



UP STREAM

Swift County Soil & Water Conservation District Newsletter

Winter 2020

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www.SwiftSWCD.org

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Schuerman Family Farm 2019 Outstanding Conservationists

Andy Albertsen, Swift SWCD District Manager



The Swift County Soil and Water Conservation District has named the Schuerman Family Farm as their 2019 Outstanding Conservationists. Daren Schuerman has always felt a responsibility to take care of the land. He understands that if he takes good care of the land, the land will take good care of him. This is one of the philosophies he uses when making decisions that impact his operation. Daren and his wife, Kim, started working on the farm in 1983 with his father, who had been working on the farm since Daren's grandfather moved to the area from Nebraska in the 1930s. At that time, the operation consisted of a small herd of dairy cattle and a rotation of corn, wheat, oats, and alfalfa. Cattle were on the farm until the 1960s when the decision was made to move on from cattle. When Daren took over the operation in 1990, he knew what had been done on the land for the previous

60 years, and he knew that there were ways to improve the operation that would not only help their bottom line, but also help them be better stewards to the land.

While sugar beets were added to the family's operation in 1975, they didn't begin utilizing cover crops until the early 1990s. After years of witnessing how erosive the sugar beet ground was after harvesting, Daren knew he had to do something to keep the soil on his fields. To accomplish this, he began planting cover crops on his beet fields to protect them from the harsh Swift County winds. The way the cover crops reduced wind erosion on these fields was immediately noticeable. "It just made sense," Schuerman said, when detailing the decision to begin incorporating cover crops into their operation. While he started by planting cover crops in the spring prior to sugar beet planting, he thought there was a way he could do better.

Over the last six years, Daren has been seeding rye in the fall after sugar beet harvest. If the weather allows for germination and growth of the rye prior to the snow flying, he can get added protection over the winter. "I don't like to see the ground blow. The road ditches and snow shouldn't be black every year," Schuerman said, while voicing his concern over the visible soil erosion he sees each winter. "It's a lot easier to lose soil than it is to create soil," he said. It is this mentality that led him to begin using no-till on some the acres they own and operate. What he has found works well is using his 24-row no-till planter to plant soybeans into wheat stubble from the previous year and no-tilling corn following sugar beets, when the rye cover crop is established. In addition to these techniques, Daren doesn't till his soybean ground after harvest, allowing the soybean residue to provide added overwinter protection, and keep his valuable top soil where it belongs, in the field and out of the ditch.



Outstanding Conservationist 2019 (cont.)

Schuerman Family Farm has incorporated cattle in their operation for over 15 years now. Cattle came back on the farm in 2003 after a 40-year absence. The reason? Daren and Kim’s children got involved in 4-H. So, they started small and built up their herd to the 80 cow/calf pairs that currently reside on the family farm, and they don’t plan on stopping there. By utilizing the Environmental Quality Incentives Program (EQIP) through the Natural Resources Conservation Service (NRCS) Daren was able to get cost share to add additional fence for rotational grazing paddocks as well as the ability to add pipeline so the cattle had a water source in each paddock. He has also rented the no-till drill from the Swift County Soil and Water Conservation District to interseed grasses into his pastures to increase plant diversity and improve the forage value for their cattle.

The Schuermans have big plans for the future and leading the charge for those plans is a member from the 4th generation in the Schuerman family, Jordan. Jordan, 23, has been working on the farm his whole life and recently graduated from South Dakota State University with a degree in Agriculture Science. Daren and Jordan have been brainstorming on how they can continue to improve the soil health on all the acres they own and operate, and they have some great ideas. Some of the changes they hope to incorporate soon include utilizing variable rate fertilizer application, applying the right amount of fertilizer in the right spots on their fields. They have also been discussing strip tiling rather than using conventional tillage on the acres that aren’t already being no-tilled. Finding a way to incorporate cattle into their operation has also been a concept they plan to test out. “We want to plant 80 acres of cover crop close to the homesite one fall and then hopefully get some good growth before turning the cattle loose on it and having them graze it down during late fall and early winter.” Daren said. The added forage and benefit of the manure on the field are the motivators behind this concept, which will increase soil fertility and save time and money. The Schuermans also hope to add more cattle to the operation, and possibly begin grazing cover crops on a larger scale.

