Nine-Townships Watershed
Project Implementation Plan

Mercer County Soil Conservation District
1400 Hwy 49 North # 102
Beulah ND 58523
701-873-2101
E-mail: mcscd@westriv.com

State Contact Person: Emilee Novak
Phone: 701-328-5240
E-mail: ejnovak@nd.gov

State: North Dakota
Watershed: Nine-Townships Watershed
Hydrological Unit Codes: 1013020106 & 1013020107
High Priority Watershed: Yes

TMDL Development and/or Implementation (check any that apply)

Project Types	**Waterbody Types**	**NPS Category**
[ ] Staffing and support	[ ] Groundwater	[x] Agriculture
[x] Watershed	[ ] Lakes/Reservoirs	[ ] Urban Runoff
[ ] Groundwater	[x] Rivers	[ ] Silviculture
[ ] I&E	[x] Streams	[ ] Construction
	[ ] Wetlands	
	[ ] Other	

Project Location: LATTITUDE: 47° 20' LONGITUDE: 101° 40'

Major Goal: The primary goal of the project is to restore and maintain the recreational uses of the Knife River tributaries within the project area. As a secondary goal, the project will also benefit recreational uses in the mainstream of the Knife River downstream from the project. The project goal will be accomplished by reducing E. coli bacteria concentrations to state standard levels in the Knife River tributaries and indirectly, the Knife River.

Project Description: The project sponsors intend to 1) Reduce E. coli bacteria concentrations, 2) Improve vegetative conditions of rangeland and riparian corridors, 3) Install 3-4 winter feeding manure management systems, 4) conduct follow-up contacts to assist with conservation plan updates and monitor O&M of 319 cost shared practices, 5) track progress of BMPs being placed in the county and distribute results through newsletters, meetings, and tours to help promote further conservation practices, 5) secure additional cost share opportunities, 6) inform producers and landowners of the Nine-Townships Watershed through mailed newsletters, 7) schedule informational, winter feeding, manure management, BMP and riparian meetings and tours. 8) educate SCD Board Supervisors, Water Resource Board members and County Commissioners to increase awareness of watershed management objectives and resources. Recruitment efforts will include direct mailings to producers/landowners in the project area.

Nine-Townships Funding Allocations

FY26 Section 319 funding:	$595,838
Producer Cost and Match:	$229,296
Other local/state/federal funds:	$192,899
Total Project Cost:	**$1,018,033**

2.0 Statement of Need

2.1 The Knife River Sub-Basin is in southwest Mercer County. The watershed sizes range from 24,320 acres to 71,680 acres to make a combined acreage of 247,040. Water quality and maintenance of rivers and streams are a valuable resource in Mercer County. The Knife River Sub-Basin is classified as a class II stream, which states that the quality of waters in this class shall permit the propagation and life of resident fish species and other aquatic biota. The quality of water shall also permit its use for recreation, irrigation, stock watering, and wildlife use. Impacts of major concern to the Knife River Sub-Watersheds water quality are from Non-Point Source Pollutants (NPS) from surrounding agricultural lands.

A fecal coliform bacteria TMDL was approved for the Knife River Tributaries in Mercer County in September 2010. The web link for the TMDL is Fecal Coliform Bacteria TMDLs for the Knife River Tributaries in Mercer County, North Dakota (nd.gov). Tributaries addressed in the TMDL included Brush, Coyote, Elm, and Willow Creeks. Based on the 2020-2022 assessment data, recreational uses are impaired and will be the primary beneficial use addressed by the project. The causes of the recreational use impairments are excessive E. coli bacteria concentrations associated with livestock grazing and manure management.

2.2 The Knife River Sub-Basin is in the southern one-third of Mercer County and consists of 247,040 acres. The Hydrological unit codes for the Knife River Sub-Watersheds are 10130201-060, 10130201-070, 10130201-100, 10130201-110, 10130201-080, and 10130201-090. The Knife River flows across the County in a southeastern direction and meets up with the Missouri River on the far eastern edge of Mercer County.

2.3 Maps
See Maps, Appendix A

2.4 The Knife River Sub-Basins topography is characterized by rolling hills on the eastern side of the county and in the west, rough terrain with large buttes, steep hills, and deep draws. Elevation ranges from 1,670 feet where the Missouri River leaves the county to about 2,400 feet in the southwestern part of the county. Soils vary greatly in different areas of the county and range from soft shale plains to extreme sand. Unique to Mercer County is the Knife River Flint used by the early Native Americans and early settlers. Annual precipitation for the county is 14" on average. Important artesian aquifers are in the Fox Hills and Hell Creek Formations of Late Cretaceous age and the Tongue River Formations of Tertiary age. Most of the water used as domestic and livestock water for farms is derived from the lignite coal veins in Ft. Union shale. There are huge amounts of Lignite coal in Mercer County being mined.

The natural resource management concern is erosion control, primarily water erosion on rangelands and confined areas for feeding livestock. Other concerns include range practices for summer grazing and cropland erosion. Of the 247,040 acres in the Knife River Sub-Watersheds 65% is rangeland, 5% is CRP, 29% is cropland, and 1% is industrial coal mining. Interest in the project has been shown for many different types of Best Management Practices (BMPs). We have seen a huge demand for pipelines, solar wells, portable windbreak panels, grass seeding as well as interest in zero till farming practices.

2.5 Four sites on the Knife River tributaries were monitored for three years. Parameters monitored included total phosphorus as phosphate, total nitrogen as nitrogen, total suspended solids, and E. coli bacteria. Results from the 2020-2022 assessment (included below), indicated E. coli bacteria is the primary water quality impairment in the tributaries.

For each parameter, box plots were used to depict the distribution of the sample results organized by sampling year. The blue box portion extends from the first (lower) to the third (upper) quantiles. The green horizontal line

within the box is the median of the dataset. The whiskers show the range of the data (extension limited to one and a half times the range of the box) and the hollow circles are the outliers. A trend line is constructed utilizing the arithmetic mean yearly values (indicated by black dots) from 2020 – 2022.

