199,500 was allocated to the SWCD by the County to support our conservation efforts.

Ross Reiffenberger, Luke Herkenhoff, Gary Borash

West Central Technical Service Area (WCTSA) Staff

The WCTSA fill a critical role for SWCD's by providing engineering and technical assistance for projects that could not be completed within an individual SWCD. The most cost effective means this service across the state is by working cooperatively across policital boundaries through TSAs.

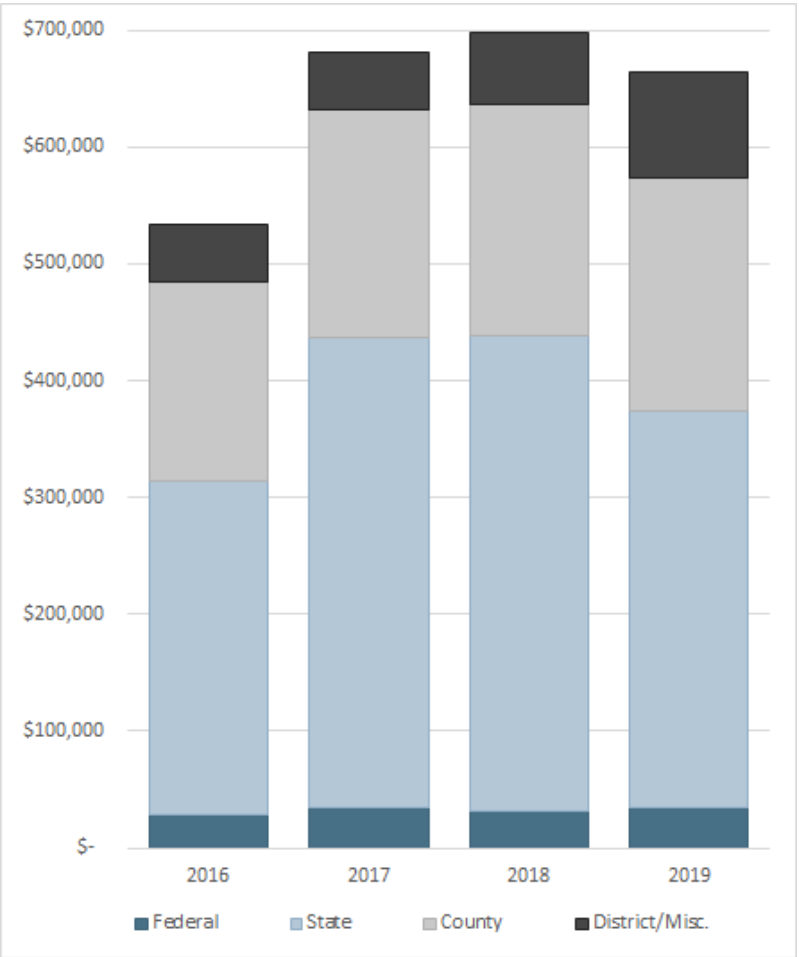
Morrison SWCD
Little Rock Lake Association
U.S. Fish & Wildlife Service
Rice Area Sportsmen's Club, Rice, Minnesota
Sauk Rapids Sportsmen's Club
Elk River Watershed Association
Sherburne SWCD
Department of Natural Resources
Board of Water and Soil Resources
Department of Health
Minnesota Pollution Control Agency
Department of Agriculture

Financial Summary

Benton SWCD relies on a variety of revenue sources in order to finance day to day operations. Operational revenue sources include federal, state, county, district (tree and product sales, equipment rental, etc.) and other miscellaneous sources.

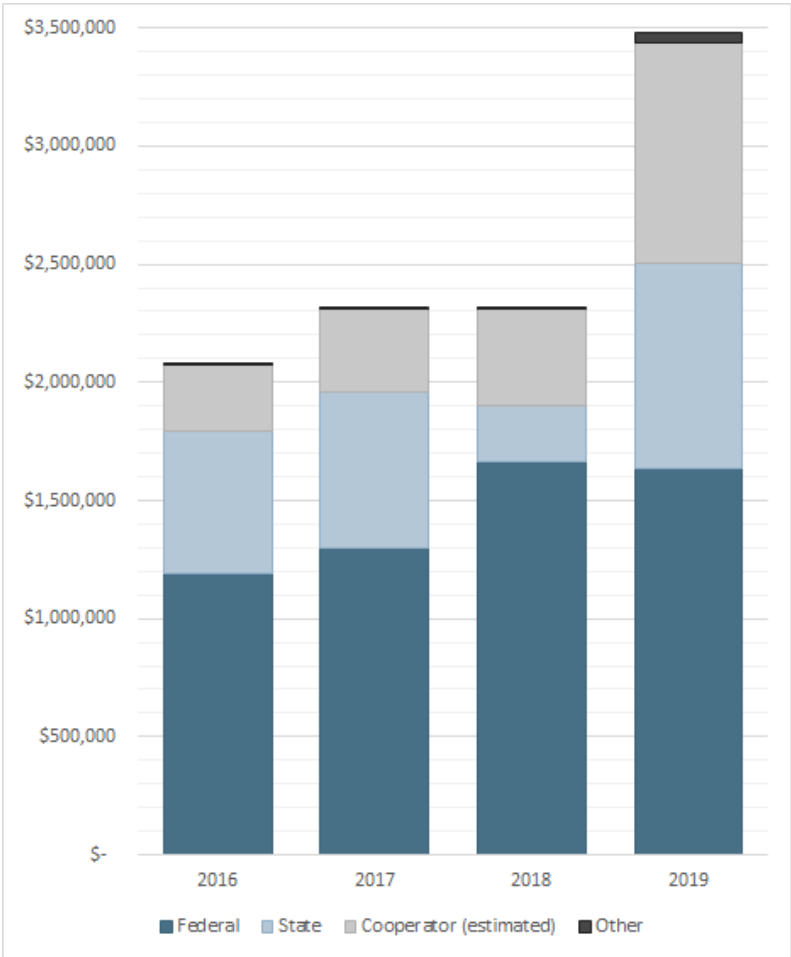
Installing best management practices, or making land use changes, not only results in cleaner water but has many other public benefits as well. The cost of adopting these practices, in some cases, exceeds the benefit to the individual and financial assistance becomes necessary.The SWCD also relies on a variety of financial contributions for conservation activities including cost-share, incentives, program development and annual rental payments.

Operational Revenue



This revenue is used for personnel salary and benefits, Supervisor and Water Resources Advisory Committee member expenses, rent, supplies, travel, tree program, environmental education programs and other related expenses

Financial Contributions for Conservation Projects



This graph includes funds administered through the SWCD, NRCS, FSA and Benton County Program. Landowner contributions for federal funded projects are not available and therefore the cooperator contributions displayed are estimates

2019 Operational Revenue was $664,323

2019 Financial Contributions for Conservation Projects was $3,479,303

2019 ECONOMIC IMPACTS

The work of the SWCD brings outside resources into Benton County and encourages citizens to invest their own resources locally. In addition to approving the quality of our community through conservation work, we also have a positive economic impact to Benton County.

3.48 Million dollars was spent on conservation projects in Benton County in 2019

$871,343 was spent as a result of state cost share

$1,634,063 was spent as a result of federal cost share

$931,755 was spent as a result of local landowner contributions

$40,123 was spent as a result of other funding sources

A large amount of the funds spent for these projects were given to local contractors. Assuming that **50%** of the money given to local business' is recirculated locally, that's **1.74 Million dollars** recirculated back into the community

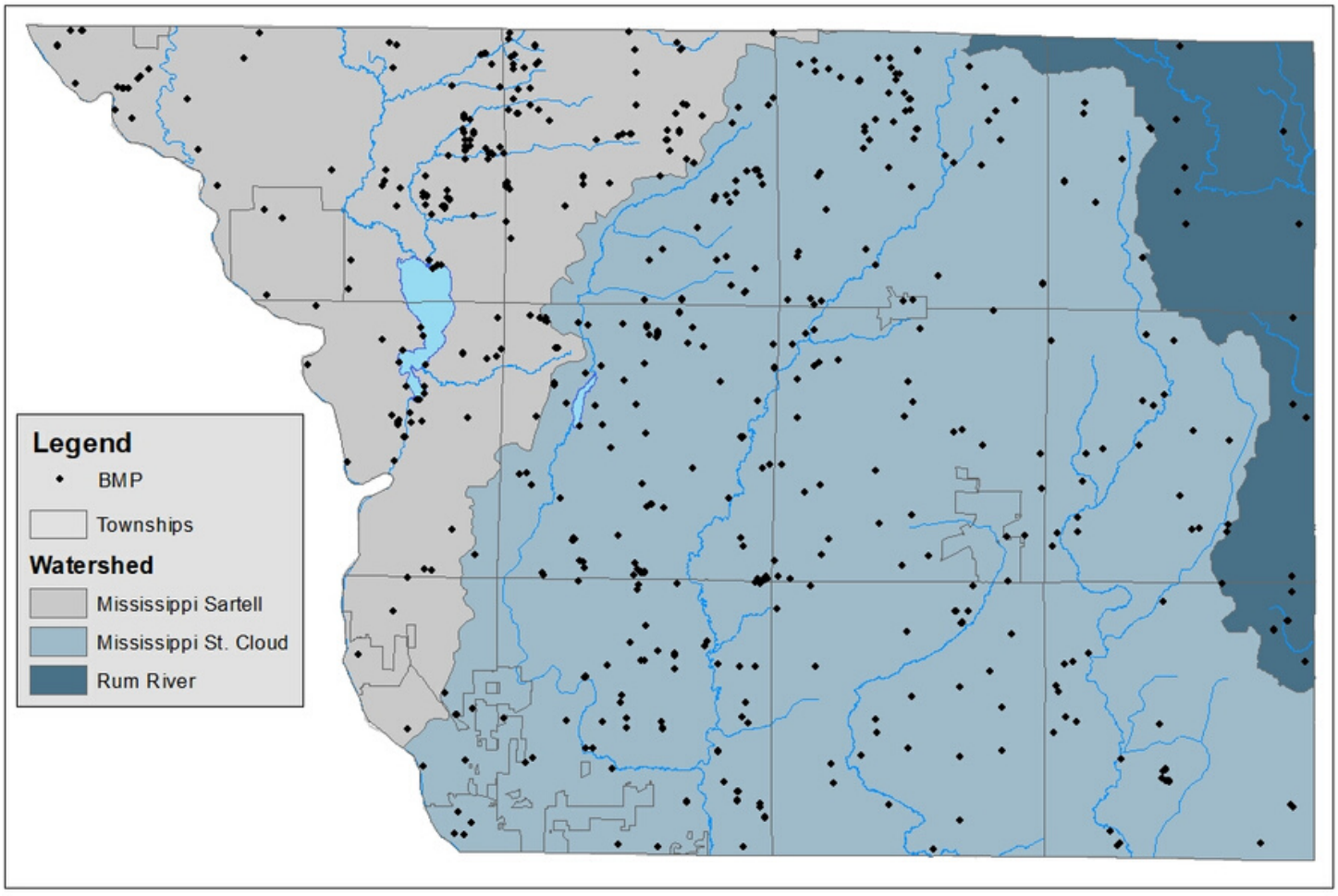
BEST MANAGEMENT PRACTICES

Benton County is extremely fortunate to have so many landowners invested in the protection and restoration of the County's natural resources and who are willing to implement projects on their property. Installing a project is no small decision for landowners, as usually they are expected to contribute 25% match. For feedlot projects in particular, this is a huge investment on their part as these projects can range from nearly $100,000 up to around $600,000 depending on the type and size of project. Some of the projects installed in 2019 are shown below and featured in the following pages.

