

Fillmore Soil and Water Conservation District Annual Report



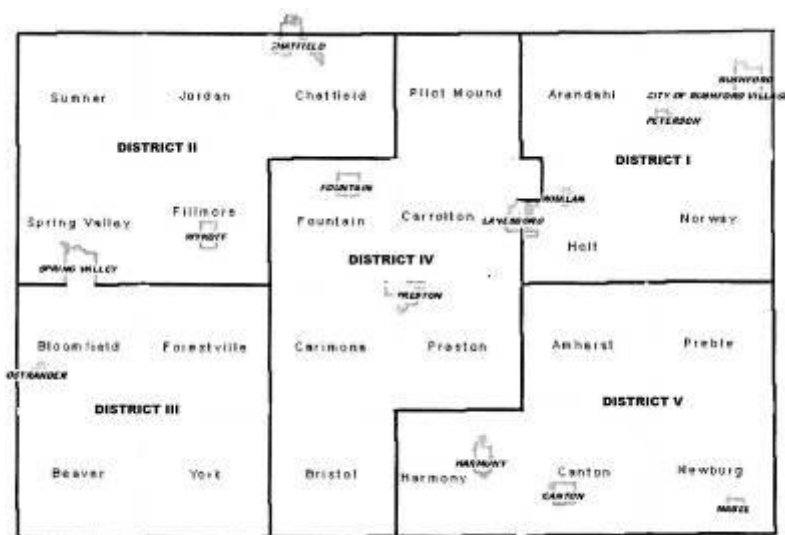
2015

Personnel Resources



Board of Supervisors

L to R: Leonard Leutink, Jr., Secretary; Travis Willford, Supervisor; Brian Hazel, Chair; Tim Gossman, Vice Chair; Pam Mensink, Treasurer



Board Meetings are held the Thursday after the second Monday of each month at 4:30 p.m. at the SWCD office.

District I – Brian Hazel
District II – Tim Gossman
District III – Leonard Leutink
District IV – Pamela Mensink
District V – Travis Willford

District I – Arendahl, Rushford Village, Norway and Holt townships plus the City of Lanesboro
District II – Sumner, Jordan, Spring Valley (excluding the City of Spring Valley), and Chatfield Townships

District III – Fillmore, Bloomfield, Forestville, Beaver and York townships

District IV – Pilot Mound, Fountain, Carleton (excluding the City of Lanesboro), Carimona, Preston, and Bristol townships

District V – Amherst, Preble, Harmony, Canton and Newburg townships

Soil and Water Conservation District Staff

Donna Rasmussen	District Administrator
Rick Grooters	Resource Conservation Technician
Doug Keene	Resource Conservation Technician
Anne Koliha	Engineering Technician
Jeanette Serfling	Administrative Assistant
Dean Thomas	Area Soil Health Technician
Jennifer Ronnenberg	Water Management Coordinator
Caleb Fischer	Conservation Technician
John Boyum	Nutrient Management Specialist

Natural Resources Conservation Service Staff

Jessica Bronson	District Conservationist
Vacant	Soil Conservationist
Deborah Shea	Conservation Technician

COOPERATING AGENCIES

Basin Alliance for the Lower Mississippi in Minnesota (BALMM)
 Bluff Country Hiking Club
 Eagle Bluff Environmental Learning Center
 Fillmore County Cities -- Canton, Chatfield, Fountain, Harmony, Lanesboro, Mabel, Ostrander, Peterson, Preston, Rushford, Rushford Village, Spring Valley, Whalan
 Fillmore County Association of Townships
 Fillmore County -- Auditor/Treasurer, Board of Commissioners, Emergency Management, Feedlot Office, GIS, Highway Department, Public Health, Recorder, Sheriff/Sentence to Serve, Solid Waste, Zoning
 Hiawatha Valley Resource Conservation and Development (RC&D)
 Minnesota Association of Conservation District Employees (MACDE)
 Minnesota Association of Soil and Water Conservation Districts (MASWCD), SE Area 7
 Minnesota Board of Water and Soil Resources (BWSR)
 Minnesota Department of Agriculture (MDA)
 Minnesota Department of Health (MDH)
 Minnesota Department of Natural Resources (DNR) – Forestry, Fisheries, Ecological and Water Resources Divisions
 Minnesota Pollution Control Agency (MPCA)
 National Association of Conservation Districts (NACD)
 National Trout Center, Preston, MN
 Root River One Watershed, One Plan LGUs
 Southeast Minnesota Water Resources Board
 Southeast Minnesota Wastewater Initiative

Southeast SWCD Technical Support Joint Powers Board (JPB)
The Nature Conservancy (TNC)
University of Minnesota Extension (U of M)
Upper Iowa River Alliance
USDA Farm Service Agency (FSA)
USDA Natural Resources Conservation Service (NRCS)
Winona State University (WSU)

INTRODUCTION

The Fillmore Soil and Water Conservation District Board of Supervisors hereby submit the Annual Report for the calendar year of January 1, 2015 through December 31, 2015.

In 1940 the first soil and water conservation district was organized in Fillmore County. The District encompassed the eastern half of the county. Two years later, in 1942, the Western District was created. A line running north/south from the town of Preston separated the two Districts. In 1962 the East and West Districts were consolidated into one district by authority of the Minnesota Soil Conservation Committee. It was the opinion of both former boards of supervisors that consolidation would offer more efficient operation.

It has been through the work of many supervisors, district employees, partners and landowners that the rich but fragile resources of Fillmore County have been protected.

The ever constant goal of the Fillmore SWCD is to conserve our natural resources.

MISSION STATEMENT

The mission of the Fillmore Soil and Water Conservation District is to promote natural resource stewardship by providing educational, technical and financial assistance.

SERVICES AND PROGRAMS

Technical assistance to landowners for the implementation of conservation practices

Two Resource Conservation Technicians

- Assist landowners with planning and design of practices, such as grassed waterways, terraces, grade stabilization structures, ponds, windbreaks, etc.