The Schuermans value a sense of community, which is evidenced by their current and previous involvement with the Six Mile Grove Township Board, 4-H Livestock Board, 4-H Advisor, Church Council, and being a member of Pheasants Forever. Daren values this community mindset and takes an optimistic view on life and farming. He understands that not every year will be the best year ever, and that every now and again you’ll have a fall like 2009, when they were harvesting crops into the middle of December. Daren’s mindset through it all has been improving the land, which he has done since he started working with the farm, increasing organic matter and soil structure over the years by incorporating many agricultural best management practices. His driving force? “I want to leave the land in better shape than when I started,” he says, and that is a mentality he hopes to pass on to the next generation.

Join us in congratulating Schuerman Family Farm as the 2019 Outstanding Conservationists for Swift County!

FOR RENT **NO-TILL DRILLS** **FOR RENT**

AVAILABLE FOR RENT!

RATES:

10’ Haybuster Drill—\$100 Mobilization + \$10 per acre

12’ Truax Drill—\$100 Mobilization + \$12 per acre

ATV Seeding—\$50 Mobilization + \$100/hour



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Conservation Practice Spotlight - Water and Sediment Control Basin

From the Agricultural BMP Handbook for Minnesota, 2nd Edition:

A **water and sediment control basin (WASCOB)** is a small earthen ridge-and-channel or embankment built across (perpendicular to) a small watercourse or area of concentrated flow within a field. They are commonly built in a parallel series with the first ridge crossing the top of the watercourse and the last ridge crossing the bottom, or nearly so. They are designed to trap agricultural runoff water and sediment as it flows down the watercourse; this keeps the watercourse from becoming a field gully and reduces the amount of runoff and sediment leaving the field.

WASCOBs are similar to terraces in form and function, but the two practices are not interchangeable. Whereas terraces work best on relatively uniform slopes, WASCOBs are generally reserved for fields with irregular topography where contour practices would be difficult to implement or likely to fail.

While terraces generally extend all the way to field edges, following the contour of a slope in a ribbon-like pattern, WASCOBs from a distance look more like short, straight slivers, just long enough to bridge an area of concentrated flow. WASCOBs are generally grassed, but some can be farmed. The runoff water detained in a WASCOB is released slowly, usually via infiltration or a pipe outlet and tile line.

Why install WASCOBs on your land?

- Reduces agricultural runoff and sediment loading in nearby streams.
- Prevents small areas of concentrated flow from becoming field gullies.
- Helps control erosion on areas of hilly land where slopes are not uniform enough for practices that follow the contour.



Minnesota Wetland Conservation Act (WCA)

Mike Johnson, Swift County Parks, Drainage and Wetlands Director

What is this state law (i.e. Wetland Conservation Act)?

The Minnesota Wetland Conservation Act (WCA) is a state law that regulates activities that result in the draining, filling, or excavating of wetlands in Minnesota, including those on agricultural land. It is administered by local government units; in rural areas this is usually the County or Soil and Water Conservation District (SWCD).

What should agricultural landowners do before starting a project, including drainage and maintenance, that may impact a wetland?

1. Complete your "AD1026" form for your local USDA office.
2. Bring a copy to the County and explain what you plan to do.

The SWCD can advise you if your project is allowed under the state law, WCA, or if you need to submit an application to the local government. **Involving your local SWCD/County is the easiest and best way to avoid problems.**

Request a field visit by the local government that administers WCA. This can help identify regulated wetlands on your property, and regulations that could affect your project. Many wetlands do not contain standing water or are only saturated for part of the year, and can be difficult for landowners to identify.

Tell your contractor to submit a "Contractor Liability

form". Contractors who conduct projects that will impact a wetland are required to notify the local government. The Contractor Responsibility and Landowner Statement Form is available at www.bwsr.state.mn.us/wetlands/forms (see "Replacement Plan Forms") and must be mailed to the local government prior to starting work.

Communication is the key! Compliance with USDA does not mean compliance with other wetland laws. A quick call or stop at your SWCD or local government office prior to beginning your project will help you comply with the laws and save a project from potential additional costs and delays.





Salt Smartly this Winter

Dalton Herrboldt, Swift SWCD Conservation Technician

Minnesota winters bring snow and ice, and ice brings salt. The United States uses the most salt each year for de-icing on roads, parking lots, sidewalks, etc. Today, an estimated 20 million tons of salt is scattered on U.S. roads annually—about 123 pounds for every citizen. Salt lowers the freezing temperature of water, reducing ice. The most commonly used salts to melt ice are sodium chloride (standard road salt) and magnesium chloride. Magnesium chloride is more than twice as corrosive to stainless steel than sodium chloride. Magnesium chloride can be 10 times more corrosive to mild steel than sodium chloride. In addition, magnesium chloride has additives that provide greater protection for concrete reinforcements and bridge decks. These can reduce corrosion by more than 70% when compared to sodium chloride. Although sodium chloride and magnesium chloride are considered non-toxic, magnesium chloride has nearly three times the toxicity of sodium chloride on a common measure of toxicity. These salts can damage vegetation near roadways.