2019 Highlights

- Conservation tillage
- Energy improvement
- Erosion control
- Feedlot improvements
- Grazing management
- Irrigation management
- MAWQCP certification
- Nutrient management
- Sediment reduction
- Soil health
- Well sealing
- Wetland restoration

State Funded Projects



The map above illustrates projects that have been installed using state funds from 2003-2019. During this time 29 different conservation practices and over 700 projects were installed.

ENVIRONMENTAL QUALITY INCENTIVES PROGRAM (EQIP)

EQIP provides federal conservation program funds to address local resource concerns. The program provides financial assistance, either to off-set the cost of implementation or as an incentive, to assist crop, livestock, and other operations.

EQIP 2019 Highlights

- In 2019, Benton County had 24 contracts for **$1,475,530**, the second highest dollar amount in the state
- From 2013 - 2019, EQIP has brought in a total of $6,181,780 in conservation funds, the third highest in the state during that time period. An average of $15,140 per square mile was used in the County, nearly double the dollars per square mile of the second place county
- Many producers were not selected for funding in 2019 but are still eager to move forward with their projects and will be trying again in 2020.

Seasonal high tunnel

Pouring a concrete floor of a manure pit

Summary of 2019 Practices

- 1,746 acres of nutrient management
- 728 acres of irrigation water management
- 639 acres of conservation tillage
- 201 acres of cover crops
- 13 acres of prescribed grazing
- 6 variable frequency drives for irrigation
- 4 water and sediment control basins
- 3 diesel to electric irrigation conversion
- 3 feedlot roof structures
- 3 seasonal high tunnels
- 3 stacking slabs
- 2 conservation plans
- 2 high to low pressure irrigation conversion
- 2 vegetative treatment areas
- 1 grassed waterway
- 1 manure pit

"The success of EQIP in Benton County is a credit to the producers here. Their interest in doing conservation should be commended"
Pat Gehling, NRCS District Conservationist

NRCS

CONSERVATION RESERVE PROGRAM

This program aims to re-establish valuable land cover to help improve water quality, prevent soil erosion and reduce loss of wildlife habitat. Since signed into law by President Ronald Reagan in 1985, the program has become one of the largest private-lands conservation programs in the United States. Thanks to the voluntary participation by farmers and landowners, over 20 million acres are being protected across the country.

Summary of 2019

In May 2017, the application process for enrolling into CRP was discontinued due to the National acre cap of 24 million acres enrolled being reached. Due to the limited practices available, only two contracts covering 10.6 acres were approved in 2019.

Exciting news about the program came in December when the Agriculture Secretary Sonny Purdue announced that the Department of Agriculture would be opening up signup for the first time since the acre cap was met in 2017.

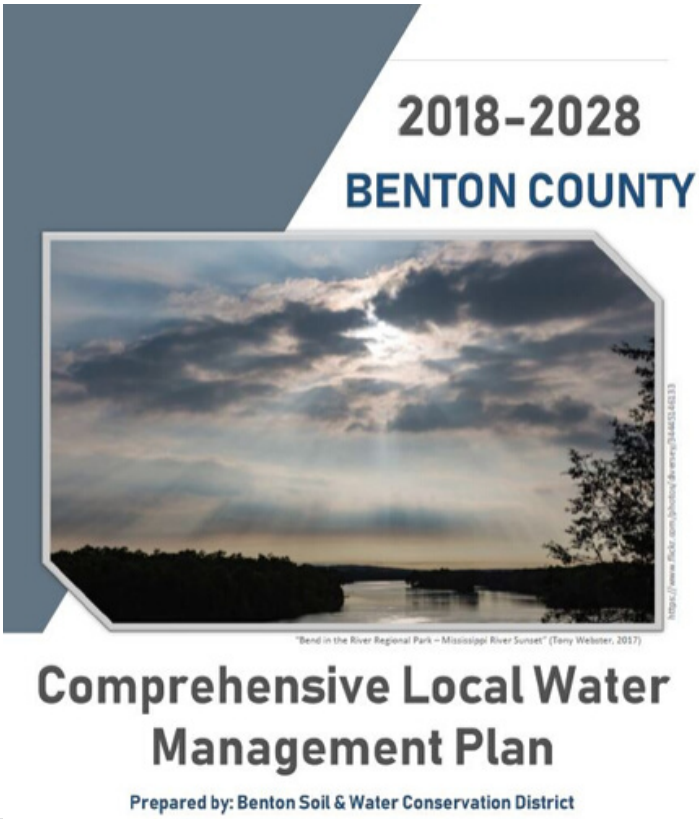
Work done in 2019 included maintaining and improving current CRP contracts. Three contracts completed control burns on 59 acres and an additional three contracts completed mechanical mowing for 35 acres.

CONSERVATION STEWARDSHIP PROGRAM

This program looks at conservation practices currently being implemented on farms or woodlots and offers incentive payments to enhance these practices. Since 2010, 18,936 acres have been enrolled and over $1,619,000 has been brought into Benton County for conservation through this program with 32 different enhancements in place.

COUNTY WATER MANAGEMENT PLAN

The Water Management Plan is an important resource for managing the County's water resources. These resources play a significant role in the recreational and economic value of the county and are vital to the everyday life of residents. Our surface waters provide recreational opportunities for boating, fishing, water sports, as well as providing valuable habitat for wildlife. Our groundwater is also a substantial resource as many landowners use private wells and it is an asset to the agricultural industry for irrigation purposes.



Water Plan Priority Concerns and Accomplishments in 2019

Feedlot & Nutrient Management	*Protect surface water quality by encouraging proper nutrient management of animal manure and fertilizers.*	Made progress on 40% of action items Accomplishment Highlights: 13 manure spreader calibrations, 31 manure and 84 soil samples, worked with 63 landowners to identify 41 projects and implement 6
Erosion & Sedimentation	*Excess runoff and sediment in surface waters can have negative impacts on surface water quality.*	Made progress on 33% of action items Accomplishment Highlights: worked with 51 landowners to identify 52 erosion control projects, 2 soil health practices implemented, 1 sediment reduction project implemented
Development	*Water resources have the potential to be adversely affected by residential, commercial and industrial growth and development, as well as rural land use changes.*	Made progress on 33% of action items Accomplishment Highlights: Benton County updated their Comprehensive Plan which will help to balance land uses and growth in a sustainable manner
Surface & Groundwater Quality & Quantity	*Protect water resources from increasing demands to prevent potential problems with water quantity. Protect and prevent surface and groundwater from contamination and other impairment factors which negatively affect water quality.*	Made progress on 42% of action items Accomplishment Highlights: Hosted a nitrate clinic, identified 17 well sealing projects, upgraded 3 imminent threat septic systems, 3 new certifications through the MN Agricultural Water Quality Certification Program, numerous articles and Facebook posts to promote water quality and quantity

Sauk Rapids Herald Article Excerpt - by staff writer Elizabeth Hoag

Tour of Practices Highlights Feedlots

Projects reduce nutrient runoff, provide additional benefits to operations

Gilman - More than 30 individuals boarded a charter bus Sept. 10 for a tour of Benton County, stopping by seven locations and discussing even more conservation projects. During the tour, the SWCD and NRCS staff members accompanied the public to feedlots they have assisted with this year. Mark and Shelley Czech's farm in Gilman was one stop on the tour.

Photo by Elizabeth Hoag - Mark Czech stands in front of his feedlot Sept. 10 at his farm site in Gilman

"Mark and Shelley are in the process of installing an ag-waste storage system to reduce feedlot runoff and provide storage so they can avoid winter spreading," said Joey LeBlanc, NRCS civil engineering technician. "The project consists of a waste storage pond north of the feedlot and a settling basin in the feedlot." The pond, which is 14 feet deep, 234 feet wide and 398 feet long holds 6.1 million gallons and is concrete lined on the bottom with a 60 mil HDPE liner on the side slopes. The concrete bottom will allow for removal of sand bedding and will provide 14 months of storage. "In the feedlot, a concrete settling basin will collect the runoff so it can be pumped into the storage pond,' LeBlanc said. "The manure pit will allow the farm to hold manure for nine or more months.

"I decided to pursue this route because I saw a benefit,' Czech said. "I want to eliminate run off by injecting it into the soil faster." The project provides Czech with an advantage as he currently hauls manure once a month. After this project, Czech will likely haul twice a year. "I was using this same concept, just on a smaller scale," Czech said. "My dairy farm has two small cement pits right now that I have to empty every couple of weeks. By increasing storage, Czech's operation will allow manure to be incorporated into the soil immediately in both spring and fall. The practice will reduce potential runoff and need for commercial fertilizer, which also reduces the loss of nitrogen into the air, leaving more available to the crop.

"Within this pit, I will have more of a benefit from my manure fertility by not having to use much commercial fertilizer," Czech said. "This project benefits the farm because it will create more of an asset for the future." Feedlots provide additional benefits such as improved water quality, easier manure management and time savings.

Over the last three years, 17 projects have been completed, LeBlanc said. In 2018, projects included four dairy farms, three beef farms and two poultry barns in the Elk River Watershed. "Total funds spend on these projects include $40,234.86 in state funds, $584,468.97 in owner funds and $1,1018573.69 in federal funds," LeBlanc said. "Pollution reductions include 54 pounds per year of phosphorus and 144 pounds per year of nitrogen. "

Within the part few years, Benton County farmers have been receptive to installing feedlot practices because of the benefits they see, but also because of the benefits to the county as a whole, LeBlanc Said. Mayhew Lake, and Little Rock Lake are on the state's impaired waters,' he said. These bodies of water list phosphorus as a major pollutants. " Feedlots contributing runoff to the watershed can be significant phosphorus sources. By Installing and a managing beneficial practices, landowners, farmers and the SWCD are striving to improve water quality. According to LeBlanc,

Manure storage facility under construction

one of the biggest things keeping farmers from moving forward with these projects is the high cost and poor farm economy. "Benton County had four feedlot projects that requested funds in 2019 but did not receive funds. We will try again in 2020."