Engineering Technician/Conservation Planning Specialist

- Assists livestock producers with planning and design of feedlot runoff control practices, such as freshwater diversions, filter strips, picket fences, etc.
- Updates USDA HEL Conservation Plans to ensure that soil productivity is maintained, eligibility for the farm program is maintained, and landowners and operators are in compliance with the county and state soil erosion laws.

Nutrient Management Specialist

- Assists livestock producers with developing nutrient management plans to meet standards for NRCS and state feedlot rules including annual updates of plans, manure spreader calibrations and other information needed to complete the plans.
- Assists producers with use and evaluation of nutrient management tools (basal stalk nitrate tests, soil N tests, split N applications, etc.).

Area Soil Health Technician

- Assists producers with practices that enhance soil health--managed grazing, cover crops, no-till--including help with financial assistance for implementation.

Conservation Technician

- Assists landowners with enrolling in the Conservation Reserve Program (CRP) and similar programs that establish permanent vegetation including conservation buffers.
- Assists landowners with complying with the rules of the Wetland Conservation Act related to filling, excavating or draining of wetlands.

Financial assistance to landowners for implementing conservation practices

- State Cost Share Program: provides up to 75% cost share not to exceed \$5,000 for grassed waterways, terraces, grade stabilization structures, including well sealing (50% up to \$1000 maximum) plus other practices on the state cost share docket.
- Clean Water Fund Grant Feedlot projects: provides 75% cost share for runoff control practices and manure storage for feedlots in riparian areas or within 300 feet of a sensitive feature.
- Low Cost Feedlot Fix Cost Share Grants: provides 50% cost share with the maximum determined by the particular grant program for non-engineered runoff control practices such as rain gutters, freshwater diversions, filter strips, fencing, etc.
- Ag Best Management Practices (BMP) Low Interest Loan Program: provides 3% loans for terms of up to 10 years for implementing water quality practices, such as ag waste systems, manure handling equipment, septic system upgrades, no till planters, well replacement, variable rate technology, and erosion control structures; loans are processed through local lenders.
- Clean Water Fund Community Partners Grant: provides funding to local groups to implement stormwater management practices.

Other products and services

- Trees and tree supplies: potted and bare root stock are available for sale from December to the end of February with proceeds going to support SWCD programs.
- 2014 Fillmore County Plat Books: available for sale for \$30.
- Tree planters: two planters are available to rent for \$25/half day (min.) or \$50/day.
- Gopher machine: one available for rent for \$25/half day (min.) or \$50/day.
- Bacteria testing: \$25/sample (\$10 for households with a child < 1 year or pregnant woman).
- Map sales: GIS maps created and printed; rates are dependent on the size and complexity of the map produced plus any printing costs.
- Survey flags: available for sale at \$.10/each or \$10.00/bundle of 100.
- Conservation Building conference room rent: \$25/half day, \$50.00/day.
- Decorah Shale site investigation: \$20/hr in office research, \$25/hr out of office research.
- Rain barrels: \$30 for kit; \$50 for assembled rain barrel; 24 sold in 2015
- Nutrient Management Plans: \$0.70/acre for a new EQIP plan, \$0.50/acre for a new non-EQIP plan; \$0.35/acre for plan updates.

Partnerships

- Fillmore County
 - The SWCD has delegation agreements with the county for the administration of the Wetland Conservation Act and coordination of the Local Water Management Plan. The Water Management Coordinator is coordinating the Root River One Watershed, One Plan pilot project. The Policy Committee is made up of representatives from 13 LGUS and includes SWCD Supervisor Leonard Leutink representing the Fillmore SWCD.
 - The Resource Conservation Technicians provide assistance on soil erosion complaints made to the Zoning Office to determine the extent of the erosion and how to remediate it.
 - The SWCD staff provides assistance to the Zoning Office with wetland determinations in the Decorah Shale Overlay District and with landowner requests related to the county's sinkhole ordinance and industrial mining ordinance.
- USDA
 - SWCD technical staff provides assistance for planning, designing, and implementing practices funded through federal Farm Bill programs such as EQIP, CSP and CRP.
 - Two staff assist landowners with completing and CRP Conservation Plans; one of them also assists landowners with USDA HEL Conservation Plans.
- MN Pollution Control Agency
 - Root River watershed
The SWCD has a contract with the MPCA to conduct water quality monitoring for the Watershed Pollutant Load Monitoring Network.
 - SE MN Nitrogen WRAP Planning: The SWCD monitored three spring locations at the Lanesboro Fish Hatchery and manages a subcontract with WSU for the lysimeter network (grant ended December 31, 2015).
- MN Department of Agriculture
 - The SWCD has two Joint Powers Agreements for the MDA Field to Stream Partnership, one for administration of subcontracts and payments administered by the SWCD, and staff assists with edge-of-field and in-stream monitoring, data management and watershed assessments, and a second for technical assistance to implement practices identified as a result of farm walkovers completed in 2015.

- SE Technical Support Joint Powers Board
 - Membership dues are paid annually for engineering support for conservation projects.
 - The SWCD is a subcontractor with the JPB for a Clean Water Fund grant for a 0.5 FTE Nutrient Management Specialist position which serves five southeastern counties and another 0.5 FTE for that staff person to coordinate N-BMP outreach in 3 counties.
 - The SWCD is a subcontractor with the JPB for the Area Soil Health Technician who works in the 11-county SE Area 7 promoting soil health practices and assisting producers with implementing those practices.
 - The SWCD and Soil Health Technician are partners with the JPB for the LCCMR SE MN Cover Crop and Soil Health Initiative to oversee cover crop demonstration plots in Area 7.
- SE MN Water Resources Board and Water Resources Advisory Committee
 - The SWCD Water Management Coordinator is the staff liaison to these organizations.
 - The SWCD is a sub-recipient of 319 grant funds for feedlot fixes and technical assistance.
 - The SWCD is a sub-recipient of grant funds for the Volunteer Nitrate Monitoring Network.
- Basin Alliance for the Lower Mississippi in Minnesota
 - The SWCD is an active participant in BALMM, a locally led ad hoc organization dedicated to protecting water quality in the Basin; the Administrator serves as Chair.
- MASWCD State and Area organizations
 - Membership is maintained; Board members and staff attend Area meetings and the statewide annual meeting.
- Hiawatha Valley Resource Conservation and Development (RC&D)
 - Two Board members are assigned as representatives to the RC&D Council; 2015 dues were paid.
- Upper Iowa watershed
 - SWCD staff assist Iowa DNR with water quality sampling at three sites from April to October.
 - Two MPCA IWM sites were monitored in 2015 by SWCD staff, which will continue in 2016, under a subcontract with the Root River SWCD as part of a MPCA Surface Water Assessment Grant (SWAG).
- MN DNR
 - Observation Well Network: staff monitor water levels every month in one well in the network
 - Dye trace studies: staff assists with placing and collecting charcoal bugs in the springs and with collecting water samples that are analyzed for nitrate concentration and assist with landowner contacts for dye trace studies.
- The Nature Conservancy
 - Grant funds were provided to the SWCD to purchase prairie cordgrass plugs for stabilization of a Decorah Shale outcrop along County Road 5 in Jordan Township.