Table 1. Monitoring Site 384114 (Brush Creek) – E. coli Bacteria 30-day Geometric Mean, Percent Exceedance of 409 CFU and Support Status

Site 384114 – E. coli Concentrations by Month – 2020 to 2022									
May	#/100 mL	June	#/100 mL	July	#/100 mL	August	#/100 mL	September	#/100 mL
05/04/20	52	06/02/20	460	07/06/20	74	08/03/20	120	09/02/20	10
05/11/20	52	06/09/20	510	07/13/20	120	08/10/20	30	09/08/20	10
05/12/20	10	06/16/20	400	07/20/20	500	08/17/20	85	09/14/20	20
05/20/20	52	06/22/20	200	07/27/20	310	08/17/20	570	09/21/20	20
05/03/21	240	06/29/20	990	07/29/20	120	08/24/20	350	09/28/20	52
05/10/21	85	06/14/21	180	07/06/21	190	08/31/20	10	09/01/21	97
05/17/21	150	06/21/21	510	07/12/21	20	08/02/21	63	09/07/21	140
05/24/21	420	06/28/21	120	07/19/21	10	08/09/21	240	09/13/21	230
05/26/21	120	06/06/22	98	07/20/21	74	08/16/21	190	09/20/21	97
05/02/22	10	06/13/22	660	07/26/21	41	08/23/21	110	09/27/21	30
05/09/22	290	06/21/22	720			08/31/21	74		
05/16/22	5	06/27/22	8200						
05/23/22	5	06/29/22	470						
05/31/22	190								

Site 384114 Summary					
	May	June	July	August	September
Number of Samples	14	13	10	11	10
Geometric Mean CFU/100 mL	56.01	455.88	84.72	103.29	42.43
% > 409 CFU/100 mL	7.10%	61.50%	10.00%	9.10%	0.00%
Recreational Use Assessment	Fully Supporting	Not Supporting	Fully Supporting	Fully Supporting	Fully Supporting

Figure 1. Trends in E. coli bacteria at site 384114.

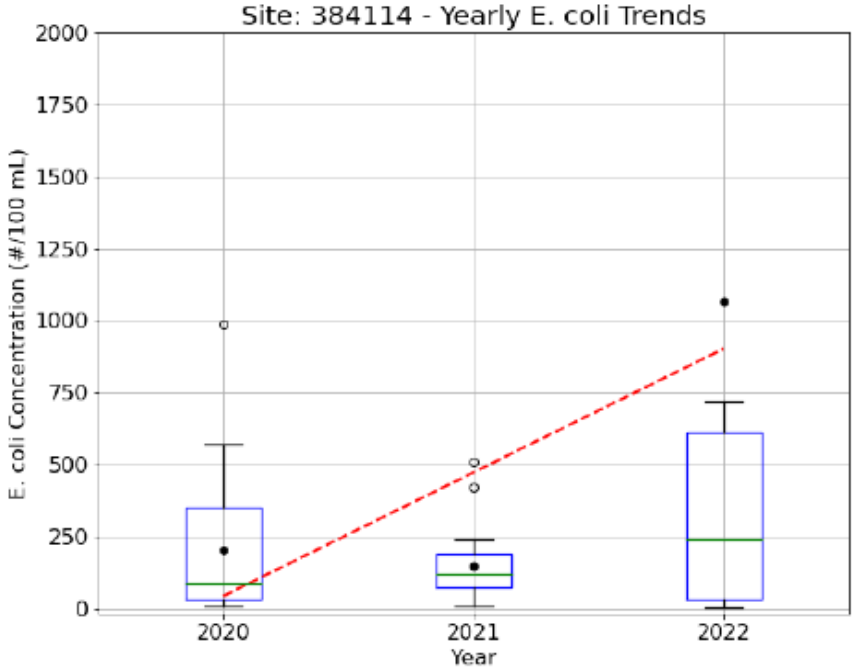


Table 2. Monitoring Site 384115 (Coyote Creek) – E. coli Bacteria 30-day Geometric Mean, Percent Exceedance of 409 CFU and Support Status

Site 384115 – E. coli Concentrations by Month – 2020 to 2022									
May	#/100 mL	June	#/100 mL	July	#/100 mL	August	#/100 mL	September	#/100 mL
05/04/20	52	06/02/20	910	07/06/20	98	08/03/20	240	09/02/20	31
05/11/20	41	06/09/20	730	07/13/20	280	08/10/20	62	09/08/20	120
05/12/20	10	06/16/20	10	07/20/20	96	08/24/20	10	09/14/20	240
05/20/20	97	06/22/20	1300	07/27/20	98	08/31/20	570	09/21/20	63
05/26/20	160	06/29/20	63	07/29/20	240	08/02/21	31	09/28/20	75
05/03/21	10	06/07/21	640	07/06/21	24000				
05/10/21	5	06/14/21	780	07/12/21	670				
05/17/21	130	06/21/21	2600	07/19/21	150				
05/24/21	530	06/28/21	16000	07/20/21	200				
05/26/21	150	06/06/22	1000	07/26/21	17000				
05/02/22	31	06/13/22	960						
05/09/22	31	06/21/22	430						
05/16/22	52	06/27/22	420						
05/23/22	20	06/29/22	2600						
05/31/22	210								

Site 384115 Summary					
	May	June	July	August	September
Number of Samples	15	14	10	5	5
Geometric Mean CFU/100 mL	50.54	685.82	468.38	76.55	84.15
% > 409 CFU/100 mL	6.60%	85.70%	30.00%	20.00%	0.00%
Recreational Use Assessment	Fully Supporting	Not Supporting	Not Supporting	Fully Supporting but Threatened	Fully Supporting

Figure 2. Trends in E. coli bacteria at site 384115.