Browning and branch dieback on the side of a plant that faces a road or sidewalk is a common sign of salt damage. Freshwater sources can very quickly and easily be contaminated to the point that it's unsafe for people, plants, and animals. Adding salt to water also changes its density, making it less likely that water layers will shift and mix, which means layers may not have enough dissolved oxygen for fish to survive. Once lakes or rivers are contaminated by salt, there are no treatments economically or technologically to remove sodium from our waterways. You may ask, "What can I do to help?" For the general public that salts sidewalks or their driveways, all you need is one small handful of rock salt for ten feet of sidewalk/driveway. There should be about three inches between each salt crystal. This might seem small, but limiting our salt usage to only what is absolutely needed can have long lasting beneficial impacts on our environment.

Lawns to Legumes

Gemma Kleinschmidt, Pheasants Forever Farm Bill Biologist

The Board of Water and Soil Resources (BWSR) has recently created a new program called Lawns to Legumes, made possible through state funding. This program will focus on planting residential lawns with native vegetation and pollinator friendly forbs and legumes. Through this effort, the goal is to increase populations of the rusty patch bumblebee and other at-risk pollinator species.



**your yard
CAN BEE
the CHANGE**
#Lawns2Legumes

The program will have 3 components:

- 1) Demonstration Neighborhoods - create high profile community projects in pollinator pathways.
- 2) Individual Support - provide workshops, coaching, and cost-share. Priority areas will be used for determining eligible funding amounts for cost-share.
- 3) Public Outreach - promote the adoption of residential pollinator habitat and provide DIY resources.

Along with providing food and habitat for pollinator insects, pollinator plantings also provide benefits to water quality, carbon sequestration and other ecosystem benefits as well as improving soil health. The best way to support pollinator populations is to provide reliable food and nesting resources year after year. This can be achieved through several different project types:

- Native Habitat Pockets
- Flowering Trees and Shrubs
- Pollinator Lawns
- Pollinator Meadows

BWSR is currently working on developing the framework for the program, workshops, mapping and cost-share application process. More information, along with several DIY Resources, and the option to sign up for program updates are available online on BWSR's website:

<https://bwsr.state.mn.us/lawns-legumes-program-your-yard-can-bee-change>



Common Conservation Practices in Swift County

Rick Gronseth, NRCS Soil Conservation Technician

Conservation Tillage-Leave as much residue on the surface as you can all year to protect the soil surface from impacts of rainfall and extreme temperatures. Wind erosion in the spring tends to blow and drift into road right-of-way's and ditches, clogging up waterways and flowing into area lakes and wetlands. Cleaning ditches and waterways can get expensive. Using less tillage or no tillage may have some of the largest benefits to our natural resources. This practice has the greatest impact to soil loss on a field. Spring tillage only aerates the soil until the next rain event comes, then it seals the soil up and limits infiltration to the subsoil and creates runoff the rest of the growing season.



Cover Crops-There are numerous benefits to soil health and your soil reacts positively to the diversity of cover crops that can be used. They help hold nutrients for future crops as well as provide weed control and potential saving from using no tillage and planting into standing cover crops in the spring. Having a cover such as winter rye can also allow the planter to get in the field earlier in the spring than a conventional tilled field adjacent to it by having a root base to support the weight of the tractor and planter.

Water Management-Controlling water movement across the field and within the soil profile. Installing waterways or buffers at the end of a waterway before it enters the water body are only band aids to fixing the problem upland. You must slow the water from leaving the field and try to trap as much of it as you can on the land and release it timely to reduce the chance of erosion. Water and sediment control basins with tile outlets can be effective upland treatment practices when combined with residue management.

For more information about conservation practices you can implement on your land, contact your local NRCS office.

Cost Share Process from Swift SWCD

Andy Albertsen, Swift SWCD District Manager

The Erosion Control and Water Management (State Cost-Share) Program provides grants to SWCDs so they can help landowners offset the cost of installing conservation practices that improve water quality by reducing soil erosion, sedimentation, and runoff. These funds help the local SWCD to implement state-approved conservation practices. Eligible practices include: rain gardens, streambank and shoreline protection, water and sediment control structures, side inlets, alternative tile intakes, cover crops, and other practices with a water quality benefit. Most practices have a life span of 10 years (except cover crops), which means that they must be maintained for that length of time. Cost share amounts are typically 75% of the total project cost, leaving 25% for the landowner to contribute, either with payment or with in-kind work. Contact our office to begin this process today!