The SWCD is the recipient or subrecipient of \$1,869,897 in 15 Clean Water Fund grants active in 2015 with grant periods of 2-4 years ranging from 2012 to 2018. Of those funds, \$1,038,134 are used for staffing and administration, and the remainder is used for implementation of soil and water conservation practices.

DISTRICT PROGRAMS, ACTIVITIES AND ACCOMPLISHMENTS

State Cost Share Program

In 2015, a total of \$33,485 in state cost share funds (FY13, 14 & 15) were paid out to install:

- 21,838 feet of grassed waterways
- 1,200 feet of terraces
- 1 well sealed

The FY14/15 grant allocation was \$24,289/year and remains the same for FY16/17.



Waterway that has been mulched and crimped.

2015 Outstanding Conservationists Named the State Winners

The SWCD named Goldsmith Brothers, Ross and Steve, of Chatfield as the 2015 Fillmore County Outstanding Conservationists. They were then chosen as one of the eight finalists from across the State of Minnesota who would compete for the title of Minnesota's Outstanding Conservationists. They were honored for their conservation work at a luncheon at the Minnesota Association of Soil and Water Conservation Districts' Annual Convention which was held on December 8, 2015 at the Double Tree by Hilton, Bloomington-Minneapolis South. At the luncheon, Ross and Steve were named the state's Outstanding Conservationists. Ross and his wife, Sharon, and Steve and his wife Patty, were in utter disbelief that they were chosen over all the other "outstanding conservationists" from across the state of Minnesota.



The Goldsmiths are recognized for their accomplishments at the Fillmore SWCD recognition event. Supervisors Travis Willford (far left) and Tim Gossman (far right) present the Goldsmiths with their plaques and signs.

The Goldsmiths farm 2200 acres, of which 1100 are in pasture and another 300 are in hay. Row crops are planted on the contour, and terraces and grassed waterways are well maintained. They use minimum tillage on their crop acres making two passes with a cultivator in the spring to work only the top three to four inches of soil and no fall tillage. They have utilized cover crops on their corn silage acres for nearly ten years. A portion of those acres are enrolled in a five year EQIP soil health practice

using winter rye and winter wheat as a cover crop. Their use of cover crops and manure application has almost eliminated erosion, plus weed control is excellent and organic matter has increased.

Ross and Steve built one of the first monoslope buildings in the area with technical and financial assistance from the SWCD. Their daily management has increased the efficiency of the building. They estimate that it has helped them reduce feed costs, reduced the number of days to market, and decreased their labor significantly.

MASWCD, with support from *The Farmer* magazine, sponsors the Outstanding Conservationist Award Program. The SWCD hosts a local recognition event in January to honor the recipients.

2015 Tree Program

The District sells a variety of bare root trees and shrubs and bare root and potted conifers. 2015 sales included 10,525 bare root stock and 1,247 potted stock sold to over 200 individuals, municipalities, and organizations in and around Fillmore County.



SWCD staff unloading trees for the 2015 season.

SWCD Windbreak Program

For many years, windbreaks were eligible for state cost share funding, but in 2013 windbreaks were removed from the list of eligible practices except in wind erosion counties. Fillmore County does not meet the state's requirements to be a wind erosion county. However, the SWCD Board has long recognized the importance of trees on the land, especially on the steep and rolling hills found in most of the county, so this tradition will continue. The SWCD continues to offer cost share for windbreaks utilizing its local funds. Up to 50 percent of the cost of the trees for a farmstead windbreak designed by the SWCD staff will be paid to the landowner. Tree cost is based on current potted stock prices offered by the SWCD. Three windbreaks were installed in 2015 utilizing the SWCD cost share funds.

SWCD Summer Construction Set Aside Program

The SWCD Board established this program in 2011 to pay \$163/acre on up to 10 acres following the critical area seeding practice in the EQIP docket for use with the summer construction of waterways and other practices as recommended by the SWCD Conservation Technicians. There were no projects using the summer construction set aside funds in 2015.

Wetland Conservation Act (WCA)

A total of 73 landowner contacts were made in 2015. One violation required a significant number of hours (49 of the 73 contacts) to reach a resolution by installing a designed waterway to meet the ag exemption. The case involved numerous emails, phone calls, and consultations with the landowner, BWSR, SWCD and NRCS staff, TEP meetings and documentation from January to December. The

WCA Administrator participated in the Ecological Restoration online course provided by the University of Minnesota. A low ford restoration order was completed. There were multiple consultations with landowners on waterway cleanouts, and a consultation on wetland replacement. Concurrence was given for a county bridge replacement project. A canoe launch no-loss application is in progress. The Water Management Coordinator provided training and assistance with several cases due to past experience as the WCA Administrator. The WCA Administrator completed the U of M Ecological Restoration online course (29 days) in addition to five other day-long trainings (MN Wetlands Conference, BWSR Academy (3) and BWSR Hydric Soils). The Water Management Coordinator also attended the one-day MN Wetlands Conference.