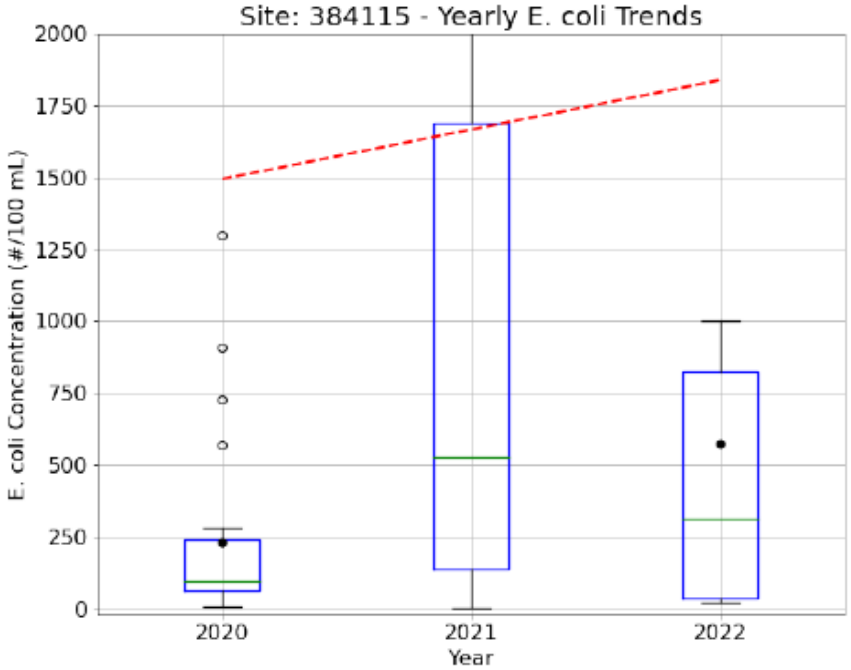


Table 3. Monitoring Site 385086 (Elm Creek) – E. coli Bacteria 30-day Geometric Mean, Percent Exceedance of 409 CFU and Support Status

Site 385086 – E. coli Concentrations by Month – 2020 to 2022									
May	#/100 mL	June	#/100 mL	July	#/100 mL	August	#/100 mL	September	#/100 mL
05/04/20	550	06/02/20	52	07/06/20	2200				
05/11/20	200	06/09/20	190	07/13/20	1000				
05/12/20	84	06/16/20	600	07/20/20	1100				
05/20/20	380	06/07/21	520	07/27/20	62				
05/26/20	120	06/14/21	98	07/29/20	52				
05/03/21	10	06/06/22	20						
05/10/21	10	06/13/22	2800						
05/17/21	220								
05/24/21	24000								
05/26/21	2100								
05/02/22	5								
05/09/22	52								
05/16/22	600								
05/23/22	52								
05/31/22	52								

Site 385086 Summary					
	May	June	July	August	September
Number of Samples	15	7	5	0	0
Geometric Mean CFU/100 mL	142.22	208.13	378.83	Insufficient Data	Insufficient Data
% > 409 CFU/100 mL	26.70%	42.90%	60.00%	Insufficient Data	Insufficient Data
Recreational Use Assessment	Not Supporting	Not Supporting	Not Supporting	Unknown	Unknown

Figure 3. Trends in E. coli bacteria at site 385086.

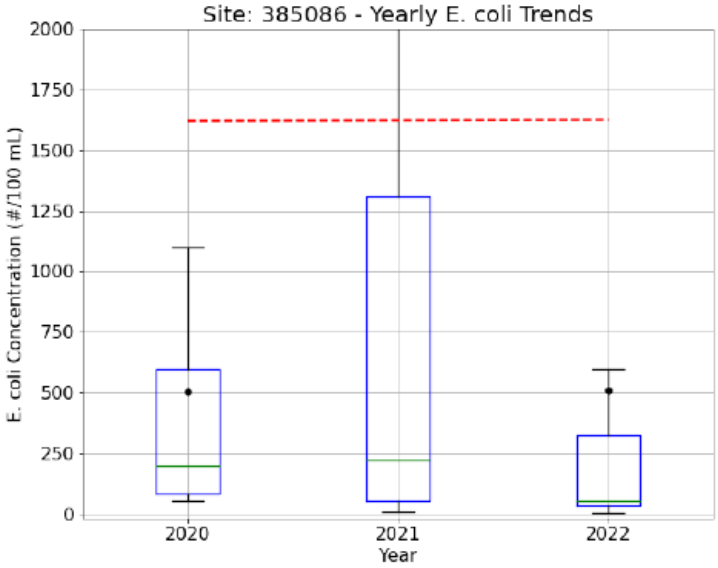


Table 4. Monitoring Site 385085 (Willow Creek) – E. coli Bacteria 30-day Geometric Mean, Percent Exceedance of 409 CFU and Support Status

Site 385085 – E. coli Concentrations by Month – 2020 to 2022									
May	#/100 mL	June	#/100 mL	July	#/100 mL	August	#/100 mL	September	#/100 mL
05/04/20	10	06/02/20	5	07/06/20	1300				
05/11/20	5	06/07/21	270	07/13/20	30				
05/12/20	5	06/14/21	20						
05/20/20	10	06/13/22	540						
05/26/20	30								
05/03/21	10								
05/10/21	30								
05/17/21	10								
05/24/21	170								
05/26/21	31								
05/02/22	10								
05/09/22	330								
05/16/22	41								
05/23/22	160								
05/31/22	10								

Site 385085 Summary					
	May	June*	July*	August	September
Number of Samples	15	4	2	0	0
Geometric Mean CFU/100 mL	22.94	61.79	197.48	Insufficient Data	Insufficient Data
% > 409 CFU/100 mL	0.00%	25.00%	50.00%	Insufficient Data	Insufficient Data
Recreational Use Assessment	Fully Supporting	Fully Supporting but Threatened	Not Supporting	Unknown	Unknown

* Calculation for geometric mean and percentage of samples in exceedance of 409 CFU/100 mL is done with less than 5 samples to represent the month.

