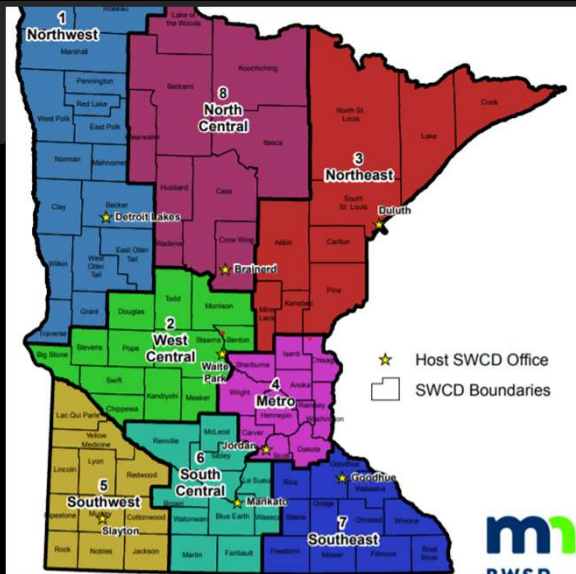


# Minnesota Technical Service Areas

Annual  
Report for  
2020



# Technical Service Areas

## Technical Service Areas (TSAs)

TSAs are a critical component of the conservation delivery system in Minnesota for conservation on private lands, with the associated benefits to water quality, wildlife habitat, agricultural productivity, and sustainability. Eleven joint powers boards (JPBs) of soil and water conservation districts (SWCDs) were established in 1994 in conjunction with establishment of the Agricultural Best Management Practices Loan Program and Clean Water Partnership Loan Program, which utilize funding from the State Revolving Fund. Accelerated technical assistance was identified as a critical need for program implementation. The Legislature appropriated General Funds to BWSR to create what became the Non-Point Engineering Assistance Program (NPEAP). These funds were used by the JPBs to provide engineering assistance to the member SWCDs. From the beginning, NPEAP staff has utilized current surveying and design technology to help provide effective and efficient engineering assistance. Engineering was the sole focus of the program until 2003, when the Conservation Technical Assistance Committee (CTAC), made up of SWCD Supervisor representatives from the 11 JPBs, met to discuss potential consolidation (which didn't occur at that time) and recommended revising the name to Technical Service Areas (TSAs) to encourage the inclusion of other technical services. In 2009, the original 11 TSA boundaries were revised to reduce the total number to 8 TSAs and to be co-aligned with MASWCD area boundaries, due primarily to funding constraints. These are the current TSA boundaries.

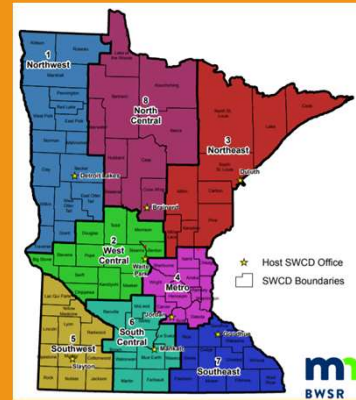
TSA staff provide technical assistance to and through member SWCDs, in cooperation with the USDA NRCS, BWSR and other local, state, and federal government units. BWSR provides annual base grant funding, as well as policy, administrative, and technical consultation to the joint powers boards and their staff. General Fund base grant funding has been flat for a number of years, which has required an increasing local share from other sources of funding. SWCD TSAs can receive additional technical assistance funding through fees for service, member SWCD contributions and specific project grants, including through the Erosion Control and Water Management Program, applicable BWSR Clean Water Fund (CWF) Competitive Grant Programs, the EPA Section 319 Grant Program, and other grant funding sources. In fiscal year 2016, BWSR provided noncompetitive CWF TSA Enhanced/Shared Technical Assistance grant funding to the eight TSAs.

Each TSA has a designated host office and manager. One member SWCD serves as the host district manager, and in most cases, also serves as the fiscal agent for the grants received from BWSR. In a few cases, one member SWCD is the host district manager and another SWCD is the fiscal agent.

For more information, see the Technical Services Area Chapter of the SWCD Operational Handbook: <http://bwsr.state.mn.us/technical-service-areas>

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## Report Content

Technical Service Areas (TSAs) that receive BWSR grant funding are required to report accomplishments from the previous calendar year, similar to other BWSR grant programs.