Feedlot Water Quality Management

One feedlot project was completed in 2015 for a total cost of \$158,768 from FY14 BWSR State Cost Share Feedlot Funds. One project was funded with 319 grant funds from the SE MN Water Resources Board. None of the projects submitted in the FY16 funding application were funded. Staff time to develop the applications is partially covered by Natural Resources Block Grant (NRGB) Feedlot Base Grant funding from the county.

Nutrient Management

The Nutrient Management Specialist works in five counties and 0.5 FTE is funded by a FY2015 Clean Water Fund grant awarded to the SE SWCD Technical Support Joint Powers Board. A report was submitted for the FY2012 grant that funded the position and ended in 2015. Fees charged for the nutrient management plans help to meet match requirements for the Clean Water Fund grant. Funding for other half of the position is now coming from MDA through a Joint Powers Agreement between the SE SWCD JPB and MDA for N BMP outreach to set up on-farm N comparison plots.

In 2015, the Nutrient Management Specialist completed 12 nutrient management plans (8 new, 4 updates) for 10,809 acres and fees were collected; 17 additional plans were started for completion by the end of February 2016. The Nutrient Management Specialist attended several workshops and trainings including:

- Research Updates for Ag Professionals in Kasson
- Winter Crop Days in St. Charles
- Nutrient Management Workshop in Owatonna
- Midwest Manure Summit in Green Bay, WI
- Ag PhD Soil Clinic in Morton
- ArcGIS training in Rochester
- Minnesota Crop Nutrient Management Conference in St. Cloud.

He presented information at a feedlot producer meeting in Austin in February, and attended the Rush Pine Farmer Led Council meeting and the SE MN Cover Crop Producer meeting in Zumbrota in March. He continues to calibrate manure spreaders when needed. He gathered field information for some of the fields which have lysimeters that are part of the SE MN Soil Water Monitoring Network. He has met with the MDA staff coordinating the Field to Stream Partnership in preparation for assisting producers in those watersheds with nutrient management needs. He is on the Advisory

Committee for the Root River One Watershed, One Plan pilot project. He maintains communication with the County Feedlot Officers regarding MPCA manure management plans.

In January, the Nutrient Management Specialist began working on the N BMP Outreach project with MDA, which provides a grant that funds half the position. A SE MN N BMP Outreach Fact Sheet was developed for the project. Trainings were held for ArcGIS, GPS and Plot Layout. GPS equipment, flags, and other supplies were ordered for plots. A total of 20 NMI plots were signed up and installed as well as assisting with installation of two Advanced Scientific plots with UM Extension. Plots were GPS'd and flagged. All crop management information was gathered and submitted to MDA by June 30, 2015. Of the 20 NMI Plots, 18 plot visits were conducted to obtain SPAD data from 14 assessment plots and 4 advanced plots. Plots visits were conducted to collect basal stalk nitrate, whole plant, and soil nitrate samples for the four advanced plots. Samples were packaged and sent to MTVL for testing. A second round SPAD reading data were collected. Contracts were signed by producers for the fall harvest. Data were retrieved from 20 plots (four of which were advanced plots) in the fall – basal stalk, grain, stover, and soil samples. Basal stalk samples were collected from 15 other plots and assistance provided to five producers with harvesting seven plots. This was finished, for the most part, by the middle of October. Harvest data were collected from all 12 producers (20 plots) and reports submitted to MDA.

U of M: Maintained advanced nitrogen BMP research plots in Grand Meadow (Mower Co.) and Greenleaf (Fillmore Co.). Major activities/procedures performed as outlined in the protocol included: took stand counts, thinned to uniform stand, applied sidedress nitrogen treatments, took plot notes, took SPAD meter readings and harvested corn stover at R6. A crop response to nitrogen was evident. In the fall, both plots were combine harvested (collected yield and grain moisture at harvest data), soil samples were taken to a four ft. depth from select treatments to determine residual soil nitrate remaining in soil profile, all corn stover, grain and soil samples were processed, and yield data were tabulated. All samples were sent to commercial labs for analyses and all data from labs was statistically analyzed for yield and plant N data. Crop yield response to nitrogen was found at both locations.

Funding was received from Minnesota State University (MSU) to hold workshops about the N BMP Tool and the Minnesota Nutrient Planning Portal. One workshop was held on March 24 for eight local and state agency staff. A second workshop was held on July 2 with three Watson Creek producers to introduce them to the nitrogen and nutrient tools/models and get their feedback on their use.

Soil Health

The Area Soil Health Technician, a position funded with a Clean Water Fund grant awarded to the SE MN Technical Support Joint Powers Board, works in the 11 southeast Minnesota counties in Area 7. He assists producers with soil health practices, such as cover crops and managed grazing. Most of those practices are funded by EQIP. Cash contributions were received from 13 organizations, canning companies, and SWCDs to support the Soil Health Technician position.

The Area Soil Health Technician assisted over 50 producers with seeding 3653 acres of cover crops funded through EQIP contracts totaling \$194,427 in Area 7. Many of those producers who worked

with the Soil Health Technician seeded an additional 6,668 acres on their own at an estimated out-of-pocket cost of \$111,670. Many others have contacted him for cover crop advice.