Figure 4. Trends in E. coli bacteria at site 385086.

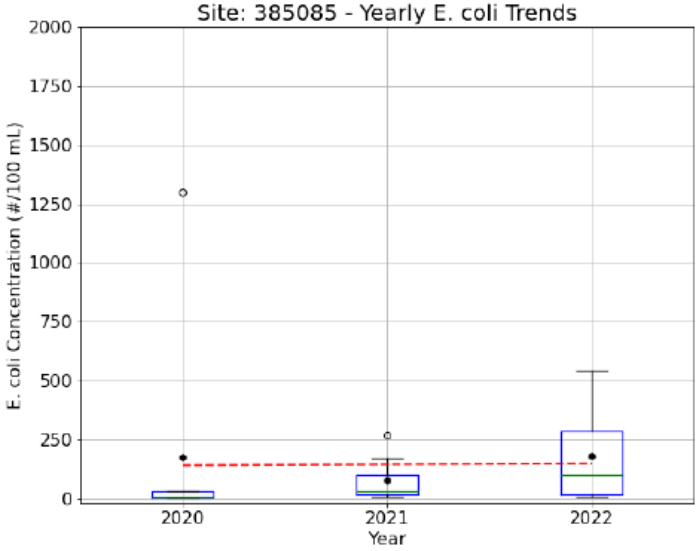


Table 5. Monitoring Site 385084 (Unnamed Trib) – E. coli Bacteria 30-day Geometric Mean, Percent Exceedance of 409 CFU and Support Status

Site 385084 – E. coli Concentrations by Month – 2020 to 2022									
May	#/100 mL	June	#/100 mL	July	#/100 mL	August	#/100 mL	September	#/100 mL
05/02/22	160			07/13/20	2300				
05/09/22	460								
05/16/22	690								

Site 385084 Summary					
	May*	June	July	August	September
Number of Samples	3	0	1	0	0
Geometric Mean CFU/100 mL	370.32	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data
% > 409 CFU/100 mL	66.60%	Insufficient Data	Insufficient Data	Insufficient Data	Insufficient Data
Recreational Use Assessment	Not Supporting	Unknown	Unknown	Unknown	Unknown

* Calculation for geometric mean and percentage of samples in exceedance of 409 CFU/100 mL is done with less than 5 samples to represent the month.

Note: *Box plots and trend lines were unable to be graphed due the lack of data.*

E. coli bacteria is the parameter of greatest concern due to notable fluctuations from year to year (increasing trends) and sample results greatly exceeding the state standards (> 126 CFU/100 mL and/or 10% > 409 CFU/100 mL). All sites are "Not Supporting for recreational uses during a month or multiple months throughout the sampling season (Tables 1, 2, 3, 4). Sampling data at the unnamed tributary site (385084) did not have enough data to conclusively determine recreational use status.

In order for the tributaries to have fully restored recreational uses, the implementation of Best Management Practices (BMP) that address the sources of E. coli bacteria and continued monitoring are needed in this project area. Livestock grazing management practices that utilize infrastructure and timely rotations should be promoted and installed to improve and maintain a robust and diverse vegetative community along the riparian corridors and in the upland pastures. Additionally, concentrated winter-feeding areas along the creeks should be identified and addressed by implementing on-site manure management systems or winter-feeding rotations that prevent manure accumulations and access to riparian corridors. Given the extremely high E. coli concentrations at some STORET sites, livestock feeding areas and pastures within close proximity (e.g., ¼ mile) to the creeks should be the priority focus for BMP implementation during the first 2-3 years of the project. Achieving E. coli bacteria concentrations that meet state standards will improve the water quality in the Nine Townships Tributaries and will not only result in restored recreational uses at the tributary sites but will also improve the overall beneficial uses of the Knife River. A secondary benefit of the grazing and feeding area BMPs will also be reduced sediment loading and TSS concentrations resulting from improved riparian vegetation and streambank stability.