Sauk Rapids Herald Article Excerpt- by staff writer Natasha Barber

Restoration Complete

Rice River Project Aims to Stop Erosion

Photo by Natasha Barber - Ross Reiffenberger (from left) stands with homeowners Barb and Ron McKeever and Nathan Sanoski

Sauk Rapids - Prior to the conclusion of the six week drawdown of Little Rock Lake, Harris Channel and Sartell Pool, two Rice families completed a project that has been discussed for more than 5 years. "This project wouldn't have been possible if it wasn't for the drawdown," said Nathan Sanoski technician at Benton SWCD. "There is just no way we would have been able to get down along the shoreline with the equipment and have semi-dry feet."

In late August an excavator from Minnesota Native Landscapes could be seen along the Mississippi River shorelines of Ferry Point. The heavy equipment moved 10-12 foot tree trunks and boulders in hopes of restoring a bank which had become an over 20 foot vertical bluff. Property owners Ron and Barb McKeever and Wayne and Joan Schmitz worked with Benton SWCD and the Department of Natural Resources to reestablish 400 feet of shoreline while waters were receded. The project was a shared investment.

"It's going to be a big benefit for not losing any more shoreline and we're hoping to increase fish habitat too," Ron said. "Part of the reason the DNR is helping with the funding is fish habitat and river restoration. Those were the two key elements of the project and we were on board with both."

The winding Mississippi's flow and boat traffic have contributed to the land's base breakdown. "With the wave and the flow, it was taking the sediment and washing the sand away," said engineer Ross Reiffenberger of West Central Technical Service Area. "That would undermine the bank, causing it to sluff down and the slope would keep falling in. There is not a lot of surface erosion that is happening here, it's more of a slope stability problem."

Reiffenberger designed the project which uses a large amount of organic material to stabilize the shore. "We're trying to reestablish the toe of the slope and protect that with toewood and rock combination so the river doesn't keep washing away the sediment and cause the slope to fail even more than it is," Reiffenberger said.

Contractors began by excavating a road to access the river and then worked inward from the furthest point as to not disturb finished areas. They created a so-called bench of land 2 feet above the ordinary water line using tree trunks, rootwads, brush and soil. Native seed, as well as oats, were scattered beneath a coconut fiber erosion control blanket. Willow and dogwood livestakes, trees and shrubs were planted in the bench, and rock vanes were added and extend upstream into the current.

"The rock vanes are essentially going to redirect the flow," Sanoski said, "That way, the current is not eroding the bank. The rock vanes will push the water toward the middle of the river and relieve this bank." In five years, the shoreline should have a different look.

"This should grow up to a lot of vegetation, native plants, trees, shrubs, willows things like that," Reiffenberger said. "Overtime, once those get established, we hope to capture some of the sediment during those high flows. We're looking to establish a flood plain so the stresses on this part of the bank are a lot less because it's spread out so far."

Benton County News Excerpt- by staff writer Evan Michealson

Stormwater Treatment Project Begins in Northeast St. Cloud

Project to Reduce Sediment Entering the Mississippi River

Photo by Evan Michaelson - Noah Czech and Amanda Guertin stand near construction crews at site of sediment project in northeast St. Cloud

St. Cloud - The Mississippi River is the primary drinking water in St. Cloud. However, stormwater carrying sediment and runoff has continuously made it's way through underground pipes and into the river. The city of St. Cloud has teamed up with Benton SWCD, of Foley, to tackle the runoff issue. The city received a $456,500 grant in January from the Board of Water and Soil Resources to install a stormwater treatment system in northeast St. Cloud.

"Northeast St. Cloud is a high priority in the Benton County Water Plan," said Amanda Guertin, water plan technician for Benton SWCD. The system is underground and will be placed on the right-of-way at First Street Southeast and Fourth Avenue Southeast between Wilson Avenue and Riverside Drive. Construction crews began working at the project site in mid-May. The City identified northeast St. Cloud as an area that needed improvement in the 2011 St. Cloud Stormwater Management Plan. Large amounts of sediment and floatables such as trash and other debris were entering the river through an outfall. "Anything that gets in those drains in this part of town is going directly to the Mississippi River," said Noah Czech, stormwater compliance specialist for the city of St. Cloud.

Czech has seen the project grow since he started working at the position 12 years ago. When the city began planning a solution in 2009; they set an end game goal: a reduction of all sediments entering the river by 70% over a 20-year periods. They have kept pace; once this project is completed, the reduction rate is expected to stand at 35%.

The city received it's first grant to improve the stormwater runoff in 2015. The project was straightforward; an underground pond would collect sediment and other hazardous materials that would otherwise find their way in the river. The pond has treated over 21 million gallons of water each year since completion, according to Benton SWCD. Czech believes that initial grant has helped speed up the process. "We've implemented a variety of clean water projects, purchased a new street sweeper and installed some structures in the storm drain system," Czech said. The most recent project is similar to the 2015 plan. A 220-gallon underground pond (about 3 acres in size) will treat 35 acres worth of runoff, giving the sediment a place to settle outside the river. The system's installation coincides with an improvement project in the area. "This is the perfect opportunity for us to regionally treat more stormwater runoff from this area,' Czech said.

While collecting unwanted sediment is the primary focus of the project, the runoff has created several issues that need addressing. Pollutants, specifically phosphorus and nitrogen, are often attached to common trash items such as grass clippings. "Main thing is the sediment, but there's all the other things built in there too, "Guertin said. Despite all of the obvious hazards at play, the project is not widely known. Guertin has participated in several educational events on the project and stresses the importance of education in developing an understanding about stormwater. "I think education is the biggest component,' Guertin said "People learning that if i throw garbage on the street or rake my lawn into the street, it's going to go right into the water I like to use for recreation, watering my lawn, everything."

Twenty-four 12' x 8; concrete box culvert sections staged for installation on 4th Ave SE

"It's all happening underneath your feet, 20 feet below the ground," Czech said. "You don't see a rain garden or a pond. You see trees and sidewalk and streets and curbs and gutters and storm drains." While it will not be visible to the people it affects, the underground system will be vital for water quality, letting the sediments settle in a concrete chamber before releasing the water back in the river, safe and fresh.

FEATURE PROJECT HIGHLIGHT

Minnesota Agriculture Water Quality Certification

Overview of the Program

The Minnesota Agricultural Water Quality Certification Program (MAWQCP) ensures that Minnesota's farms and waters can prosper together. Producers who implement and maintain agricultural best management practices and overall exemplary stewardship receive designation as a Minnesota Water Quality Certified Farm and obtain regulatory certainty for ten years. To date, the program has certified 816 farms totaling 557,000 acres. Benton County has 13 water quality certified farms accounting for 10,148 acres.

Pictured above is Prairie Farm Company & Schlichting Farms of Rice, MN, accepting their MAWQCP certification sign from Benton SWCD

MAWQCP Adding Endorsements to Recognize Outstanding Farmers

The endorsements available to certified producers are for soil health, integrated pest management, and wildlife. In Benton County, the Schlichting Farms and Prairie Farm Company achieved the "*Integrated Pest Management*" endorsement from the Minnesota Agricultural Water Quality Certification Program (MAWQCP) in 2019. *Integrated Pest Management* is a balanced approach to pest management which incorporates Water Quality Best Management Practices (BMPs) for herbicides, insecticides, and fungicides. Together, these practices reduce contamination of water resources, reduce the severity of off-target impacts and guide chemical use while considering the specific needs of farming operations.

Partners Involved

- Schlichting Farms
- Prairie Farm Co.
- Benton SWCD
- MAWQCP Staff
- MN Department of Ag.

Waters Protected

- Little Rock Creek

Project Benefits

- Integrated Pest Mgmt

MAWQCP Staff

Mark Greve, Grant Pearson

A Word from the Agricultural Commissioner

"'"We recognize that many conservation practices targeting water quality also have benefits for other conservation goals, such as wildlife," said Agriculture Commissioner Thom Petersen. "These Ag Water Quality Certification endorsements celebrate the certified producers who are going above and beyond to implement conservation on their farms."

SURFACE WATER MONITORING

Effectiveness Monitoring

The SWCD has been monitoring Little Rock Creek, Bunker Hill Creek and Sucker Creek since 2016 in order to evaluate the effectiveness of best management practice implementation towards achieving water quality goals. A monitoring report completed in 2018 comparing 2016-2018 data to 2006-2008 data indicated that conditions have improved for Little Rock Creek and Bunker Hill Creek. Water quality in these waters are particularly important as they eventually drain into the Mississippi River just upstream of the St. Cloud Drinking Water Treatment Plant which provides drinking water to the 68,000 residents of the City of St. Cloud. While the SWCD has not been monitoring water the Mississippi River, local perspective is that water quality is improving.

"The long term trend over my 39 years at the Sartell Hydro and the former paper mill is that the Mississippi River water seems to be a lot clearer and less turbid than it used to be. The water still has the underlying browning color from the tannins that it always had, but clarity has improved. The Sartell Hydro Project's 12,539 sq. mile watershed is the same as it's always been, so I have to attribute the improved water clarity to be the result of conservation projects such as those completed by the Benton SWCD and others"

Kevin Winkelman - Eagle Creek Renewable Energy Midwestern Regional Manager

Surface Water Assessment Grant

The Minnesota Pollution Control Agency (MPCA) awards Surface Water Assessment Grants to provide funding for local partners to conduct water quality monitoring. The data is used to determine if waters meet state standards for designated uses such as swimming and fishing and identifies waters for protection or restoration in Watershed Restoration and Protection Strategies (WRAPS). The SWCD is working with partners in the Mississippi St. Cloud watershed to monitor 14 lakes and nine stream sites, three of which are located in Benton County including Mayhew Lake, Mayhew Creek and the Elk River. While these waters are still not meeting state standards, 2019 monitoring data for Mayhew Lake provided hopeful results that conditions are improving.