- He serves on two Soil Health Teams: Freeborn County (attended five meetings and a teleconference) and Mower/Fillmore (attended two planning meetings).
- He has helped organize and/or presented information on soil health at 15 meetings and conferences and at nine field days. One of the field days was organized with a Farmer Champion funded by a National Wildlife Federation Cover Crop Champion Grant. The grant included funding to support the Soil Health Technician's staff time.
- He participated in statewide teleconferences for Grazing Specialists (4) and for the Grazing Lands Conservation Association-GLCA-(6).
- He is providing technical assistance on an LCCMR grant awarded to BWSR to set up cover crop demonstrations with farmers in southeast Minnesota. The project includes an economic analysis of cover crop use in various farming operations. There have been two meetings and two conference calls for the project. He helped develop a project fact sheet and a landowner contract for incentive payments. He is in the process of making landowner contacts for the demonstration sites.
- He works closely with NRCS staff on CSP enhancements and EQIP standards and RMA guidelines for soil health practices. He has helped with evaluating the Haney test. He developed cover seeding plans on over 22,500 acres (14,900 acres aerial seeded) and conducted status reviews for EQIP contracts (almost 20,000 acres). He compiled a seed dealer and custom hire list for producers to use. He is working on three EQIP grazing projects in Winona County. He attended EQIP Local Work Group meetings in Mower and Fillmore counties.
- He provides technical assistance on the Root River One Watershed, One Plan Advisory Committee and on the MDA Field to Stream Partnership project.
- He contacted cooperators about continued participation in the SE MN lysimeter network and attended the project meeting on April 24th.
- He assisted with publishing six issues of the Grazing Gazette which goes out to over 1200 people.



Rain simulator demonstration at the Mower County Cover Crop Field Day held August 26, 2015.

Volunteer Nitrate Monitoring Network Grant (a.k.a. Domestic Well Network)

A network of volunteers was established in 2008 to monitor nitrate in drinking water wells in Fillmore County and eight other southeast Minnesota counties. The network of 675 wells includes 119 in Fillmore County. Sample results were mailed to participants in January by the SE MN Water Quality Laboratory. Fillmore SWCD staff assisted with updating the mailing list. They mailed out the bottles and the samples were mailed directly back to the lab by the participants. The project was funded initially with 319 grants to the SE MN Water Resources Board. Current funding is from the MN Pollution Control Agency to the Board that continued the project into 2015. Funds have been awarded to the Water Resources Board to continue the monitoring.

Root River One Watershed, One Plan Pilot Project

The Root River watershed was selected on June 25, 2014, as one of five projects around the state for BWSR's One Watershed, One Plan Pilot Program. The planning area for the Root River also includes the portions of those watersheds in Minnesota along the state's border with Iowa and the Mississippi River--the Upper Iowa and the Mississippi River-Reno—for a total of over 1.3 million acres. The BWSR grant for \$185,899 was approved and signed in January 2015 after all LGUs had signed an MOA for the planning process and a work plan and budget were submitted. The majority of the funding is being used for the services of Houston Engineering as a consultant to write the plan, gather and analyze watershed data and facilitate meetings and the processes used to prioritize and target implementation activities in the plan. A Planning Workgroup was formed by local staff, which has been meeting at least once a month to guide development of a watershed plan with a consultant, Houston Engineering Inc. A 13-member Policy Committee of elected officials representing all the six counties, six SWCDs and one watershed district in the planning area has been working on a governance structure for implementation and reviewing the sections of the draft plan completed so far. An Advisory Committee composed of representatives from state agencies, ag and commodity groups, and conservation and environmental groups is also reviewing the draft plan. The plan's priorities include drinking water, surface water quality, landowner engagement and liveability.

MPCA Watershed Pollutant Load Monitoring Network

A contract with MPCA provides funding for staff to monitor five sites on the main stem and the major tributaries of the Root River to obtain spatial and long-term pollutant loading information. The contract deliverables include collecting 25 grab samples at each site during runoff and base flow conditions for a total of about 125 samples per year. Staff also calculate annual loads using the FLUX32 model.

MPCA SE MN WRAP Nitrogen Planning Grant

This grant for \$56,717 funded investigations of nitrate transport in karst using spring monitoring and a network of lysimeters to collect soil water samples below the root zone under various land uses. SWCD staff collected water samples at three spring locations at the Lanesboro Fish Hatchery once a month and during 2-3 runoff events for a total of 12-15 samples per year. The samples are prepared and shipped to a lab for analysis as quality control for the continuous nitrate equipment located at each of the spring sites. Staff also maintain and troubleshoot the equipment. Equipment maintenance was a problem this year due to a lightning strike that damaged the continuous nitrate probe and controller. The source of the problem was not known for several months which led to delays in getting the equipment fixed. The SWCD administered a subcontract with Winona State University to maintain a network of about lysimeters in locations around SE MN under various land uses, e.g. row cropland, CRP, golf courses and lawns. Soil water samples are collected from April through October and analyzed using MDA nitrate testing equipment. Data were updated in a spreadsheet as soon as the analyses were completed and sent to local staff to forward to the cooperators. Annual reports were also printed and sent to the landowners with an explanation of the results. The future of the network is still in flux until funding and/or staff can be found to collect the samples, analyze them and manage the data. Final reports were provided to the cooperators by MDA staff. A prioritized list of lysimeters to keep operating has been compiled.

MDA “Field to Stream Partnership”

The MDA Field to Stream Partnership project began in 2010. Three edge-of-field monitoring sites are established in Fillmore County, and a fourth is in Mower County. The sites in Fillmore County are located in Crystal Creek watershed southwest of Preston and in Bridge Creek watershed near Bratsberg. The monitoring stations have automated samplers which collect runoff from fields where detailed information is collected about management of the fields draining to the station. Samples are analyzed for total suspended solids (TSS), turbidity, total phosphorus (TP), phosphate (PO₄), pesticides, and nitrate-nitrogen. An in-stream monitoring station is located downstream from each of the edge-of-field sites. Grab samples are also collected at the in-stream sites.



Samples collected from an edge-of-field site after a June storm event.

2015 marked the sixth year for collecting baseline data. A second grant agreement with MDA provided funding to hire a contractor to conduct farm walkovers with the farmers in the watershed to identify conservation needs in 2015. The grant also funds technical assistance for local SWCD staff to plan, survey and design conservation practices prioritized during the walkover process. Of the 32 producers in these watersheds, 31 consented to the farm walkovers and 30 signed letters of intent to install at least one of the practices identified in critical areas of their farms. As BMPs are implemented, changes in water quality will be monitored. Two producers installed waterways on their own in 2015, one of whom received 50% cost share from MDA funds.