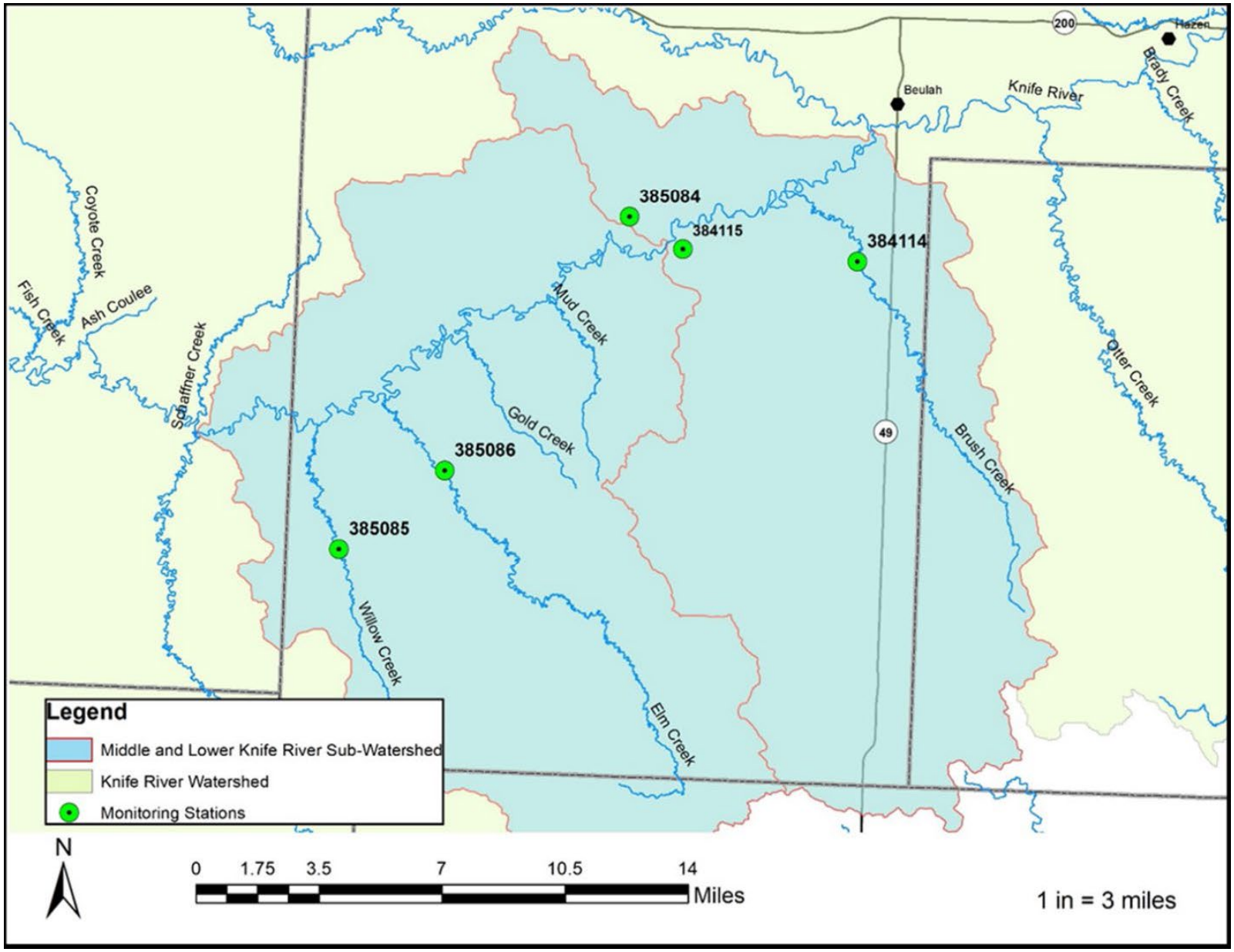


Figure 5. Nine-Townships and the Water Quality Sampling Sites

3.0 Project Description

Goal 1: The primary goal of the project is to restore and maintain the recreational uses of the Knife River tributaries within the project area. As a secondary goal, the project will benefit recreational uses in the mainstream of the Knife River downstream from the project. The project goals will be accomplished by reducing E. coli bacteria concentrations to state standard levels in the Knife River tributaries and indirectly, the Knife River.

Objective 1: Reduce and maintain E. coli bacteria concentrations at all the sampling sites to a geometric mean concentration of 126 colonies/100 ml with less than 10% of the samples exceeding 409 colonies/100ml.

Task 1: Employ one FTE (watershed coordinator) to provide one-on-one conservation planning assistance to producers in the project area.

Product: One watershed coordinator to administer 7 contracts a year.

Cost: $377,898

Task 2: Improve vegetative conditions of rangeland and riparian corridors through the implementation of grazing management systems on thousands of acres of rangeland. Priority will be given to rangeland acres that include riparian areas.

Product: Conservation planning and BMP implementation on thousands of acres of rangeland. An estimated 8 miles of riparian areas will be protected within the rangeland acres. Practices will include, but not be limited to fencing, pipelines, water tanks, solar pumps, pasture/hayland plantings, well, etc. When applicable, cover crops will also be used to improve forage availability on post-harvest croplands.

Cost: $465,740

Task 3: Install 2-3 winter feeding manure management systems.

Product: 4 winter feeding systems that remove livestock from confined winter-feeding sites and/or riparian areas by establishing winter-feeding systems that rotate livestock through multiple feeding sites on cropland and/or tame pasture. Practices will include, but not be limited to fencing, pipelines, water tanks, solar pumps, portable windbreaks, etc. When applicable, cover crops will also be used to expand winter-feeding opportunities and reduce grazing pressure on rangeland and riparian areas.

Cost: $120,000 (avg. cost per system is $30,000)
(The Nine-townships consists of mostly stock cow operations with most of the feeding being done on open range. These operations have a more direct need of being moved away from water and drainage sources. We feel this can be accomplished by helping producers establish water sources other than the streams and the river.)

Task 4: Conduct follow-up contacts to assist with conservation plan updates. Monitor O&M of 319 cost shared practices.

Product: Database of applied BMP's

Cost: Included in Task 1.

Objective 2: Document and distribute projects progress to producers in the watershed area. Document and distribute annual and final reports to the North Dakota Department of Environmental Quality (NDDEQ).

Task 5: The watershed conservationist will track all progress of BMPs being placed in the county and be responsible in distributing them through the district annual report, newsletters, meetings, and tours to help promote further conservation practices.

Product: Continued support of the watershed project, and detailed outline of conservation practices installed in the watershed. Maintain map of applied BMP for future reference. The NPS Program BMP Tracking database will be maintained throughout the project period to document the type, amount, cost, and location of BMP supported with 319 funds.

Cost: Included in Task 1.

Objective 3: Secure additional cost share opportunities for Nine-Townships watershed producers to improve water quality and riparian areas.

Task 6: Work with other agencies to seek out additional cost share dollars for producers. Look for other grant opportunities to provide additional cost share.

Product: Additional funding to offset producer's cost. Producers are reluctant to install BMPs that can take land out of production. Additional funding will provide more of an ability and initiative to install BMPs, such as filter strips and riparian buffers.

Cost: Included in Task 1

Objective 4: Inform the producers and land managers of the Nine-Townships Watershed Project and the benefits of implementing BMPs.

Task 7: Inform producers and landowners of the Nine-Townships Watershed through mailed newsletters.

Product: 20 produced and distributed quarterly newsletters.

Cost: $3,000

Task 8: Schedule informational, winter feeding, manure management and riparian meetings and tours within the watershed to inform the producers and landowners about the Nine-Townships Project showcasing examples of implemented practices. Discuss which BMPS are available and the benefits of implementing them.

Product: Two successful meetings/tours each year that inform producers and landowners facilitating discussion on best practices and new technology and ideas.

Cost: $6,000

Task 9: Work with SCD Board Supervisors, Water Resource Board members and County Commissioners to increase awareness of watershed management objectives and resources through meetings, classes, and tours.