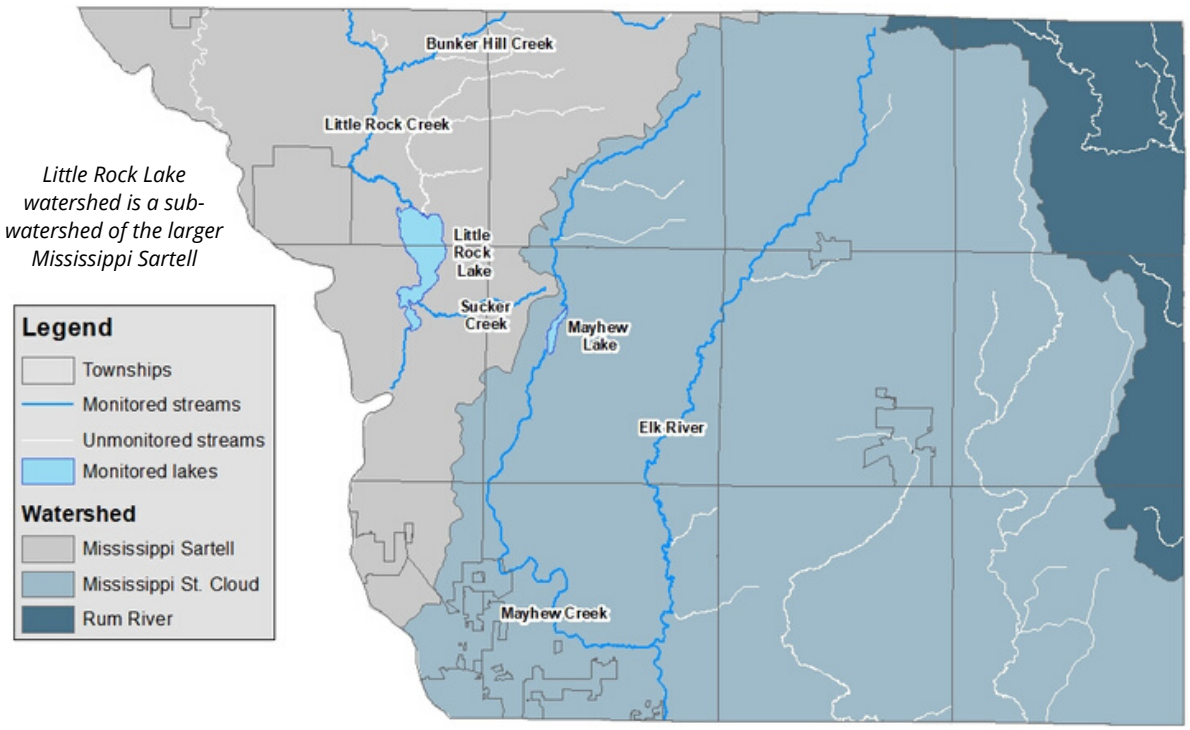
"The algae in Mayhew Lake isn't as prevalent as it used to be. It felt good to go out monitoring with the SWCD this summer and see how the lake is doing and if the data shows that it has gotten better"

Roger Athman - Mayhew Lake resident and former Elk River Watershed Association Board member

A Special Thank You to the Little Rock Lake Association and the Sauk Rapids Sportsmans Club

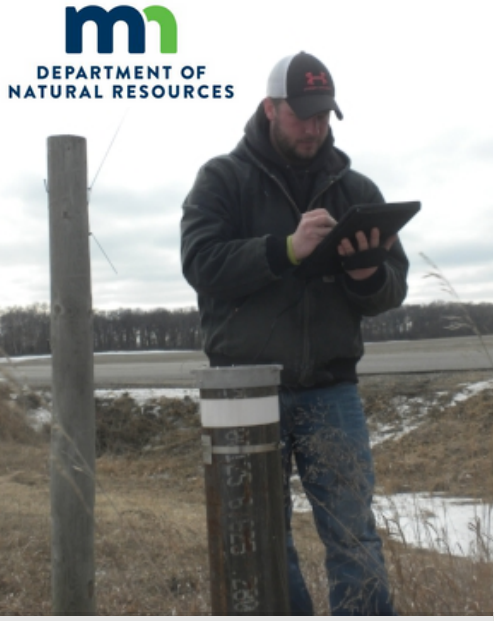
The Little Rock Lake Association has been conducting water quality monitoring on their own since 2012 on Little Rock Lake

In 2019, The Sauk Rapids Sportsmans Club kindly provided the SWCD with donation so that we can continue our water quality monitoring in the Little Rock watershed



Little Rock Lake watershed is a sub-watershed of the larger Mississippi Sartell

DNR OBSERVATION WELLS & CLEAN WATER FUND WELL SEALINGS



Nathan Sanoski downloading data from an observation well in Benton County

DNR Observation Wells

In 2015, Benton SWCD began partnering with the Department of Natural Resources (DNR) in a pilot program to monitor DNR observation wells. The program provides a better understanding of water levels in aquifers in response to climate and groundwater pumping and will assist with planning for water conservation. There are approximately 980 observation wells located throughout Minnesota, including ten in Benton County. The SWCD assists the DNR by manually measuring the distance to groundwater with a tape measure in each of these wells quarterly. Automatic data recorders installed in the wells also allows the SWCD to download time series data to submit to the DNR. In addition to the Benton County wells, the SWCD also monitors 17 wells in Morrison County and 23 wells in Sherburne County.

Well Sealings

Groundwater protection has been a consistent priority in the County Water Plan. Sealing abandoned or unused wells is one way to protect groundwater from contamination as an unsealed or improperly sealed well can act as a drain, allowing surface water runoff, polluted water and improperly disposed of solid or other waste to reach and contaminate groundwater resources. These unused wells also pose a significant safety hazard. Sometimes the exact location of the well is lost through ownership changes or other ways and large diameter wells can be large enough to trap children, adults and animals.

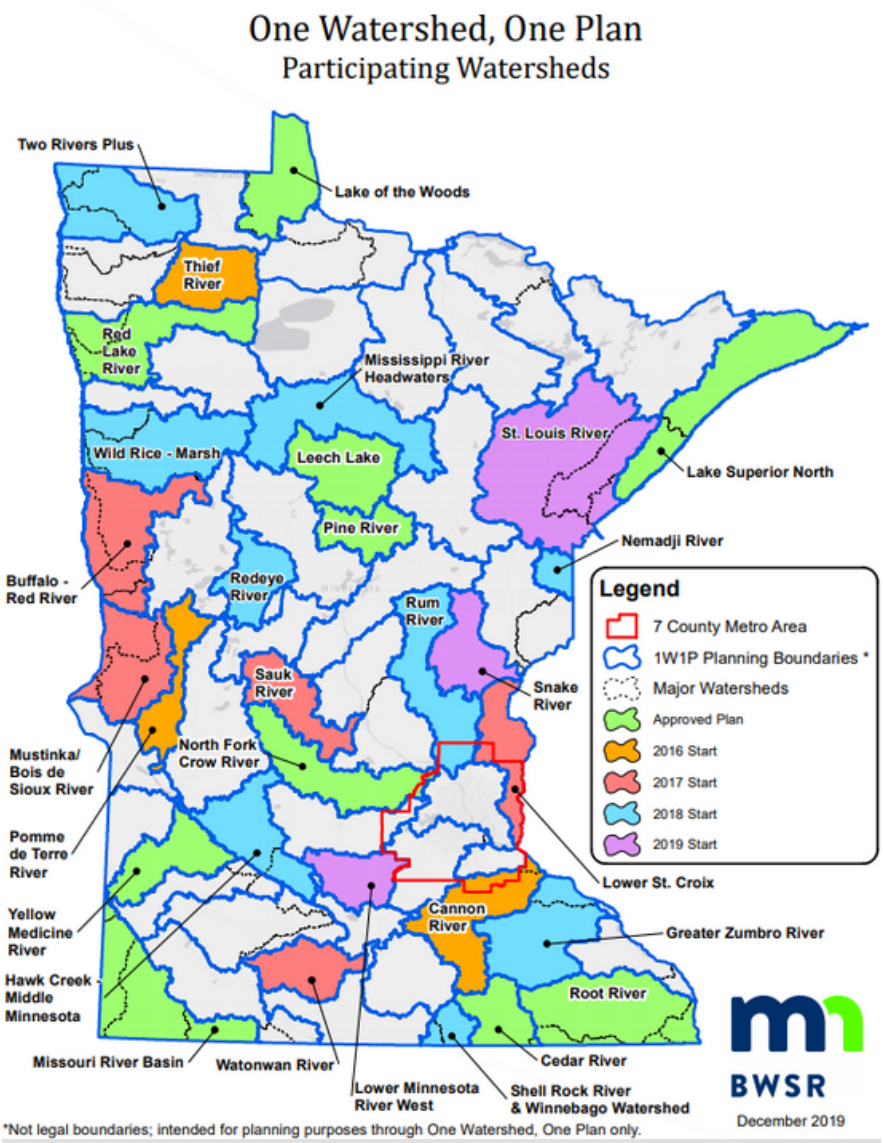
In 2017, the SWCD received a three-year Clean Water Fund grant to seal unused wells in the county. The grant was wrapped up in 2019 after sealing five dug wells, bringing the total number of wells sealed with this grant to 16. The SWCD received another grant in 2019 and sealed an additional two wells with three more scheduled for 2020.

50' deep dug well sealed in 2019

37' deep dug well sealed in 2019

ONE WATERSHED ONE PLAN

The structure of water resource management has started to shift to management based on watershed boundaries rather than county boundaries. The One Watershed One Plan (1W1P) program emphasizes forming stronger partnerships between local governments and upstream and downstream neighbors in order to develop a more prioritized, targeted and measurable implementation plan. These comprehensive watershed management plans address water quality and quantity, groundwater, drinking water, habitat, recreation, and other issues. Once the comprehensive water management plans are completed, each watershed will be provided funding by the state to implement the highest priority projects as decided by watershed partners.



Minnesota was divided into 63 different planning boundaries based on major watersheds. The goal is to have plans started for each planning boundary by the year 2025. Benton County is currently involved with the Rum River Watershed.

Rum River 1W1P

The Rum River Watershed boundary covers 1,013,760 acres of the Upper Mississippi River Basin in central Minnesota, stretching from Mille Lacs Lake in the north to the confluence with the Mississippi River in the city of Anoka.

The Rum River 1W1P planning process began in late 2018. Since then, watershed partners have been meeting approximately once per month to begin discussions on watershed priority concerns and priority areas. The plan is scheduled to be completed in early 2021.

One Watershed One Plan

Farming for the Future

Burggraffs named 2019 Benton County Outstanding Conservation Cooperators

Photo by Danna Sabolik - The Burggraff family - Issac (clockwise, from center, 5, Katherine, 3, Bridget, 7, Jennifer, Ryan holding Hannah, 1, and Vanessa, 9 stand in a field

Royalton - The Burggraffs' farm has been in their family for four generations. Since 1898, the farm has accommodated a variety of lifestyles, livestock and crops. While the values of the family farm have remained, changes have taken place. Ryan and Jennifer Burggraff, are being recognized for their efforts to continually improve the land they steward in rural Royalton by being named the 2019 Benton County Outstanding Conservation Cooperators by the Benton County SWCD.

Ryan purchased the farm on the banks of the Mississippi River in 2005 from his grandfather, Raymond Burggraff. In 2006, he began working with the county to establish sound conservation practices regarding soil and water to benefit both his farm and the land and water around it. Today, the farm consists of 169 acres with a mixture of wooded pasture land, meadow and crops, including corn, hay and edible kidney bean, and 27 cow-calf pairs of beef cattle.