This report is focused primarily on the activities completed using BWSR grants to TSAs. However, many TSAs access funding from other sources, including partner dues, other state and federal gov't sources and non-gov't sources. Therefore, where possible, all TSA activities are reported here regardless of funding source.

There are two version of this report available: an abbreviated version (slides only) and detailed version (slides and notes).

## TSA contribution to conservation delivery

- In 2020, BWSR provided \$3M to TSAs for engineering and technical services.
- Approximately 35 TSA staff provided engineering and technical services to their partner members.
- 378 engineering projects completed totaling \$9.7M
- Non-engineering technical services provided: GIS, marketing, training, nutrient management and grazing

Report Summary

## BWSR Funding to TSAs: FY 20-21 Allocations

TSA	Nonpoint Engineering Assistance Program					Clean Water Fund	FY 2020 Total	FY 2021 Total
	FY20-21 NPEA Grant	FY20 Equipment	FY21 Equipment	FY 2020 Total NPEA Grant	FY 2021 Total NPEA Grant	FY20-21 Enhanced Technical Assistance		
1	\$127,500	\$20,000	\$0	\$147,500	\$127,500	\$242,500	\$390,000	\$370,000
2	\$127,500	\$0	\$20,000	\$127,500	\$147,500	\$242,500	\$370,000	\$390,000
3	\$127,500	\$0	\$0	\$127,500	\$127,500	\$242,500	\$370,000	\$370,000
4	\$127,500	\$0	\$0	\$127,500	\$127,500	\$242,500	\$370,000	\$370,000
5	\$127,500	\$0	\$20,000	\$127,500	\$147,500	\$242,500	\$370,000	\$390,000
6	\$127,500	\$20,000	\$0	\$147,500	\$127,500	\$242,500	\$390,000	\$370,000
7	\$127,500	\$0	\$0	\$127,500	\$127,500	\$242,500	\$370,000	\$370,000
8	\$127,500	\$0	\$0	\$127,500	\$127,500	\$242,500	\$370,000	\$370,000
	<b>\$1,020,000</b>	<b>\$40,000</b>	<b>\$40,000</b>	<b>\$1,060,000</b>	<b>\$1,060,000</b>	<b>\$1,940,000</b>	<b>\$3,000,000</b>	<b>\$3,000,000</b>

- BWSR provides grants to our Technical Service Area (TSA) partners to deliver essential engineering and associated technical services for critical soil and water conservation and water quality practices and projects on private lands.
- These services are provided by and through member Soil and Water Conservation Districts (SWCDs).

# TSA Staff Capacity



TSA	Full Time Staff	Part Time Staff	Total # Staff
1	1 engineer; 2 engineering technicians; 1 GIS specialist	0	3.15
2	1 engineer; 3 engineering technicians; 1 nutrient management specialist	0	5
3	1 engineer, 3 engineering technicians	1 engineering technician	5
4*	2 engineer, ~11 staff		2.05
5	1 engineer; 3 engineering technicians	1 administrative coordinator; 1 financial coordinator; 1 soil health/training coordinator	5
6	1 engineer; 2.5 engineering technicians	0	3.4
7	1 agricultural engineer, 1 environmental engineer; 2 engineering technicians	0	4
8	1 engineer; 2 engineering technicians	1 GIS specialist, 1 graphics/marketing, project facilitator	6
<b>TOTAL</b>			<b>33.6</b>

\*TSA 4: No staff are hired through the TSA. Existing member staff, with various specialties, provide services.

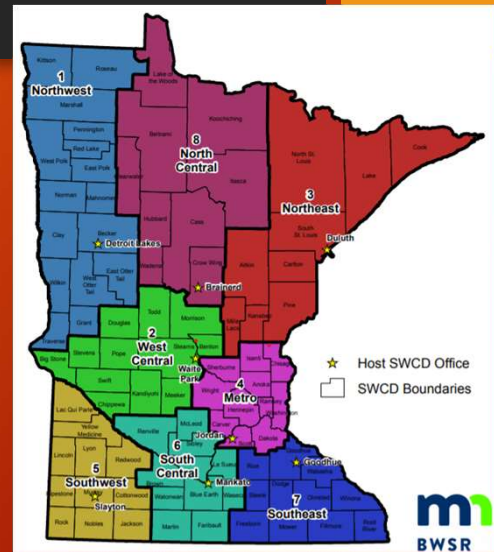
- All the TSAs have employees, except TSA 4 where technical assistance is provided by independent contractors or in-house SWCD staff.
- In TSAs 1, 3, and 5-8, the boards are the employers. In TSA 2 several TSA member SWCDs employ the staff.
- Staff may be located at various locations within the TSA boundary.
- TSA staff include full time, part time and contract staff.