Product: Successful education and outreach on watershed management practices and objectives. Participants will be able to actively engage in informed decision making as it relates to watershed projects and issues within watersheds. Education and outreach will provide for sustainable management of the proposed project along with

future projects. Possible activities include monthly updates at meetings and participation in the Soil and Water Conservation Leadership Academy.

Cost: $1,825

3.3 See Milestone Table, Appendix A

3.4 Permits All necessary permits will be acquired. These may include CWA section 404 permits. Project will work with the NDDEQ to determine if National Pollution Elimination System permits are needed for proposed livestock manure systems. Cultural Resource concerns and issues will be addressed by following the procedures of the NDDEQ in consulting with the North Dakota State Historical Preservation Officer.

3.5 Appropriateness of the lead sponsors The Mercer County Soil Conservation District will act as the lead sponsor on the project. The sponsor will work with the NDDEQ and NRCS to determine the need for any environmental permits, such as livestock manure management systems. Project staff will consult with the NDDEQ to determine applicability of current ND livestock manure management regulations.

The Soil Conservation District will be responsible for auditing Operation & Maintenance agreements on BMP's. After completion of projects, yearly status reviews will be conducted on all 319 contracts. The life span of each BMP will be listed with each individual contract to ensure longevity of the practice. The producer will be required to sign the "EPA 319 Funding Agreements Provision" form, which explains in detail the consequences of destroying a BMP before its life span is up. The SCD is a locally elected volunteer conservation organization that serves all people of the county.

4.0 Coordination Plan

1) The Mercer County SCD will be the lead agency liable for project administration including conservation planning, technical assistance, educational campaign, clerical assistance, access to equipment and supplies. Mercer County SCD will provide annual financial support. The District will prioritize scheduling, coordinate activities and ideas; and obtain letters of support. District personnel will serve as a liaison between watershed residents and USDA program participation.

2) USDA Natural Resources Conservation Service (NRCS). The NRCS will provide technical assistance by coordinating project activities, facilitating local involvement, providing technical support and participating in educational outreach programs during the project. Staff will incorporate existing USDA programs (financial and technical ex. EQIP) and target resources to enhance efforts within the watershed. Existing office space and office equipment use will be made available to the project. An annual review will be conducted with the Field Office, DC and the SCD to reconfirm and acknowledge NRCS's commitment to the project.

3) N.D. Dept. of Environmental Quality Division of Water Quality. The NDDEQ will oversee Section 319 funding and assist in implementing the water sampling and analysis plan. Training will be provided by the NDDEQ for proper water quality sample collection, preservation and transportation to ensure that reliable data is obtained. NDDEQ will also complete and cover the expense of analysis of water samples.

4) USDA Farm Service Agency (FSA). The FSA will provide cost-share assistance through the Conservation Reserve Program and will serve as participants on the Local Work Group.

5) North Dakota Cooperative Extension Service (NDSU). The NDSU Extension Service will assist in project information and education activities.

6) Water Resource Board. The Mercer County Water Resource Board will provide technical assistance. They have also committed yearly financial assistance to the project amounting to $5,000 per year.

7) ND State Forest Service (NDFS). The NDFS will provide financial and technical assistance with riparian areas. Technical assistance and practice installation will be done according to applicable technical specifications.

8) Pheasants Forever. The Pheasants Forever organization local chapter will provide technical and financial assistance with wildlife food plots and tree plantings. Technical assistance and practice installation will be done according to applicable technical specifications.

4.1 Support for the watershed project is displayed with current projects in the watershed, office walk in inquiries, during meetings produced for our current watershed, and projects that are funded outside the watershed through North Dakota Natural Resource Fund. Currently we are seeing a lot of response to our grazing lands BMPs. Due to previous severe drought producers are requesting support for water lines and help with better ways to utilize their grazing units. Producers have shown great interest in using 319 dollars if they become available to them at their location. A large amount of support from local producers and sponsors are behind this project as they have during our previous watershed projects.

4.3 See attached letters of support.

5.0 Evaluation and Monitoring Plan The sampling and analysis plan (SAP) for the project will be finalized by the NDDEQ after the PIP is approved. An approved SAP will be included in the final project implementation plan (PIP).

6.0 Budget See Part I, Part II and Supplemental BMP Budget Table, Appendix B

7.0 Public Involvement The public will be kept informed of news, tours and meetings through newsletters and personnel contacts. Mercer County SCD personnel have done and plan to continue door to door stops throughout the watershed. To get producers involved, phone calls will be made to personally invite producers to meetings and tours. A monthly update is given to Mercer County Water Resource Board, which is printed in the local papers.

Appendix A
Milestone Table

Task/Responsible Organization	Group	Output	Qty	SFY 26				SFY 27				SFY 28				SFY 29				SFY 30			
				Quarter*				Quarter*				Quarter*				Quarter*				Quarter*			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
OBJECTIVE 1: Improve Water Quality																							
Task 1 - Employ Conservationist	1,2,3,4,5	Conservation Planning	1 FTE	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Task 2 - Implement BMP's	1,2,3,4,5	Landowner Asst. & BMPs	18 contracts			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Task 3 - Animal Waste Systems	1,2,3,4,5	Winter Feeding Areas	4 systems			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Task 4 - Follow- up, monitoring	1,2,3,4,5	Contacts & Assistance	18 contracts			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
OBJECTIVE 2: Document Project Progress																							
Task 5 - Track and Report Progress	1,4	Reports	5 reports				x				x				x				x				x
OBJECTIVE 3: Additional Funding																							
Task 6 - Secure additional cost share	1,2,3,4	Additional Cost Share	4 sources	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
OBJECTIVE 4: Outreach																							
Task 7 - Newsletters	1,5	Newsletter Publications	20 newsletters	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Task 8 - Demonstration tours	1,2,3,5	Demonstration Tours	8 tours					x				x				x				x			
Task 9 - Board Outreach & Education	1,2,5,6	Educated Boards	Ongoing	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