Special EQIP funding is available through the Mississippi River Basin Initiative (MRBI) from USDA-NRCS. The Lower South Fork of the Root (which includes Bridge Creek) and Willow Creek (which includes Crystal Creek) are among five subwatersheds in Minnesota that were awarded funding for FY15 to FY18. The headwaters watershed in Mower County was also approved for MRBI funding in late 2015. A Clean Water Fund grant application was submitted to BWSR to leverage the federal MRBI-EQIP funds. The application for \$804,395 was approved for funding in December 2015.

Crystal Creek watershed has many sinkholes and springs, so dye trace studies have been conducted there to better understand the interaction between surface water and ground water. Nitrate samples are collected and analyzed from the springs. Lysimeters have also been installed to evaluate nitrate movement below the root zone. Willow Creek, the HUC 12 watershed in which Crystal Creek is located, is impaired due to elevated nitrates (avg. = 8 ppm). Dye trace studies are also being conducted in Bridge Creek. The geologic setting there is much different from Crystal so nitrate levels in Bridge are much lower (avg = 3 ppm) than Crystal. However, sediment losses in Bridge are over twice that in Crystal due to the steeper terrain. Crystal Creek also has the benefit of several structures installed in the 1950s as part of the East Willow Flood Control Project plus other well-maintained conservation measures.

A new agreement was signed with MDA to continue funding the project another year and a half to June 30, 2017. The funds continue to be used to administer the subcontract with Mower SWCD and 0.75 FTE in the Fillmore SWCD to collect samples, maintain equipment and manage the data.

Clean Water Fund Soil Erosion Grant

Updating conservation plans is continuing with funding from a FY14 Clean Water Fund Grant for \$145,000. This funds 0.5 to 0.75 FTE to update USDA HEL plans targeted to the MDA FSP watersheds, Conservation Opportunity Areas in the Root River Landscape Plan and sodbusts and CRP expirations. Assistance was provided to 42 landowners with updating 71 plans for a total of 7,855 acres. Soil savings for those acres is estimated at 47.3 tons/year, and phosphorus reductions are estimated at 5,620 pounds/year. Landowners were also assisted with getting copies of plans to MDA for registering Estates & Trusts and also for new land purchases. Additional hours were spent in the field working with another Technician to survey and construct conservation practices as needed in fields owned by interested producers. The NRCS Conservation Planning Training Course was completed by the technician during late summer, and all continuing education credits were completed as needed.

Clean Water Fund Community Partners Grant

A FY13 Clean Water Fund Community Partners Grant for \$45,240 provided funding to four local groups and organizations to install stormwater practices. A mini-grant program was established in 2013 with applications and funding criteria.

One project was completed in 2014 in Spring Valley by the Kingsland Courtyard Committee. A 1400 sq. ft. rain garden with 134 native plants and four 137-gallon cisterns to collect rooftop runoff were installed. Entities involved were: Kingsland Courtyard Committee (science and horticulture teachers, EDFE Coordinator and Spring Valley Greenhouse staff), 25 public volunteers. Publicity included articles in the Spring Valley Tribune and Fillmore SWCD newspaper insert, plus signage at site.



Three projects were completed in 2015 by Eagle Bluff Environmental Learning Center, Harmony Community Gardens and the Friends of the Root River. Eagle Bluff's project components include: two rain gardens, three 300-gallon cisterns, one rain chain, and a terrace structure using native plants. Entities involved were: Eagle Bluff staff, multiple school groups and public guests. Publicity included the workshop and educational curriculum developed by Eagle Bluff staff plus site signage. Harmony Library Community Gardens were part of a larger community garden effort that involved removal of impervious surfaces, soil tests/amendments, one 12,000 ft² rain garden, three native river birch and flowers purchased for spring 2016, and ten 50-gallon rain barrels for the roof of the building. Entities involved were: Harmony City Council, Harmony Area Community Foundation, Harmony Lions Club, Girl/Boy Scouts, Garden Club, 700 hours of public volunteer time. Publicity included an article in Fillmore County Journal, outreach displays, site signage, and educational materials created.

The Friends of the Root River hosted a public rain barrel workshop (14 barrels created), and purchased supplies to complete a total of 100 barrels to use for workshops with community groups around the watershed, such as 4-H, Scouts, and church groups. Each barrel has an instruction sheet which outlines the benefits of rain barrels and maintenance and operation tips. Entities involved: FORR Board/volunteers and Eagle Bluff Environmental Learning Center, where the workshop was held; they also assisted with publicity for the workshop through their website, Skills School distribution list and other outreach materials. Other publicity included a news release sent to newspapers in the watershed, flyers, information on the FORR website, and decal stickers for the rain barrels.

DNR Healthy Forests for Healthy Water Grant

A Clean Water Fund Grant from the DNR for \$98,000 is providing funding for a forestry consultant to work with landowners in each of two watersheds in the Root River identified as having habitat of significant importance on lands adjacent to public lands with high quality native vegetation. In Riceford Creek watershed, which extends into Houston County, 51 landowners received letters offering the services of the forestry consultant to help them set goals for their forest land and implement practices to meet those goals. The funding incentives in the grant can pay for a Forest Stewardship Plan and the practices for implementation in the plan. Twelve cost share contracts have been approved by the SWCD Board with 8 landowners for 13 practices in Riceford Creek watershed as of January 21, 2016; 7 practices have been completed and paid. A second forestry consultant is working in Rush-Pine Creek watershed, which extends into Winona and Houston counties, where 87 landowners received letters offering the same services. Seven contracts have been approved with seven landowners for ten practices; two practices have been completed and paid. A portion of the grant provides funding for the consultants through June 2016. The cost share funds of \$50,000 were transferred to a BWSR grant which expires in 2018. These activities help achieve goals in the Root River Landscape Stewardship Plan, which was completed in 2013.

Farm Bill Assistance

The Fillmore SWCD has staff (~0.5 FTE) funded by a Farm Bill Assistance Grant from BWSR to promote the federal Conservation Reserve Program (CRP) and to assist landowners enrolled in CRP with completing their plans. Staff completed plans for 1191 acres in 71 contracts (FBA grant) plus another 45 contracts completed under an agreement with MASWCD. Staff time includes management of the plan files both preparing for the enrollment and follow up after enrollment.