## Engineering Assistance Provided

Statewide in 2020:

- 719 site visits
- 514 completed engineering plans
- 378 projects constructed
- Approx. \$9.7 million in constructed projects



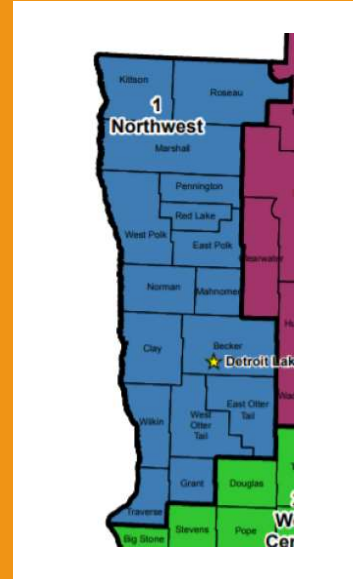
- Reporting includes every project that was completed using TSA assistance. A project could be for services provided to other TSAs.
- Site visits (on-site): (e.g. investigation/planning, surveying, and preliminary cost estimate)
- Engineering plans/designs: draft engineering plan developed
- Projects constructed: project has been completed and signed off by engineer as completed. If multiple practices are included in a project, such as a feedlot project, a series of water and sediment control basins, or a treatment train of practices on a field that are designed together, constructed together and/or share a common outlet, report these as one project with a primary practice and multiple units, as applicable.
- \$ cost: estimated cost of the constructed project

## TSA 1

### Technical/Specialized Services Provided:

A full-time GIS Specialist remains on staff to provide support, training and GIS services to the 16 member SWCDs of TSA 1 (see notes).

- Completed maps for Two Rivers and Wild Rice/Marsh Comprehensive Watershed Management Plans (CWMP)
- Prepared PTMApp data for scenario building in the Two Rivers 1W1P process
- Set up ArcOnline maps for tracking implementation of completed CWMP's
- Managed ESRI license account for all SWCDs



- Technical services provided continued: The TSA has an ESRI license purchased through the ESS grant. The GIS specialist manages that account and assists SWCD staff with installation of software, provides troubleshooting and technical support to SWCD staff. Completed the Land and Water Resource Narrative maps for Two Rivers 1W1P (43 hours) and Wild Rice/Marsh 1W1P (39 hours). PTMApp data was used to create maps and excel spreadsheets and locate and rank potential projects sites throughout the Two Rivers 1w1p (35 hours). ArcGIS Collector App and ArcGIS Online maps were also created for project tracking purposes for the Thief River 1W1P (5 hours), Red Lake River 1W1P (12 hours) and Otter Tail 1W1P (6 hours).

## TSA 2

### Technical/Specialized Services Provided:

- A nutrient management specialist assists farmers in generating a Comprehensive Nutrient Management Plan (CNMP) to make them eligible for federal funding.
- One technician is a certified drone pilot. Drone imagery is made available for member SWCDs for use in promotional and educational materials.

### Other funds utilized:

- Clean Water Fund Accelerated Implementation Grant - Nutrient management specialist
- NRCS Conservation Collaboration Grant - supplementation



## TSA 3

### Technical/Specialized Services Provided (see notes):

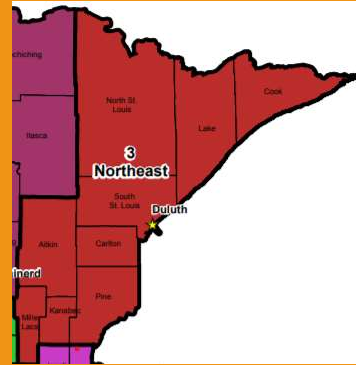
- GIS, SWMM modeling, BANCS assessment, Pfankuch assessment.