Ryan and Jennifer were married in 2009 and put up the first of two chicken barns in 2012. Operations were going well, so the couple decided to add another barn in 2016. At the same time, Burggraffs worked with the county and incentive programs to prevent potential water quality and conservation issues and mitigate existing ones. With the increase in animal units on their farm – and being on sandy soils which are more susceptible to leaching nutrients – manure storage and the possibility of runoff were at the forefront of their concerns. "[The county] asked us if we were interested in putting in a stack slab," Ryan said. "We considered it for a couple years but decided to do it for the chicken barns, and around the same time we had some issues with drainage in our cow yard and calves getting stuck in the mud in the spring, so we re-worked the slope of that and added a stack slab there, too, at the same time." By 2017, two functioning chicken barns, an animal mortality compost facility, two manure stack slabs with scrap lanes, a re-worked slope in the feedlot and a vegetative filter strip were complete. Additionally, rain gutters were installed on a pole barn in their feedlot, and berms were built to help separate clean water from dirty water, diverting the dirty water through the filter strip. In addition to their livestock efforts, the Burggraffs have invested in their crop production through cover crops and organic certification. "We sold our first organic crop in 2017, and our land will be fully certified this year," Jennifer said. "All crops raised on this farm will be able to be sold certified organic." Making the switch to organic crops was not a difficult decision for the Burggraffs, and much of their management remained the same. "We hadn't sprayed in 25 years," Ryan said. "When Grandpa found out he had to go to town to get a license, he just didn't bother." They use chicken litter from the chicken barns as a natural fertilizer. "[Going organic] was a good fit for our farm and a good fit for us," Jennifer said.

Their location on the Mississippi is another reason to be mindful of the runoff and water conservation. "We pump water from the river to irrigate our crops," Ryan said. "Last year was the first year we did that, but it worked out nicely." For soil conservation, the Burggraffs focused on cover crops. "Cover crops are huge in organic," Jennifer said. "They play a huge role in weed control by keeping weeds down between crops. When we till them under they add green matter to the soil. [Cover crops are] one of those things where you don't ease into; you jump into it."

Two years ago, the Burggraffs were also recognized for their efforts by being named a Minnesota Water Quality Certified Farm through the Minnesota Department of Agriculture, similar to their conservation efforts now. "We didn't set out with this in mind, but we knew they weren't hard practices to implement and it made sense to do them," Jennifer said. The couple is proud to represent good stewardship in their county. "I look at it as an honor," Ryan said. "We definitely weren't expecting it. We're just small farmers trying to do the right thing with what we have and what's accessible to us." Jennifer agreed. "It's cool to be recognized for the efforts we've been working on, and there's a lot of other people doing good, too, so it's neat they noticed us and the efforts we've invested in the farm," she said. "We set out to improve our small part but it's making a difference in a much bigger picture."

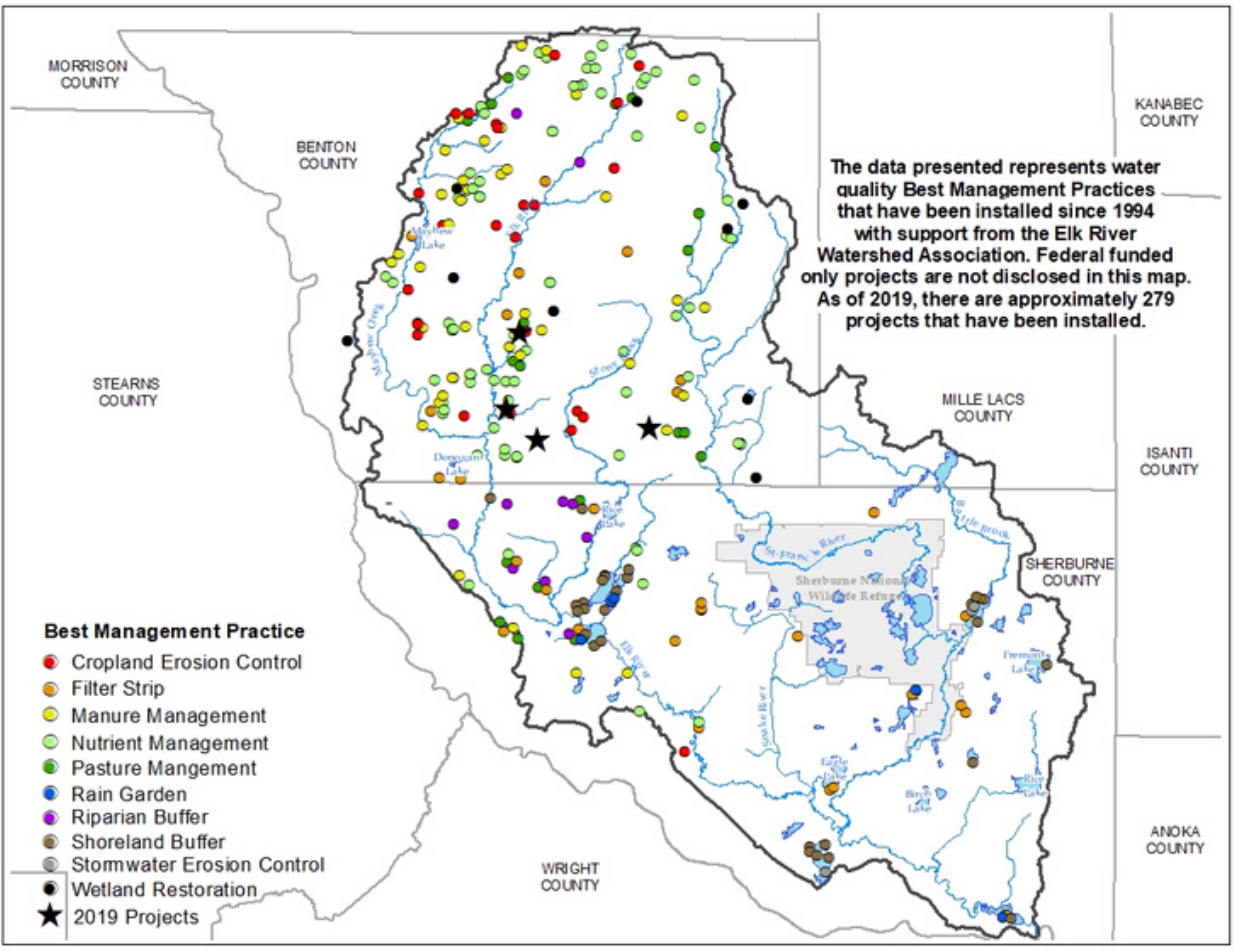
ELK RIVER WATERSHED ASSOCIATION

2019 marked the 25th and final anniversary of the The Elk River Watershed Association (ERWA), a joint powers board of Benton and Sherburne Counties and Soil and Water Conservation Districts. Throughout the years, the ERWA has made significant strides towards improving and protecting natural resources in the watershed by providing resources to work with landowners, whether urban, rural, lake shore, or industrial to reduce non-point sources of pollution within the watershed and protect natural resources from all sides of the spectrum.

Since the Association began, approximately 279 projects have been installed with the support from the Elk River Watershed Association, as well as from state cost-share, the landowner, and federal program funds. To summarize the accomplishments of this Association, one final map was created to show all the projects that have been installed since the Association began in 1994. Even though the Association dissolved at the end of 2019, Benton SWCD plans to continue work in this high priority watershed.

The following few pages highlight some of the work done in this watershed in 2019.

Elk River Watershed Best Management Practices



Annual Pollution Reduction Estimates

Total Suspended Solids
1,166 tons

Soil Loss Prevented
2,016 tons

Phosphorus
1,417 pounds

Nitrogen
3,262 pounds

Bacteria
3.73E+15 CFU

The reductions estimated above include projects installed after 2015

Elk River Watershed Association

Improving Elk River Watershed Trends

Grant funds allow Benton SWCD, Landowners to Collaborate

Photo by Ann Wessel - Brandon Rehnke stands on his beef operation June 19 in Mayhew Lake Township

Mayhew Lake Township - Brandon Rehnke started his beef operation with three Jersey calves and earnings from three off-the-farm jobs. Five years later, he is improving his Benton County feedlot and pasture with assistance from the United States Department of Agriculture (MDA) Natural Resources Conservation Service (NRCS). Clean Water Funds from the Minnesota Board of Water and Soil Resources (BWSR) allowed Benton SWCD staff to design, install and certify the project. It it part of a two-county, $1.9 million effort to improve water quality in the Elk River Watershed by reducing how much phosphorus enters Mayhew Lake in Benton County and Big Elk Lake in Sherburne County. Phosphorus feeds algae that turns lakes green. Landowners working with the SWCD have installed 36 best management practices since 2016, drawing from two Clean Water Fund grants totaling $500,000. NRCS Environmental Quality Incentives Program dollars allowed staff to leverage grant funds. Landowners contributions generally 25% of project costs - and MDA dollars rounded out the balance. contributions - generally 25% of project costs - and MDA dollars rounded out the balance.

Water quality monitoring results are starting to show improving trends. Projects tied to the most recent grants built upon work of the Elk River Watershed Association. Kelly Molitor spent two years completing environmental assessments and outreach in Benton and Sherburne counties for the Association. The position was funded in part of a third, $182,500 Clean Water Fund Grant from BWSR. The watershed contains a bacteria-impaired stretch within the Elk River and nutrient impairments on Big Elk Lake and Lake Orono. Clean Water Fund projects benefiting Mayhew and Big Elk Lakes also benefit downstream waters - including a stretch of turbidity impaired river south of Big Elk Lake. 'We haven't reached clean-water goals in some of these water bodies, but we're getting closer," said Dan Cibulka, Sherburne SWCD water resource specialist. "I think there's a lot of great work being done with the agricultural community. There's a lot of great work being done with our urban and suburban (community).... When we're talking about water quality, what we're really talking about is land management and how that affects water quality."

Elk River monitoring data hinted at a decreasing trend in bacteria levels based on the percentage of samples exceeding state standards. May-through-September an annual averages date from 2012 through 2018. Minnesota Pollution Control Agency Staff (MPCA) received preliminary 2019 data Nov. 1. Those results will be finalized sometime in 2020 after MPCA and SWCD staff discuss results. Data showed trends of improved phosphorus and chlorophyll-a levels from 2006-18 in Lake Orono. Lake Orono's chlorophyll-a levels have met the state standard each year since 2014. The rest did not meet state standards. Chlorophyll-a indicates the presence of algae. Both lakes showed improving water clarity trends from 2010-12, Lake Orono has met the state shallow-lake standard of 1-meter clarity. "The data that we have are showing we're moving the needle in the right direction," Cibulka said. "Hopefully we can continue to identify areas that are in need of conservation work, and then work with landowers to put those conservation practices in the ground." Benton County-based NRCS district conservationist Pat Gehling said Benton County traditionally has been among the state's top livestock producers, and poultry barns boosted that number. In Sherburne County, land use is a bigger mix of agriculture, lakeshore homes, hobby farms and suburban developments. "Animal production is pretty prevalent within the Elk River Watershed," Gehling said. "Livestock numbers on a per-square-mile basis are generally higher than other parts of the state. Dairy is transitioning out a little big, but a lot of beef has come in it's place."