1. Landowner or operator identifies resource concern (erosion, water management, soil health, etc.).
2. Landowner requests technical assistance from SWCD.
3. SWCD surveys site and develops preliminary design and cost estimate.
4. Landowner reviews design and provides feedback.
5. SWCD finalizes design and provides copies to landowner.
6. Landowner provides copies to contractors and requests a project bid.
7. Landowner decides whether to accept bid.
8. SWCD drafts a Cost Share Contract based off the selected bid. Cost Share amount is typically 75% of the total project cost.
9. Landowner approves and signs contract. No obligation to complete the project until the contract is signed.
10. SWCD Board approves contract at Board Meeting.
11. Landowner informs contractor, a pre-construction meeting is scheduled between landowner, contractor, engineer and SWCD.
12. Project is completed.
13. Contractor submits invoice to landowner, landowner pays contractor.
14. Landowner submits paid invoices to SWCD, SWCD drafts Voucher form for landowner to sign.
15. SWCD Board approves signed voucher and issues payment to landowner.





Pomme de Terre Tackles Water Quality

Ann Wessel, Minnesota Board of Water and Soil Resources

For the first time in nearly 50 years, Drywood Creek is flowing freely this season in a sinuous streambed. A two-year, \$127,580 Pomme de Terre River Association (PDTRA) Joint Powers Board project removed Drywood Dam in 2017, and then returned the creek to its historic corridor in fall 2018. It's one piece of the PDTRA's ongoing effort to improve water quality within the watershed, which has drawn more than \$4.7 million in state and federal grants in the past 10 years. The Pomme de Terre River is the northernmost Minnesota River tributary. Two Clean Water Fund grants from the Minnesota Board of Water and Soil Resources (BWSR) and a grant from the Minnesota Department of Natural Resources (DNR) funded the project about 17 miles southwest of Morris. The erosion control and habit improvements at Drywood Creek will keep an estimated 212 tons of sediment — 16 dump truck loads' worth — out of the river annually. "What we hope to see here in 10 years is that those banks are nice and stable and you don't have culverts full of sediment," said Andy Albertsen, Swift Soil & Water Conservation District (SWCD) Manager. Drywood Dam was in Swift County; Albertsen worked directly with the landowner.

The PDTRA collaborates with six SWCDs and six counties within its 874-square-mile watershed. The 106-mile-long river runs from Fiske Lake 16 miles east of Fergus Falls in Otter Tail County to the Minnesota River near Appleton in Swift County. Projects installed to date include 166 water and sediment control basins, 205 alternative tile intakes (which filter water before it enters streams and rivers), 91 rain gardens, 273 acres of fenced livestock exclusions, 11 lakeshore protections and six manure pit closures. Other work protected 800 feet of Pomme de Terre shoreline, placed 138 acres in a conservation easement and restored a 2-acre wetland. Some of the installed best management practices drew from Natural Resources Conservation Service (NRCS) Environmental Quality Incentives Program (EQIP) assistance. Since 2011, the USDA's Conservation Reserve Program (CRP) and Continuous Conservation Reserve Program (CCRP) have brought nearly \$4.9 million in payments to retire 6,750 acres of marginal farmland within the watershed. Together, those programs have reduced phosphorus loading by nearly 79,760 pounds a year and sediment loading by nearly 79,760 tons a year.

Minnesota Pollution Control Agency (MPCA) staff has evaluated data collected as part two of a 10-year intensive watershed monitoring cycle. A report due out next spring will compare 2017-18 samples with those collected in 2007-08. Raw

data show the biggest improvements occurred in fish communities near Appleton. "If you really think about that, it's the pour point of accumulation of everything going on above it. If you look at it in a large scale, technically it's getting better," said Aaron Onsrud. A St. Paul-based environmental specialist with the MPCA's environmental analysis and outcomes division, he was involved with the most recent sampling. To be declared free of the index of biological integrity impairment for fish, all sample results on that final, 48-mile-long stretch of the Pomme de Terre River must meet the standard. The more forested northern part of the watershed remains in better overall condition. "Upstream of Barrett Lake, everything was in good shape. Some of it was in really, really good shape. I wouldn't use the word 'pristine,' but it stayed in good shape," Onsrud said. Five stream segments north of Barrett Lake produced 48 sample results — including measures of fish and invertebrate habitat, water clarity, pH and phosphorus. In three reaches north of Barrett Lake, MPCA staff sampled for ammonia and chloride. (cont.)