### Other Funds Utilized (see notes):

- Lessard-Sams OHF: Plans were developed for several stream restoration projects.
- National Fish and Wildlife Foundation: develop a proposal for approximately 0.8 miles of streambank restoration on Penobscot Creek

### Education/Training Provided (see notes):

- 32 hours training to SWCD staff and landowners



T/S provided continued: 16 hours of GIS services and 60 hours of SWMM watershed monitoring and mapping. Mapping and monitoring along with BANCS field study was performed for several sites adding up to 80 hours of work.

### Other Funds Utilized:

Lessard-Sams OHF: 1199 hours of staff time were spent implementing Lessard Sams Outdoor Heritage Council funded projects. These projects were a mix of CPL grants, MNTU collaborations, and directly awarded LSOHC-funded work. Plans were developed for five crossing restorations along high-quality North Shore trout stream crossing barriers, and a plan was developed to reconnect a perched lake outlet to its downstream flow. Approximately 1.2 miles of stream restoration work were designed with several more miles assessed and currently in plan development in South St. Louis County, with 0.2 miles constructed. The goals of this stream work include access to colder headwaters, turbidity reduction, and temperature impairment reduction. Projects reports are available at: [https://www.lsohc.leg.mn/FY2019/accomp\\_plans/index.html](https://www.lsohc.leg.mn/FY2019/accomp_plans/index.html) .

- NTS Consulting Stream Design: 55 hours of staff time were spent under contract with NTS Consulting out of Virginia, MN; by request with North St. Louis SWCD to help them develop a proposal for approximately 0.8 miles of streambank restoration on Penobscot Creek, a major source of sediment and stream warming to the Swan Creek watershed. TSA provided survey and stream restoration guidance as NTS developed a proposal for mitigation work

through US Steel, which is currently in review with the ACoE. • Sustain our Great Lakes (NFWF): 1601 hours of staff time were spent implementing SOGL/NFWF-funded projects. These projects included the five crossing restorations along high-quality North Shore trout streams, in collaboration with LSOHC funding but primarily funded through SOGL.. Survey, design, and bidding were performed across these five crossings with construction planned for 2021. The goals of these crossings are to reduce sediment aggradation/deposition while reconnecting several miles of high quality stream headwaters with Lake Superior, promoting aquatic species health. Project reports available at: <https://www.nfwf.org/programs/sustain-our-great-lakes-program?activeTab=tab-3> .

E/T:

1. 32 hours of training. 10 hours of work related to TTCP area meetings.
2. Streambank and shoreland protection, Field Survey, Stormwater retention/detention basins, and advanced hydraulics. Organizing TTCP meetings as board chair as of July 2020.
3. Approximately 90 residents of Pine County through trainings performed by TSA staff on behalf of Pine SWCD and Pine County Highway Department. 24 SWCD staff.
4. Two online webinars performed by TSA staff. Several field trainings on-site with SWCD staff. Quarterly TTCP meetings.

## TSA 4

### Technical/Specialized Services Provided:

- Licensed engineers and technical staff services for planning, feasibility analysis, design, survey, construction oversight and project certification.

### Other Funds Utilized:

- Competitive clean water funds (see notes)

### Education/Training Provided:

- Held a subwatershed assessment protocols and analysis training for member staff, with continued technical support provided by Washington, Anoka and Chisago SWCDs.
- Supported the professional development of 7 member staff.



### Competitive clean water funds supported:

- the development of the campus groundwater conservation planning protocol
- analysis on 21 campuses across TSA 4, to identify prioritized water conservation opportunities.
- update of the rural and urban subwatershed analysis protocols and began/completed analysis of 16 subwatersheds.

## TSA 5

### Technical/Specialized Services Provided:

- Trainer for SWCD technicians to achieve Job Approval Authority and to help write cover crop plans. Contractor to assist SWCD technicians in completing site walkovers.

### Other Funds Utilized:

- Received second NACD Technical Assistance grant consisting of \$125,000 in grant funding and \$31,250 in match (see notes).
- The TSA has an unwritten agreement with the Yellow Medicine and Missouri 1W1P to provide technical and engineering assistance and are reimbursed through their implementation funding.