Group 1: Mercer County Soil Conservation District - Provides administration, supplies and financial support for the project

Group 2: Mercer County Water Resource Board - Provides technical and financial assistance for the project

Group 3: Natural Resources Conservation Service - Provides technical assistance in the planning, design and installation of BMP's

Group 4: N.D. Dept. of Environmental Quality Division of Water Quality - Oversees Section 319 funding, monitoring and overall evaluation of the project

Group 5: Nine-Townships Watershed Landowners - Make management decisions and provide both cash and in-kind match for BMP's

Group 6: Mercer County Board of Supervisors - Attend the Soil and Water Conservation Leadership Academy

* **Quarter 1** - July/September **Quarter 2** - October/December **Quarter 3** - January/March **Quarter 4** - April/June

Appendix B

Nine-Townships Watershed Project Budget Table

Part I: Funding Sources	SFY26	SFY27	SFY28	SFY29	SFY30	In-Kind	Totals
FY26 Section 319 Funds	$61,097	$129,895	$132,033	$134,779	$138,034		$595,838
Subtotal	**$61,097**	**$129,895**	**$132,033**	**$134,779**	**$138,034**	**$0**	**$595,838**

Other Federal & State Funds	SFY26	SFY27	SFY28	SFY29	SFY30	In-Kind	Total
Natural Resources Conservation Service (TA 1 & EQIP 2)	$25,000	$25,000	$25,000	$25,000	$25,000		$125,000
Farm Services Agency (CRP 3)	$5,000	$5,000	$5,000	$5,000	$5,000		$25,000
ND Department of Environmental Quality (NDDEQ) (TA)	$4,000	$4,000	$4,000	$4,000	$4,000		$20,000
Subtotal	**$34,000**	**$34,000**	**$34,000**	**$34,000**	**$34,000**	**$0**	**$170,000**

State & Local Match	SFY26	SFY27	SFY28	SFY29	SFY30	In-Kind	Total
Mercer County Soil Conservation District (TA & FA)	$17,710	$35,033	$36,408	$38,289	$40,459	$5,000	$167,899
Mercer County Water Resource District (TA & FA)	$5,000	$5,000	$5,000	$5,000	$5,000	$3,000	$25,000
ND Forest Service (TA & FA 4)	$0	$0	$0	$0	$0	$25,000	
NDSU Extension Service (TA)	$0	$0	$0	$0	$0	$500	
Landowners (FA)	$23,040	$51,564	$51,564	$51,564	$51,564	$12,500	$229,296
Subtotal	**$45,750**	**$91,597**	**$92,972**	**$94,853**	**$97,023**	**$46,000**	**$422,195**

Total Project Budget	$140,847	$255,492	$259,005	$263,632	$269,057	$46,000	$1,188,033

1 TA - Technical Assistance
2 EQIP - Environmental Quality Incentive Programs
3 CRP - Conservation Reserve Programs
4 FA - Other Financial Assistance
SFY = State Fiscal Year

Part II: Section 319 Non-Federal Budget Funding

	SFY26	SFY27	SFY28	SFY29	SFY30	Total	Cash	In-Kind	319 Match	Total
Personnel/Support										
Salary	$38,750	$78,682	$81,396	$86,822	$92,248	$377,898	$151,159		$226,739	$377,898
Administration	$1,500	$3,000	$3,000	$3,000	$3,000	$13,500	$5,400	$2,500	$8,100	$13,500
Travel/Training	$600	$1,200	$1,200	$1,200	$1,200	$5,400	$2,160		$3,240	$5,400
Equipment/Supplies	$1,200	$1,200	$2,000	$1,200	$1,200	$6,800	$2,720		$4,080	$6,800
Telephone/Postage	$600	$1,200	$1,200	$1,200	$1,200	$5,400	$2,160		$3,240	$5,400
Subtotal	**$42,650**	**$85,282**	**$88,796**	**$93,422**	**$98,848**	**$408,998**	**$163,599**	**$2,500**	**$245,399**	**$408,998**

Objective 1: Improve Land Management (BMPs)										
Cropland Mgmt Systems	$1,052	$2,362	$2,362	$2,362	$2,362	$10,500	$4,200		$6,300	$10,500
Rangeland Mgmt Systems	$35,350	$79,538	$79,537	$79,538	$79,537	$353,500	$141,400		$212,100	$353,500
Pasture & Hayland Mgmt Systems	$7,200	$16,200	$16,200	$16,200	$16,200	$72,000	$28,800		$43,200	$72,000
Partial Manure Mgmt System (Task 3)	$12,000	$27,000	$27,000	$27,000	$27,000	$120,000	$48,000		$72,000	$120,000
Riparian Buffers	$2,000	$3,810	$3,810	$3,810	$3,810	$17,240	$6,896		$10,344	$17,240
Prescribed Grazing (InKind)	$2,500	$2,500	$2,500	$2,500	$2,500	$0	$0	$12,500	$0	$0
Subtotal	**$57,602**	**$128,910**	**$128,909**	**$128,910**	**$128,909**	**$573,240**	**$229,296**	**$12,500**	**$343,944**	**$573,240**

**BMP detail is provided in the following Supplemental BMP Budget Table.*

Objective 2: Document and distribute projects progress										
Annual progress reports*	$0	$0	$0	$0	$0	$0	$0		$0	$0
BMP database*	$0	$0	$0	$0	$0	$0	$0		$0	$0
Subtotal	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**		**$0**	**$0**

**Included in Task 1 (Personnel/Support)*

Objective 3: Secure additional cost share opportunities										
Additional funding	$0	$0	$0	$0	$0	$0	$0		$0	$0
Subtotal	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**		**$0**	**$0**