Rehnke converted the dairy barn on his 13-acre home site into a calf barn with room for about 80 Holstein feeder calves. Using the existing setup for beef cattle would have been convenient. The barn opens onto a pasture with a

Continued on the next page

creek at the bottom of the hill. Bit, it did not meet MPCA setback requirements and posed a few challenges. "Everything I was doing was operation on a hill," Rehnke said " (Now) I'm on flat, level ground. The feed's closer and it's easier to feed." Driving across the rough pasture was tough on the skid loader. Navigating the hill could be challenging - especially in the winter. "You're sitting on a hill that's icy and the cows all see the feed so they're charging the gate," Rehnke said. Now cow-calf pairs occupy a hard-surface feedlot design to contain and filter runoff. The $240,000 in improvements also included a concrete scraping lane leading to a 50-by-80-foot roofed stacking slab with 4-foot walls and six months' storage space. Runoff enters a sediment control basin. Some evaporates. The rest filters through a series of grassed and gravel strips before entering a grassed waterway. "It allows for some expansion," Rehnke said. "It keeps me in compliance for years to come. I can grow. it helps significantly with growth."

His status as a beginning farmer qualified Rehnke, 30, for a slightly higher rate of EQIP assistance. "It's a challenging time," he said. "I think (for) a lot of our beginning farmers it's probably not their primary income. A lot of times that's how they get started. It's a secondary job, or they have a secondary job. Farming is not an easy business to get into." Rehnke did not grow up on a farm, but he grew up working on neighbors' farms. He still works full-time for the Minnesota Department of Transportation, and operates St. Cloud Spray Foam and Central Minnesota Ag Services, a mobile repair business.

As he builds his herd this winter, Rehnke is seeking rental pasture land. By early December, he had lined up two sites totaling 70 acres. On his own 10-acre pasture, the new seeding flourished. But a wet fall delayed work. Rehnke plans to finish fencing that will allow rotational grazing and keep the cattle out of the unnamed Elk River tributary in 2020. Clean Water Funds and NRCS assistance have allowed producers to cut some of the risk associated with practices such as rotational grazing or cover crops.

Benton County Commissioner Ed Popp serves on the Elk River Watershed Association board and farms near Rice. He recalled how farmers' thinking has changed over the decades. "We were in the go-go '70s and '80s where you plowed up everything, and irrigation game in, and you wanted every inch of cropland you could get," Popp said. " "Fertilizer was cheap, and commodity prices were relatively where they've been for the last four years. So, it was just do all of the acres you could do and put on all of the nitrogen you want." That is no longer the case. Input costs increased. Commodity prices remained low."The cost-sharing at 75% is a big thing, because otherwise landowners just can't afford to move forward." Molitor said. Gehling elaborated on how the NRCS and SWCD partnership has helped farmers. "EQIP tends to be fairly stable funding and we can typically get financial assistance," he said. "But quite of ten the amount of cost-share is fairly low." NRCS might fund 40% of an erosion project, for example. "It's been a great opportunity for the Elk River Watershed to come in with some supplemental funds to piggy back with our EQIP funds so that it makes the projects affordable for the farmers," Gehling said. "That's been the key in getting a log of things done."

Photo by Ann Wessel (BWSR) - Landowner Brandon Rehnke, right, talks with Benton SWCD watershed technician Kelly Molitor, left, and Benton County Commissioner Ed Popp in June 2019 about the conservation practices he's implemented

Watershed

The 613-square-mile Elk River Watershed spans Benton and Sherburne Counties, and includes bits of Morrison and Mille Lacs counties. The Briggs Lake Chain - Big Elk, Julie, Rush, and Briggs lakes - lies within the watershed. The Elk River joins the Mississippi River in the city of Elk River

Elk River Watershed Association (ERWA)

The joint powers board is composed of both counties and their SWCD's. Its primary focus has been reducing non-point pollution sources

Funds

$500,000 in 2019 and 2017 Clean Water Fund grants. As of mid-December: $1,492,904 in USDA NRCS assistance, $337,792 in landowner match, $26,560 in non-matching MDA funds (including $4,560 from the MN Agricultural Water Quality Certification Program).

Projects

As of mid-December, 36 projects had been completed through two Clean Water Fund Grants targeting phosphorus reduction in Mayhew and Big Elk Lakes. They include 14 erosion control projects, 14 cover crops, four feedlot projects, two test plots, one wetland restoration and one stream crossing.

Annual Pollution Reduction Estimates

About 1,165 tons of total suspended solids, 2,015 tons of soil loss prevented, 1,446 pounds of phosphorus and 3,633 pounds of nitrogen

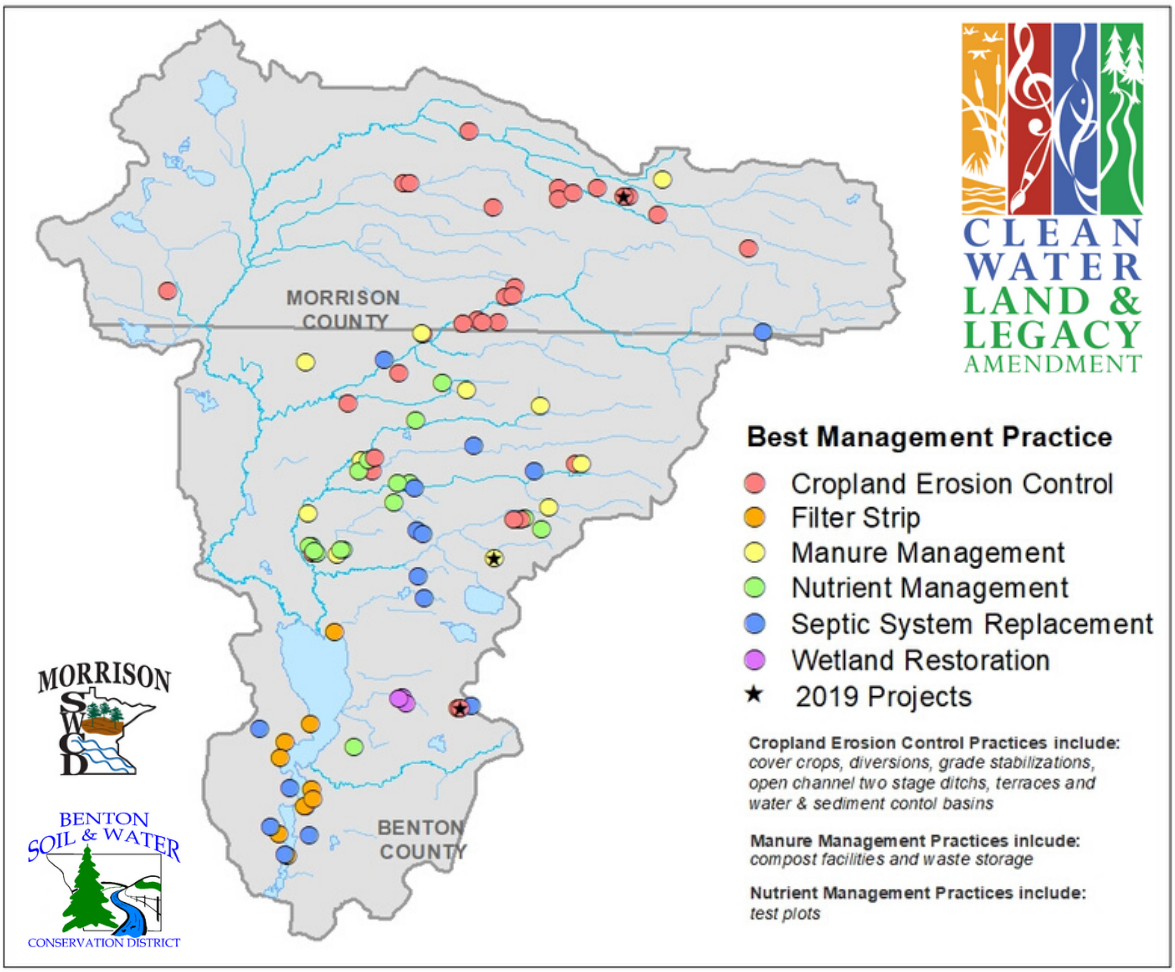
CLEAN WATER LAND & LEGACY AMENDMENT

LITTLE ROCK WATERSHED

In 2012, the Little Rock Lake Total Maximum Daily Load (TMDL) study and Implementation Plan were completed. The severe water quality results in the study spurred more conservation efforts by Benton and Morrison SWCDs as well as the Minnesota Board of Water and Soil Resources (BWSR). Since the TMDL was completed, there have been a total of 89 projects completed in this watershed including three which were installed in 2019. The projects were implemented using cost-share funds provided by the Minnesota Clean Water Land and Legacy Amendment, the landowner, Little Rock Lake Association, and federal program funds. These conservation efforts have had substantial effects on pollution reductions in the Little Rock Lake watershed with significant reductions in suspended solids, sediment, phosphorus, nitrogen and fecal coliform.

The following few pages highlight some of the work done in this watershed in 2019.

Little Rock Watershed Best Management Practices



Annual Pollution Reduction Estimates

Total Suspended Solids
1,950 tons

Soil Loss Prevented
1,963 tons

Phosphorus
4,546 pounds

Nitrogen
13,591 pounds

Bacteria
1.11E+15 CFU

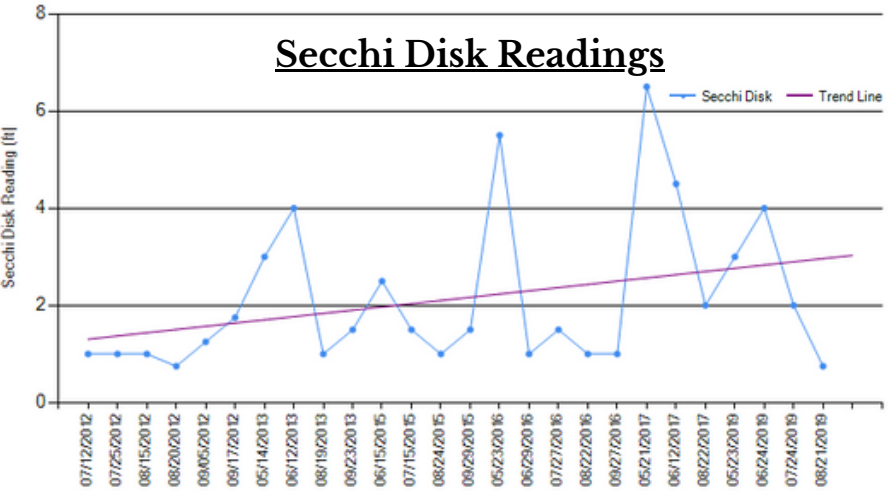
LITTLE ROCK LAKE MONITORING

The Little Rock Lake Association has been monitoring water quality of Little Rock Lake since 2012. Secchi depth water clarity measurements and water chemistry samples for total phosphorus and Chlorophyll-a are taken monthly at three different sites. The data provided by these eight years of monitoring is indicating that the best management practices showcased on the previous page are leading to positive water quality impacts in Little Rock Lake. While no significant trend exists for chlorphyll-a, the data shows that total phosphorus, secchi depth, and trophic state index are all improving with either 80% or 90% confidence.