### Other Funds Utilized continued:

Received second NACD Technical Assistance grant consisting of \$125,000 in grant funding and \$31,250 in match. Grant funding is utilized by the TSA staff in completing EQIP funded projects. The Soil Health/Training Coordinator helps to meet our grant match, in turn by working with the local staff completing project objectives (I/E, staking, surveying, design, checkout) and working toward Job Approval Authority.

## TSA 6

### Technical/Specialized Services Provided:

- TSA completed 28 plans and constructed 43 projects. Construction costs for 2020 projects were estimated at \$930,000. The TSA staff assisted with a total of 115 projects throughout the year.

### Other Funds Utilized:

- TSA staff have been assisting Le Sueur County with multiple projects throughout the German/Jefferson watershed including the Koppelman wetland, which is one of the highlighted projects within this summary (see notes). Several other erosion control and flood damage reduction projects were completed with this same CWF grant funding.
- TSA staff assisted Martin County with projects pertaining to their County Ditch 2 grant they received.

### Education/Training Provided:

- TSA 6 Staff assisted with 1 EFT WASCOB training and 2 EFT waterway trainings.





## TSA 7

### Technical/Specialized Services Provided (see notes):

- Training for SWCD staff, grazing management planning

### Other Funds Utilized:

- NACD grant to assist NRCS with EQIP T/A
- Provided TA on CWF projects
- Several Trout Unlimited projects on our local streams
- Feedlot assistance on an EPA grant and Regional RCPP project as well as TA on Watershed Based Implementation Funding projects

### Education/Training Provided (see notes):

- 200 hours training provided to SWCD staff
- 13 OJT sessions, 5 training planning meetings, and 3 organized training sessions



- T/S provided continued: These extra grants made a significantly impacted the SE TSA budget in a positive way. Overall, CY2020 revenue from these 'other funds' are estimated at \$110,000.
- E/T continued: Training is an additional item of work in which to some degree each of the TSA staff is involved. One Staff member is part of the statewide training team and more of that staff persons time is dedicated to training. There is approximately 200 hours that have been reported that staff dedicated to some type of training. There were 13 sessions of OJT that were provided that resulted in the project completion with the District staff member. The TSA staff member attended 5 planning meetings to aid in training planning. There were 3 organized training meetings that were completed by the training team member and other staff on that team. Three District staff members in the TSA area were provided training on the feedlot model used by the state and have more experience using the model due to the training provided. Approximately 3.9 FTEs work on engineering and technical assistance and 0.1 on education.

## TSA 8

### Technical/Specialized Services Provided:

- GIS services: PTMapp for Pine River One Watershed, One Plan, Landscape Stewardship Plan mapping
- Increased SWCD implementation with landowners through direct conservation marketing, social media, and videography.

### Other Funds Utilized:

- \$150,000 of AIG funding utilized to develop forest protection strategies

### Education/Training Provided:

- BWSR Academy Training on private forest management
- 910 hours of project management training provided to SWCDs



Other GIS Services: Developed white paper for watershed protection for the forested zone of Minnesota.

TSA staff played a key role in the successful application to LSOHC for 3.65 million dollars for fisheries habit protection.

The TSA board conducts a survey of staff performance on a monthly basis.

## Highlighted Project: Crow Wing Pine River Fish Passage Project

### BEFORE

Large bounce in Big Pine Lake Water Surface  
No Fish Passage  
Streambank Erosion  
Failing Existing Rock Dam



### AFTER

Rock Riffle Structure provides fish passage while controlling Big Pine Lake levels with small bounce  
Streambank Protection  
Improved Access to Structure



- TSA 8 Technical Service Area staff engineered and coordinated the Pine River rock dam replacement project, which restores fish passage, and enhances habitat for fish and other aquatic species in the Pine River and connected waters including the Mississippi River.
- Construction was complete in April 2020.
- The rock riffle structure acts like a series of steps that maintain upstream elevations while allowing fish to pass.
- Each of the five rock weirs is anchored by boulders 4 feet in diameter.
- \$1.25 million project

BWSR Snapshot story: <http://bwsr.state.mn.us/sites/default/files/2020-11/Snapshot%20Story%201%20November%202020%20TSA8%20Pine%20River%20dam%20OAW.pdf>

Highlighted Project:  
Jefferson German phosphorus reduction project



*Contractors in summer 2020 excavated more of the wetland to increase flood storage, and installed a culvert connecting it to the upper watershed.*  
**Photo Credit:** Le Sueur County SWCD

- TSA 6 (South Central Technical Service Area) designed wetland plan.
- The \$40,000 wetland project on Koppelman's land now diverts water from a ravine and treats runoff from about 200 acres — most of it from neighboring fields fertilized with cow manure and hog manure — before it enters the lake.
- The Koppelman project alone is projected to reduce soil erosion by 161 tons a year, curb sediment loading by 69 tons a year and reduce phosphorus loading by slightly more than 79 pounds a year.