Ag BMP Loan Program

The SWCD administers the Ag BMP Loan Program which is funded by the MDA. Loans are available to farmers, rural landowners and farm supply businesses for loans to restore or protect water quality, whether on a farm, a rural home site, or in an unsewered community. Eligible practices include: feedlot improvements, manure storage basins and spreading equipment; no till equipment; terraces, waterways, sediment basins or other soil conservation practices; septic system upgrades; Variable Rate Technology (VRT); well relocation and sealing; secondary fuel containment; or other projects that improve water quality. In 2015, the SWCD approved loans for 3 ag waste (\$471,029), 2 manure equipment (\$133,000), 10 septic systems (\$106,968), and 1 well replacement (\$27,360).

Buffer Grant

Stream buffers are an effective practice for protecting water quality, especially when combined with other upland practices. The 2015 buffer law establishes new perennial vegetation buffers of up to 50 feet along rivers, streams, and ditches that will help filter out phosphorus, nitrogen, and sediment. The new law provides flexibility and financial support for landowners to install and maintain buffers, and boost compliance with buffer laws across Minnesota.

The Laws of Minnesota 2015, First Special Session, Chapter 2, Article 2, Section 7(e) appropriated Clean Water Fund (CWF) funds to the Board of Water and Soil Resources (BWSR) for grants to local units of government to enhance compliance with riparian buffer or alternative practice requirements. The funds are being used by Fillmore SWCD to provide technical assistance to landowners to identify where buffers may be needed along public waters in Fillmore County. Financial assistance information is also provided to landowners for those who wish to enroll eligible acres into the Conservation Reserve Program (CRP) or other programs. Advice regarding appropriate seeding mixes, maintenance and other technical assistance will be provided as needed.

One technician has begun preliminary aerial photo and site reviews utilizing GIS shapefiles created by a 2010 regional shoreland mapping project to identify areas that need further investigation. CRP practices have been discussed with several landowners who have made inquiries.

Ag Water Quality Certification Program



The Minnesota Agricultural Water Quality Certification Program (MAWQCP) is a voluntary opportunity for farmers and agricultural landowners to take the lead in implementing conservation practices that protect our water. Those who implement and maintain approved farm management practices will be certified and in turn obtain regulatory certainty for a period of ten years.

Through this program, certified producers receive:

- Regulatory certainty: certified producers are deemed to be in compliance with any new water quality rules or laws during the period of certification
- Recognition: certified producers may use their status to promote their business as protective of water quality
- Priority for technical assistance: producers seeking certification can obtain specially designated technical and financial assistance to implement practices that promote water quality

Through this program, the public receives:

- Assurance that certified producers are using conservation practices to protect Minnesota's lakes, rivers and streams

The Minnesota Department of Agriculture (MDA) transferred to the Board of Water and Soil Resources (BWSR) Clean Water Fund (CWF) funds appropriated to the agency to implement the Minnesota Agricultural Water Quality Certification Program statewide. The funds are being used by Fillmore SWCD to promote the program and provide assistance to landowners and operators who wish to enroll in the program.

SWCD staff planned and conducted a meeting on December 14, 2015 in Preston attended by 15 farmers who are leaders in local ag and producer groups. Mark Root, AWQCP certifier, presented information about the certification process. Attendees shared ideas for promoting the program with members of ag and producer groups.

Bacteria Testing

In May 2009, the SWCD became a certified lab to test drinking water for total coliform and *E. coli* and to test surface water for *E. coli*. The equipment was purchased with flood relief grant funds from Fillmore County Public Health to assist well owners who have had their wells flooded. Three staff are trained to analyze samples. There were 126 private well samples and 68 special project samples analyzed in 2015. Of the 68 special project samples, 62 were stream samples analyzed for the Upper Iowa River, Mississippi Reno and Mississippi LaCrescent watersheds' ten-year Intensive Watershed Monitoring in preparation for completing a Watershed Restoration and Protection Strategy (WRAPS) for those watersheds. The Fillmore SWCD has a subcontract with Root River SWCD in Houston County, which was awarded a Surface Water Assessment Grant to fund the monitoring activities. An internal audit for the lab was completed by staff in 2015. Nitrate samples are also analyzed at no charge to the client using MDA nitrate testing equipment. These are not certified lab results.

Education and Promotion Projects

Scholarships:

The Fillmore Soil and Water Conservation District sponsors a \$500.00 scholarship for a graduating Fillmore County high school student pursuing a degree in Natural Resources, Agriculture or related field. Travis Troendle from Lanesboro High School is the 2015 High School Scholarship recipient.

The District also offers a \$500.00 scholarship for Fillmore County college students who will be returning to school in the fall. To be eligible, students must be a returning college sophomore, junior or senior, pursuing a degree in Natural Resources, Agriculture, or a related field, enrolled in classes for fall, and not a prior scholarship recipient. Lindsey Weiss of Harmony is the 2015 Returning College Student Scholarship Award recipient.

Eagle Bluff Environmental Learning Center Dinner on the Bluff Sponsorships:

The SWCD sponsored two Dinner on the Bluff presentations in 2015. On February 7, the SWCD sponsored a program entitled "Connections - Soils, Plants, and You" by Douglas Piltingsrud Ph.D., CEO of BioLive Soils LLC. By understanding the important connections between soils, plants and

human health, the effectiveness of nature's system can be maximized for producing nutritious food. This minimizes damage from insects, diseases, and weed competition naturally. This program examined how all can benefit from these interconnections if plants are grown nature's way.

The second event sponsored by the SWCD was the showing of the film "Mysteries of the Driftless" which won an Emmy Award. The film was introduced by George Howe, the Executive Producer. The Driftless Region in the upper Midwest is a geographic area that is unique in all the world; a large, diverse, and scenic area that has repeatedly escaped the effects of massive continental glaciers, while the land all around it was dramatically altered by the glaciers. A team of scientists and educators set out to tell the story of the Driftless in a unique film created locally to show how it has affected people. Howe presented ideas for how the film and similar media products can be utilized to help inspire and educate area youth, shape public opinion, and enhance area conservation efforts. The SWCD had additional information about District programs and projects on display at both events.