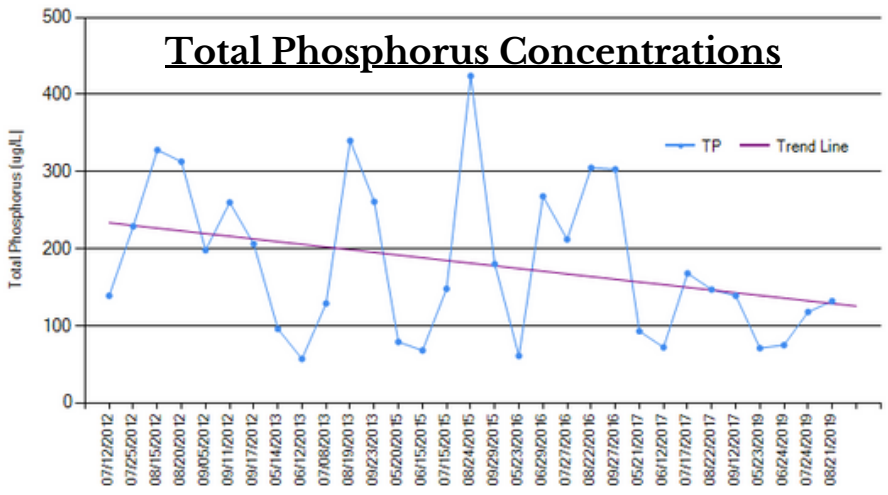
"Over the last 5 or 6 years, we have been seeing noticeable improvement in the lake due to projects being installed throughout the watershed. The Little Rock Lake drawdown project will give the lake the final flip it needs to keep itself healthy. We are looking forward to seeing what water clarity will be in August"

-Kellie Gallagher - Little Rock Lake Association President

Secchi Disk Readings



Total Phosphorus Concentrations



Parameters	*Site 204*	*Site 205*	*Site 212*
Secchi Depth Mean:	*2.1*	*2.2*	*1.9*
Secchi Depth Min:	*0.8*	*0.8*	*0.5*
Secchi Depth Max:	*6.5*	*7.5*	*6.5*

Secchi depth is increasing, which indicates improving water quality (80% confidence)

Total Phosphorus Mean:	*181.3*	*175.6*	*186.1*
Total Phosphorus Min:	*57*	*49*	*51*
Total Phosphorus Max:	*424*	*398*	*390*

Total Phosphorus is decreasing, which indicates improving water quality (90% confidence)

All graphs and statistical data obtained from RMB Lakes Database

RMB Environmental Laboratories, Inc.

FEATURE PROJECT HIGHLIGHT
Little Rock Lake Drawdown

Project Background

Benton and Morrison SWCD's have been working with landowners for over 10 years to implement best management practices to reduce runoff in the watershed. While these projects produced positive results, Little Lock Lake was still experiencing significant algae blooms. Pollution reduction estimates from projects indicated the second phase of TMDL imlementation should be initiated.

Photo credit to Thul photography - Little Rock Lake a few days after the drawdown began

Project Overview

Little Rock Lake water levels have been artificially maintained for over 100 years
The lack of water fluctuation limits plant growth which allows algae to fill that void. Creating an artificial "drought" spurs plant growth that will utilize available phosphorus in the lake bed, providing shoreline stability and habitat.

On August 1 - September 15 2019, approximately 500 acres of shoreline became exposed on Little Rock Lake and the Mississippi River when water levels were lowered by three feet. To provide additional benefits, $40,000 worth of native emergent plants were purchased and planted in the lake by volunteers in front of willing riparian landowners properties, at the public boat launches at Benton Beach and St. Regis Park and at the rock pile in Little Rock Lake.

One of six loads of plants from MN Native Landscapes that were planted during the drawdown

Partners Involved
- Little Rock Lake Association
- Eagle Creek Renewable Energy
- MN DNR
- BWSR
- Benton SWCD

Waters Protected
- Little Rock Lake
- Mississippi River

Project Benefits
- Shoreline stability
- Decreased erosion
- Improved water clarity
- Decreased phosphorus
- Improved fish/wildlife habitat

Project Funding
- 198,250 in Clean Water Funds
- $96,750 in matching funds
  - Lake Association - $66,750
  - Eagle Creek Energy - $30,000
- $171,000 in non-matching funds provided by the MN DNR

EAGLE CREEK RENEWABLE ENERGY – EXCELLENCE IN HYDRO –
DEPARTMENT OF NATURAL RESOURCES
Little Rock Lake Association
BOARD OF WATER AND SOIL RESOURCES
CLEAN WATER LAND & LEGACY AMENDMENT

FEATURE PROJECT HIGHLIGHT
Little Rock Lake Drawdown

Native plants planted at the Benton Beach boat launch

Erosion Control Projects

The drawdown also allowed the opportunity to protect 400 feet of shoreline on the Mississippi River by installing two high priority erosion control projects. These project sites had 30-foot-high nearly vertical banks that were experiencing severe erosion.

See page 12 for more details on these projects

Watershed Clean Up

The drawdown also allowed for the opportunity to preform a watershed clean up. Volunteers as well as Little Rock Lake and Mississippi River residents worked together to remove garbage and other debris from the lake and river. Many cans, tires, and sunglasses were found as well as some larger items such as a snowmobile and a headstone.

Post Drawdown

Conclusive results on the successfulness of the drawdown will not be known until at least August 2020 and throughout the following years as plant growth prospers and continues to utilize in-lake nutrients. However, the exchange of water as the lake was re-filled increased water clarity to five feet compared to the few inches previously. Little Rock Lake Association will continue to monitoring water quality on the lake so we can compare pre and post drawdown data.

Trays of native plants layed out at Benton Beach ready to be planted

Partnership Between Public and Private Entities

This project could not have been completed without the partnership of Eagle Creek Renewable Energy, operators of the Sartell Hydroelectric Dam where the drawdown water levels were controlled. There was an economic impact for Eagle Creek Energy to shut down the dam in terms of lost production capacity so a large portion of the grant funding was to compensate Eagle Creek.

Kevin Winkelman - Eagle Creek Renewable Energy Midwestern Regional Manager at the Sartell Dam during the Benton SWCD 2019 Tour of Practices discussing the drawdown

Sauk Rapids Herald Article Excerpt- by staff writer Elizabeth Hoag

Benton SWCD Recieved 2019 MASWCD Award

District Recognized for Little Rock Lake Drawdown

FOLEY – The Benton Soil and Water Conservation District recently received the 2019 DNR Division of Ecological and Water Resources Appreciation Award Dec. 9 at the 2019 Minnesota Association of Soil and Water Conservation Districts annual convention in Bloomington. The award honored the district for implementing innovative conservation activities, demonstrating leadership and achieving significant results in the protection of Minnesota's land and water resources. Benton SWCD's efforts involved the drawdown of Little Rock Lake, Harris Channel and Sartell Pool of the Mississippi River as well as irrigation management and watershed planning to reduce runoff and improve water quality. The district worked with the MN Agricultural Water Quality Certification Program. After working with the Minnesota DNR, Eagle Creek Renewable Energy, and the Little Rock Lake Association for two years, Benton County SWCD obtained a permit to conduct the drawdown, which took place from Aug. 1 to Sept. 15, 2019. "This was a huge project with a lot of moving pieces that could not have been completed without the dedication and efforts of all our partners," said Amanda Guertin, Benton SWCD water plan technician.

Due to a blue-green algae bloom, in 2007 Little Rock Lake was added to the Minnesota Pollution Control Agency's list of impaired waters. The drawdown process entailed flushing water, settling sediment and establishing plant life to consume nutrients in the lake. As part of the SWCD's watershed planning efforts there were 29 projects implemented in the Little Rock Lake watershed over a four year period and an additional 28 projects completed within two years in Mayhew Creek and Big Lake watersheds. "The combined projects resulted in a total reduction of 8,825 lbs of nitrogen; 2,911 tons of total suspended solids; 3,753 tons of soil, and 4,329 pounds of phosphorus, the equivalent of over 2.1 million pounds of algae," said Nicola Blake-Bradley, Area Hydrologist for the DNR.

During the drawdown, Benton SWCD staff, along with area lake residents and Boy Scout troops, assisted with planting 46,000 plant plugs in several locations of the basin to re-establish native vegetation that had originally been present in Little Rock Lake. "Complete water quality improvement results will not be known until the summer of 2020," Blake-Bradley said. "But initial water quality changes for secchi disk readings went from less than a half foot of clarity to five feet of clarity upon re-flooding."

Throughout this project, the Benton SWCD staff has worked with 17 landowners, certifying 11 farms in the MN Agricultural Water Quality Certification Program with a total of 8,637 acres enrolled in the program to help conserve soil and water resources. By working with the landowners in the Little Rock Lake watershed, the SWCDs of Benton and Morrison counties have reduced the amount of external nutrient loading from 660 parts per million to 124 parts per million.

With the combined effort from federal, state and local levels, the district has seen positive outcomes from the drawdown because of the reestablished plant life and steps made to stabilize shorelines. "The district is looking forward to seeing the effects the Little Rock Lake drawodwn has on water quality over the next couple years as native vegetation increases and more best management practices are implemented throughout the watershed," Guertin said.

Stakeholders in the Little Rock Lake Drawdown project - Mary Kivi, Wade Bastian, Amanda Guertin, Gerry Maciej and Kellie Gallagher; (back, from left) Nicola Blake-Bradley, Chuck Rau, Kevin Winkleman, Eric Altena and Maureen Graber - gather around the 2019 DNR Division of Ecological and Water Resources Appreciation Award Dec. 18 at the Benton Soil and Water Conservation District in Foley. The group is a mixture of representatives from Benton SWCD, Little Rock Lake Association, Eagle Creek Renewable Energy and the Department of Natural Resources

EDUCATION AND OUTREACH

In recent years, Benton SWCD has made a conscious effort to increase our education and outreach to the community. In 2019, we created an Education and Outreach plan to direct our efforts. The Plan will ensure our efforts are reaching a wide ranged audience including students, County residents, cities and townships, and agencies and other watershed partners as well as ensuring we are continuing our efforts consistently throughout the year. One of our newest efforts is to regularly submit feature project articles to our local newspapers to provide recognition to our project partners as well as enlighten the community on conservation. A few of these articles have been featured throughout this report.