In September 2018, contractors rerouted a previously straightened segment of Drywood Creek in Fairfield Township, Swift County, into its historic, sinuous channel. Planners used old photographs as a guide. The project addressed one of the top sources of sediment entering the Pomme de Terre River, and will help reconnect the river to its floodplain.



Steve Linow of West Central Technical Service Agency collected data in September 2018 on Drywood Creek in Swift County. The creek is a tributary of the Pomme de Terre River



(cont.) Twenty-seven of the 48 results met water-quality standards or supported fish and invertebrates. Five did not. Sixteen were inconclusive or could not be assessed. “We’re constantly reevaluating our success and looking at what our turbidity results are and our phosphorus levels. Sometimes we’re disappointed. But we have to say, ‘Where would those levels be if we weren’t doing anything?’” said Keith Swanson of Hoffman, a Grant County commissioner and chairman of the 12-member Pomme de Terre River Association Joint Powers Board.

The PDTRA formed in 1981 to address both water quality and quantity issues. The watershed includes 751 river and stream miles. The MPCA’s 2007-08 Watershed Restoration and Protection Strategy (WRAPS) monitoring, assessment and prioritization within the Pomme de Terre River watershed gave the PDTRA a blueprint for action. The MPCA in 2008 approved the watershed’s plan to address fecal coliform bacteria levels in a southern stretch of the Pomme de Terre. Work began in earnest in 2009 with a \$286,320 U.S. Environmental Protection Agency (EPA) grant to monitor fecal coliform and a \$24,370 MPCA Surface Water Assessment Grant. In the past 10 years, projects have focused primarily on reducing phosphorus and sediment — sources of the most common impairments throughout the watershed.

Stephanie Adams, the former Pomme de Terre River Association watershed projects coordinator, credited funding success to a longstanding collaboration that predates One Watershed, One Plan — a current movement to a locally driven, watershed-based approach that spans political boundaries. “We have a very, very strong partnership with the counties and the soil and water (conservation) districts. Because of that, for the last 10 years they’ve been incredibly successful at getting Clean Water Funds and EPA grants to get projects on the ground,” Adams said. In 2019 the Pomme de Terre River Association received a \$541,775 Clean Water Fund grant to address the top sediment-producing catchments on ag land plus stormwater runoff identified in the Watershed Restoration and Protection Strategy. Projects proposed in that grant would reduce sediment by an estimated 14,690 tons — 1,130 dump trucks’ worth — and phosphorous by an estimated 12,270 pounds annually. Since 2011 the PDTRA has received more than \$2.7 million in Clean Water Fund grants for technical assistance, project development and implementation. It also received a \$115,250 Clean Water Fund grant in 2016 to develop Prioritize, Target and Measure application (PTMAp) — a tool for matching strategies to the best management or conservation practices in priority areas.



The project was completed in fall of 2018 and now Drywood Creek flows in its historic channel. This image shows root wads that were installed in the streambank to armor it from erosive water flows by redirecting the stream energy away from the bank and back towards the center of the creek.

New NRCS Soil Conservationist at Benson Field Office

Thomas Tjepkes, NRCS Soil Conservationist

Hi everyone! My name is Thomas Tjepkes and I’m the new Natural Resources Conservation Service (NRCS) Soil Conservationist in the Benson field office. I was born and raised in Detroit Lakes, MN. After high school I attended the University of Minnesota-Crookston. I graduated from UMC in December of 2016 with a Bachelor of Science degree in Natural Resources Management. After college I started working for the U.S. Fish and Wildlife Service in Fergus Falls, MN. I spent three years there as a range and biological science technician. As a Soil Conservationist I will be working with landowners to plan, develop, and assist with conservation solutions to promote better wildlife habitat, conserve soil, and improve water quality. In my free time I enjoy spending time outdoors hunting, fishing, camping, and hiking. I’m looking forward working with local landowners in Swift County and help conserving the land for future generations to come.





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Conservation District Newsletter**

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2nd Annual Swift SWCD Tree Open House

Staff will be available to assist you with planning, layout, and species selection for your tree planting project.

Wednesday, January 29th, 2020

7:30am - 5:00pm

Swift SWCD Office

1430 Utah Ave. Benson, MN

We will have coffee, hot apple cider, and treats!

Orders placed during the Tree Open House will receive 10% off their total
(In-person orders only)