Supervisor Tim Gossman (left) and Administrator Donna Rasmussen (right) are shown with George Howe holding the Emmy Award for "Mysteries of the Driftless."

Forestry Field Day:

Summer interns hired in 2010-2015 have helped organize landowner field days in July utilizing lists of landowners in three counties from the MN Forest Resources Council. About 60 people attended the field day in 2015 held July 27th at the Chatfield Fish and Game Club southwest of Chatfield. About half of the attendees had not attended previous field days. The tour included demonstrations of buckthorn control and pruning, a location with invasive black locust that had been planted, an old pasture/oak savanna, a spruce/pine shelter belt and native grass planting, and an area that had been direct seeded. The Chatfield Fish and Game Club provided funding for the light supper served prior to the tour.

6th Grade Field Day:

Students from three schools participated in the annual 6th Grade Field Day at Forestville/Mystery Cave State Park on September 23rd. Presenters were from DNR Fisheries (Vaughn Snook), Forestry (Jim Edgar), Parks (Bob Storlie and Mary Gustafson) and Law Enforcement (Steve Chihak), Tri-County Electric (Craig Cornell and Andy Kappers) and Historic Forestville (Blake Coleman and John Fretham).



Jim Edgar, DNR Forester, guides students through an activity to learn about what trees need to grow and how the availability of those resources help determine which trees will thrive.

Decorah Shale Protection Project:

The SWCD was contacted by a landowner whose property has a Decorah Shale outcrop along County Road 5 southwest of Chatfield. The sidehill had been slumping into the road ditch ever since the road was widened in the 1970s. Each time the County Highway Department would clean out the ditch, the area would slump again requiring the landowner to repair the fence several times. In an effort to break this cycle, the SWCD and landowner came up with a plan with the Highway Department and The Nature Conservancy to document the use of deep-rooted prairie cordgrass to stabilize the hillside. Prairie cordgrass does extremely well on wet sites that can be seasonally dry just as Decorah Shale seeps can be. The landowners are fencing cattle out of the area and paid for half the cost of prairie cordgrass plugs (~\$800) that were planted in the spring of 2015. They are also taking pictures of the site on a monthly basis to document any changes. The Highway Dept. is refraining from cleaning out the ditch until after the grasses get established (unless a safety issue arises). The Nature Conservancy is providing the other half of the funding for the grass plugs. The SWCD has measured elevations in 2014 and 2015 and will do so periodically for further documentation of any movement of the hillside after the planting is completed. A SWCD Board member is assisting with planting the grass plugs. The area is also being seeded with other native grasses using seed collected locally by the landowners and the SWCD Board member.

Area and State Envirothon:

A staff member from the SWCD assisted with planning and staffing the 2014 Area Envirothon, which was held May 7th.

Fillmore County Fair Display: The SWCD sponsored a Kids' Day at the 2015 Fillmore County Fair in July. The activities included Spinning the Conservation Wheel with various pictures of trees, birds, etc. for the kids to identify. Correct answers were rewarded with a piece of candy. There was a special floor display along with posters about soil health. The kids could also sample "edible soil". The groundwater model was on display, and the Fillmore County Public Health had free radon kits available that day. Various posters providing information about SWCD programs and projects were also on display. The SWCD purchases one half hour of air time on the local radio station during the fair for interviews with staff and Board members about current SWCD programs.

Nitrate Clinics:

Three nitrate clinics were held in February; two at implement dealers' open houses in cooperation with Fillmore County Public Health radon clinics and one at the National Trout Center in Preston. Samples are analyzed using MDA equipment.

"Conservation Chronicles" Newsletter: On February 2, 2015, the Conservation Chronicles was published as an insert in the *Fillmore County Journal*, a free newspaper that goes to over 12,000 residences in the county. The Journal sold advertising to offset the cost of the insert. Many positive comments were received about this publication. Due to increasing printing and postage costs, the summer and winter newsletters are now posted on the SWCD website. An email notice of the posting is sent to those landowners providing their e-mail addresses (~150). Information about programs, upcoming events, tree sales, and other topics are submitted by the staff from SWCD and NRCS as well as other agencies when needed.

Community and School Presentations and Education: One staff person assisted with Extension's Farm Safety Day Camp in August. The International Sinkhole Conference was held in Rochester, and a display was assembled using materials from the karst exhibit at Eagle Bluff and from the karst trunk. The karst trunk was loaned out for use at an educational event in Rochester in November. In December, a staff person demonstrated the groundwater model for a Kingsland High School Vo Ag class.

Conservation Corps Minnesota Apprenticeship Program:

A Conservation Corps apprentice was placed with the SWCD in 2015. She helped with water quality monitoring activities, the forestry field day, data management and other tasks.

Observation Well Network

The SWCD measures water levels in a well near Chatfield as part of the DNR's Observation Well Network. The water level is measured once a month from June to December plus two more times during the three-month period of March to May. No readings are taken in January or February.

Precipitation Monitoring Program

The District has 12 precipitation monitoring volunteers, one who has been monitoring rainfall for 37 years, one for 24 years, and seven for more than ten years. Participants forward their rainfall information to the SWCD office which is recorded and sent on to the State Climatology Office in St. Paul. Volunteers who are celebrating anniversaries of five-year increments are recognized at the Annual Recognition Dinner in January.

District Website (www.fillmoreswcd.org) and Facebook Page

The district's first website was created in July, 1999. A new site was created in 2007, then was revamped in 2010. It receives regular updates with information regarding our services and programs, tree ordering, and current events as well as information about our supervisors and staff. Board meeting agendas and minutes are added monthly. All reports required to be posted by BWSR are on the website.

A Facebook page was set up for the SWCD in 2015. The Administrative Assistant maintains the page and posts new information. Staff are assigned to provide new items each week for the page.