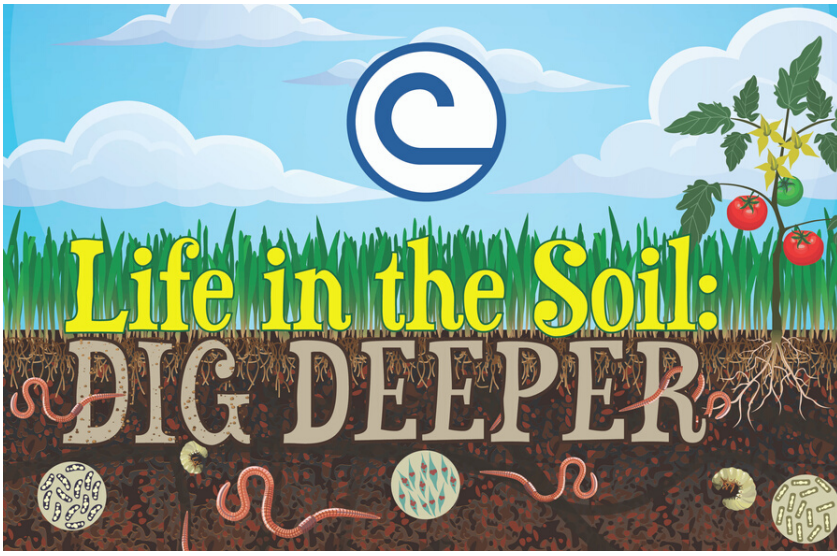
In 2019, a majority of our funding for local capacity services were dedicated to creating our Education and Outreach Plan as well as coordinating various outreach and public education activities. The SWCD participated in over 26 different education and outreach activities.

2019 Education Outreach Highlights

- Poster, mural, essay, coloring contests
- Frozen Fest
- Water Fest
- Minnesota State Envirothon
- Nitrate testing clinic
- Pharmaceutical collection
- Water quality presentation for St. Cloud State nursing students
- SWCD Tour of Practices
- NE St. Cloud Lunch and Learn
- Water is Life winter workshop
- Newspaper feature project articles
- Project timelapse videos
- Soil and water stewardship
- Farm Friends Barn
- Conservation Tillage Conference scholarships
- Weekly Facebook posts

CONSERVATION CONTESTS

Every spring the SWCD sponsors a variety of conservation contests that students in the County can participate in. There is a a conservation coloring contest for kindergarten through fourth grade, and fifth and sixth grade can get involved with the poster, mural, and essay contests. The 2019 theme was Life in the Soil: Dig Deeper.



1st - 2nd Grade Coloring Contest 1st place winner: (l to r) Nathan Sanoski, Benton SWCD, Madelynn Brown, Mrs. Wellinski and Benton SWCD Supervisor Jake Scherer

Pleasantview: (l to r) Nathan Sanoski, Benton SWCD, 1st place essay winner Savanah Kuhn and Benton SWCD Supervisor Jake Scherer

St. Johns: (l to r) SWCD Supervisor Jake Scherer, 1st place mural winners Kaylee Dahler, Addison Dahler, Classroom Teacher winner Mrs. Ratz, Classroom essay winner Luke Sobania and Nathan Sanoski, Benton SWCD

Mississippi Heights: (l to r) Nathan Sanoski, Benton SWCD, 1st place poster winner Hayden Reinert, classroom essay winner Megan Anderson, 3rd place / classroom essay winner Dakerei Rodeski, classroom essay winner Alex Roering, SWCD supervisor Jake Scherer and Classroom Teacher winner Mrs. Hennes

2019 Highlights

This year we received a total of 1,035 entries between all of the contests and issued a total of $1,560 worth of prize money to the winning students and teachers.

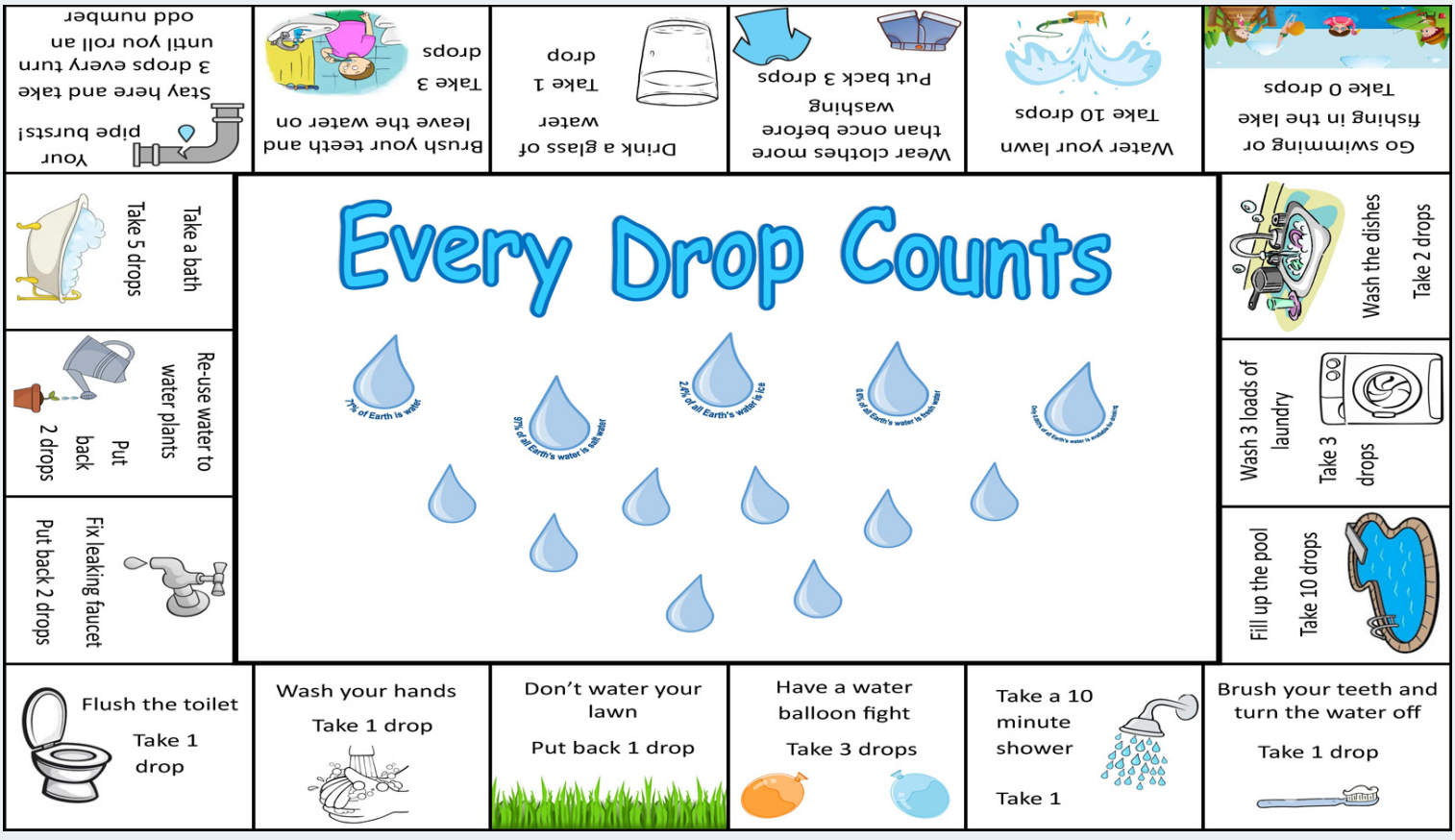
- 502 coloring sheets
- 439 posters
- 53 murals
- 41 essays

Area 2 3rd place winners Addison and Kaylee Dahler holding their winning mural

OTHER EDUCATION OUTREACH ACTIVITIES

Joe Bastian running a 4 day nitrate clinic at various locations in the county

In 2018, Northern Metal purchased land and donated the onsite barn to Farm Friends Barn. In 2019, the barn was moved to its permanent site in Becker. Farm Friends Barn will utilize the barn to show past farm life and plans to build a new barn to show present farm life.



The SWCD has attended the Sauk River Watershed Districts WaterFests for the past couple years. The event teaches 4th graders about various water related topics. In 2019, Benton SWCD developed a board game called "Every Drop Counts" to teach the students about the importance of water conservation

SUMMARY OF GOALS

County Water Management Plans and One Watershed One Plans (pg. 11 & 18) give local government units the opportunity to work with other agencies, local interest groups and citizens to identify existing and potential opportunities for the protection, management and development of water and land resources. Objectives are then determined in order to reach resource conservation goals. Benton County's goals are identified in the County Water Management Plan section of this report. This page also summarizes our 2019 accomplishments towards our goals.

Little Rock Lake Watershed

Improve Little Rock Lake water quality from a hypereutrophic state (excessive algae blooms) to a eutrophic state (some algae present) with an interim phosphorus reduction goal of 5,375 pounds (35%). Projects implemented in Benton and Morrison Counties has resulted in an estimated phosphorus reduction of 4,546 pounds of phosphorus. Nearing our interim goal, we began initiating in-lake water quality strategies in 2019.

- Mississippi River Erosion Control Project (pg. 13)
- Watershed Projects Summary (pg. 23)
- Little Rock Lake Monitoring (pg. 24)
- Little Rock Watershed Monitoring (pg. 16)
- Little Rock Lake Drawdown (pg. 25-26)
- 2019 MASWCD Award (pg. 27)

Elk River Watershed

Reduce nutrient loads by implementing projects in the watershed, especially riparian areas. Nearly 300 projects implemented in Benton and Sherburne Counties have resulted in improving phosphorus, chlorophyll-a and clarity trends downstream in Sherburne County Lakes.

- Feedlot project (pg. 12)
- Surface water monitoring within the watershed (pg. 16)
- Elk River Watershed Association and Projects Summary (pg. 20)
- Improving Elk River Watershed Trends (pg. 21-22)

Groundwater

Maintain quality and quantity as measured by quantity of protection efforts (pg. 11)

- MN Agricultural Water Quality Certification Program (pg. 15)
- Well Sealing (pg. 17)
- Nitrate Clinic
- Irrigation Water Management
- Septic System Replacement

HOW WE ARE REACHING THESE GOALS

There are two main ways Benton SWCD works to reach our goals. One is through education and outreach with students, County residents, cities and townships, and agencies and other watershed partners. The SWCD has been working to increase our outreach efforts over the past few years and in 2019 we developed an Education an Outreach Plan to guide our efforts. This Annual Report is just one avenue of our education and outreach efforts. See pages 28-30 for more details about our education and outreach efforts.

The second way we work to reach our conservation goals is by working with landowners to implement best management practices (pg. 8). Throughout this report are examples of these projects. It is also important to note that a big component of project implementation is education and outreach. Funding to implement projects comes primarily through leveraging federal dollars, state cost share and landowner contribution (pg. 6-7).