## Highlighted Project: Currier Brothers feedlot project



- TSA 7

In 2020, the Area 7 TSA staff provided both technical and financial assistance to the Currier Brothers Dairy farm in Dodge County on an animal waste control and management facility. This “Century Farm” family dairy operation had been working with the Dodge SWCD staff for several years, trying to remedy both a pollution and manure management issue. Their operation at the time required weekly scraping and hauling of dairy manure out to their fields which was not always timely from a resource protection and manure management standpoint. In addition, their milk house wastewater system was failing, and runoff from an open feedlot was draining into a wetland complex.

The Area 7 TSA is the fiscal agent for a BWSR grant that is part of a Resource Conservation Partnership Program (RCPP) Agreement with the NRCS called the “Lower Mississippi River Feedlot Management in Minnesota” RCPP. Through this partnership, Currier Brothers received federal funds through the NRCS Environmental Quality Incentives Program (EQIP) as well as state funds to provide a 90% cost share rate for the construction of their new Ag Waste System. In addition, TSA Engineer Pete Fryer, and Civil Engineering Technicians Jason Rochester and Chris Nelson, provided technical assistance on the project.

## Highlighted Project: Balaton Cemetery shoreline restoration



### TSA 5

- TSA 5 designed a lakeshore restoration project for the Balaton Cemetery on Lake Yankton.
- The \$77,000 restoration project has stabilized 400 feet of slumping lake shore, funded by Lyon County, Balaton Cemetery Association, and Lyon SWCD.
- Tile was also installed to catch seepage from a gravel vane that was causing the lakeshore to slump.
- 2 rock chutes were installed to prevent gully erosion from surface flow from the cemetery.
- The project saved a driveway from sloughing into the lake and numerous burial plots from being exposed.

More info at  
<http://bwsr.state.mn.us/technical-service-areas-tsas>

## Technical Service Areas (TSAs)

Counties

Soil and Water Conservation Districts

SWCD Financial Statements

SWCD Operational Handbook

Technical Service Areas (TSAs)

Watershed Districts

Watershed Management Organizations

Cities and Townships

Regional Partnerships

State Agencies

Federal Agencies

### History

In 1994, eleven joint powers boards (JPBs) of SWCDs were established in conjunction with establishment of the Agricultural Best Management Practices Loan Program and Clean Water Partnership Loan Program, which utilize funding from the State Revolving Fund. Accelerated technical assistance was identified as a critical need for program implementation. The legislature appropriated money from the state's General Fund to BWSR to create what became the Non-Point Engineering Assistance Program (NPEAP). These funds were used by the JPBs to provide engineering assistance to the member SWCDs.

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### Purpose

TSAs are a critical component of the conservation delivery system in Minnesota for conservation on private lands, with the associated benefits to water quality, wildlife habitat, agricultural productivity, and sustainability. TSA staff provide technical assistance to and through member SWCDs, in cooperation with the USDA NRCS, BWSR and other local, state, and federal government units.

### Authority

TSA authority can vary, depending on how the organization is structured.

### Organizational Structure

There are currently three different types of organizational structures that are used by the various TSAs:

- Joint Powers Agreement with board (most common current model);
- Joint Powers Agreement with no board; and
- Memorandum of Agreement with administrative team.

### Staff

BWSR maintains a [TSA Directory \(.pdf\)](#) containing staff contact information, as well as, the TSA address and telephone number(s).

### Map

This [map \(.pdf\)](#) shows the current TSA and MASWCD areas.

### Web Links

[TSA 1](#) [TSA2](#) [TSA3](#) [TSA4](#) [TSA5](#) [TSA6](#) [TSA7](#) [TSA8](#)