**Included in Task 1 (Personnel/Support)*

Objective 4: Education & Outreach										
Newsletters/Publications	$600	$600	$600	$600	$600	$3,000	$1,200		$1,800	$3,000
Tours/Seminars/Meetings	$800	$1,300	$1,300	$1,300	$1,300	$6,000	$2,400		$3,600	$6,000
Board outreach and education	$225	$400	$400	$400	$400	$1,825	$730		$1,095	$1,825
Subtotal	**$1,625**	**$2,300**	**$2,300**	**$2,300**	**$2,300**	**$10,825**	**$4,330**		**$6,495**	**$10,825**

Total 319 Non-Federal Budget	**$101,877**	**$216,492**	**$220,005**	**$224,632**	**$230,057**	**$993,063**	**$397,225**	**$15,000**	**$595,838**	**$993,063**

Supplemental BMP Budget Table

BMP Practice	Cost/Unit	Estimated Units	319 Cost	Prod. Match 1	Total Cost
340 - Cover Crop	$35/ac.	300 ac	$6,300	$4,200	$10,500
380 - Windbreak/Shelterbelt Establishment	$40/100ft	10000 ft	$2,400	$1,600	$4,000
060 - Weed Barrier	$90/100ft	10000 ft	$5,400	$3,600	$9,000
391 - Riparian Forest Buffer	$350/ac	40 ac	$8,400	$5,600	$14,000
516 - Pipelines	$5.50/ft	30000 ft	$99,000	$66,000	$165,000
614 - Tank/Trough	$2100/unit	25 units	$31,500	$21,000	$52,500
642 - Well	$12000/well	8 wells	$57,600	$38,400	$96,000
382 -Fencing	$2.00/ft	25000 ft	$30,000	$20,000	$50,000
001 - Cultural Resources	$2500/review	10 items	$15,000	$10,000	$25,000
550 - Range Planting	$40/ac	50 ac	$1,200	$800	$2,000
512 - Pasture & Hayland Planting 2	$55/ac	400 ac	$13,200	$8,800	$22,000
390 - Riparian Herbaceous Cover	$135/ac	15 ac	$1,215	$810	$2,025
393 - Filter Strip	$135/ac	9 ac	$729	$486	$1,215
Partial Manure Mgmt. System -Winter Feeding 3	$30000/unit	4 units	$72,000	$48,000	$120,000
528A - Prescribed Grazing	$5.00/ac	2500 ac		$12,500	$12,500
		Total Costs	**$343,944**	**$241,796**	**$585,740**

1 Cash and/or In-Kind Match

2 Plantings to convert cropland to useful seasonal grazing areas

3 May include portable windbreaks, fencing, cover crops, tanks, pipelines, tree plantings, etc.

Appendix C
Letters of Support

United States Department of Agriculture

October 23, 2025

Mark Johannes, Conservation Program Coordinator
Mercer County SCD
1400 Highway 49 N #102
Beulah, ND 58523

Dear Mark,

The Mercer County Farm Service Agency is pleased to provide a letter of support for the Nine Townships Watershed Project Phase II. This 319 watershed project will be instrumental in addressing water quality needs and concerns in Mercer County.

Present and past 319 watershed projects have increased conservation practices on the ground across the county. They have also been a useful tool for education and outreach activities to engage producers and landowners.

We look forward to collaborating with you in the future, as you assess needs and assist landowners in this area.

Sincerely,

/s/
Kale Rorvik
Mercer County
County Executive Director

NORTH DAKOTA
NATURAL RESOURCES
TRUST

Keith Trego
Executive Director
1605 E Capitol Avenue, Ste. 101
Bismarck, ND 58501-2102
(701) 223-8501
www.ndnrt.com

October 23, 2025

Mark Johannes
Conservation Program Coordinator
Mercer County SCD
1400 Highway 49 N #102
Beulah, ND 58523

Dear Mark,

The North Dakota Natural Resources Trust is pleased to provide a letter of support for the Nine Townships Watershed Project Phase II. This 319 project will be instrumental in addressing water quality needs and concerns in Mercer County.

Present and past 319 projects have increased conservation practices on the ground across the county and have also been a useful tool for education and outreach activities to engage producers and landowners.

We look forward to collaborating with you as you assess needs and assist landowners in this area.

Best regards,

Keith Trego
Executive Director
North Dakota Natural Resources Trust

NDSU | EXTENSION
MERCER COUNTY

October 23, 2025

Watershed Conservationist
Mercer County Soil Conservation District
1400 Hwy 49 N #102
Beulah, ND 58523

Dear Sir:

The NDSU Extension Office of Mercer County is in full support of the Spring Creek Watershed Project. This watershed project has been very well received by the producers in the Spring Creek drainage area.

It is my hope that funding for this watershed project will continue.

Sincerely,

Craig Askim
Extension Agent, Agriculture and Natural Resources

CA/ce

Mercer County Water Resource District

P.O. Box 488
Hazen, ND 58545

Ph: 701-748-2206
email: mark@hazenlaw.com

Sent via email:
mercercountyscd.watershed@gmail.com

November 13, 2025

Mark Johannes, Conservation Program Coordinator
Mercer County Soil Conservation District
1400 HWY 49 N
Beulah, ND 58545

Re: Nine Townships Watershed Project, Phase II

Dear Mr. Johannes,

Thank you for the request for support on the Nine Townships Watershed Project, Phase II. The Mercer County Water Resource District believes in the project and its scope and supports the continued efforts to improve the water quality, needs, and concerns within Mercer County.

We look forward to continuing our collaboration with you as you assess needs and assist landowners in this area.

Sincerely,

Mark Kaffar
Secretary

NORTH DAKOTA FOREST SERVICE

"To care for, protect and improve forests and natural resources to enhance the quality of life for present and future generations."

October 15, 2025

Mark Johannes, Conservation Program Coordinator
Mercer County SCD
1400 Highway 49 N #102
Beulah, ND 58523

Dear Mark,

The North Dakota Forest Service is pleased to provide a letter of support for the Nine Townships Watershed Project Phase II. This 319 project will be instrumental in addressing water quality needs and concerns in Mercer County.

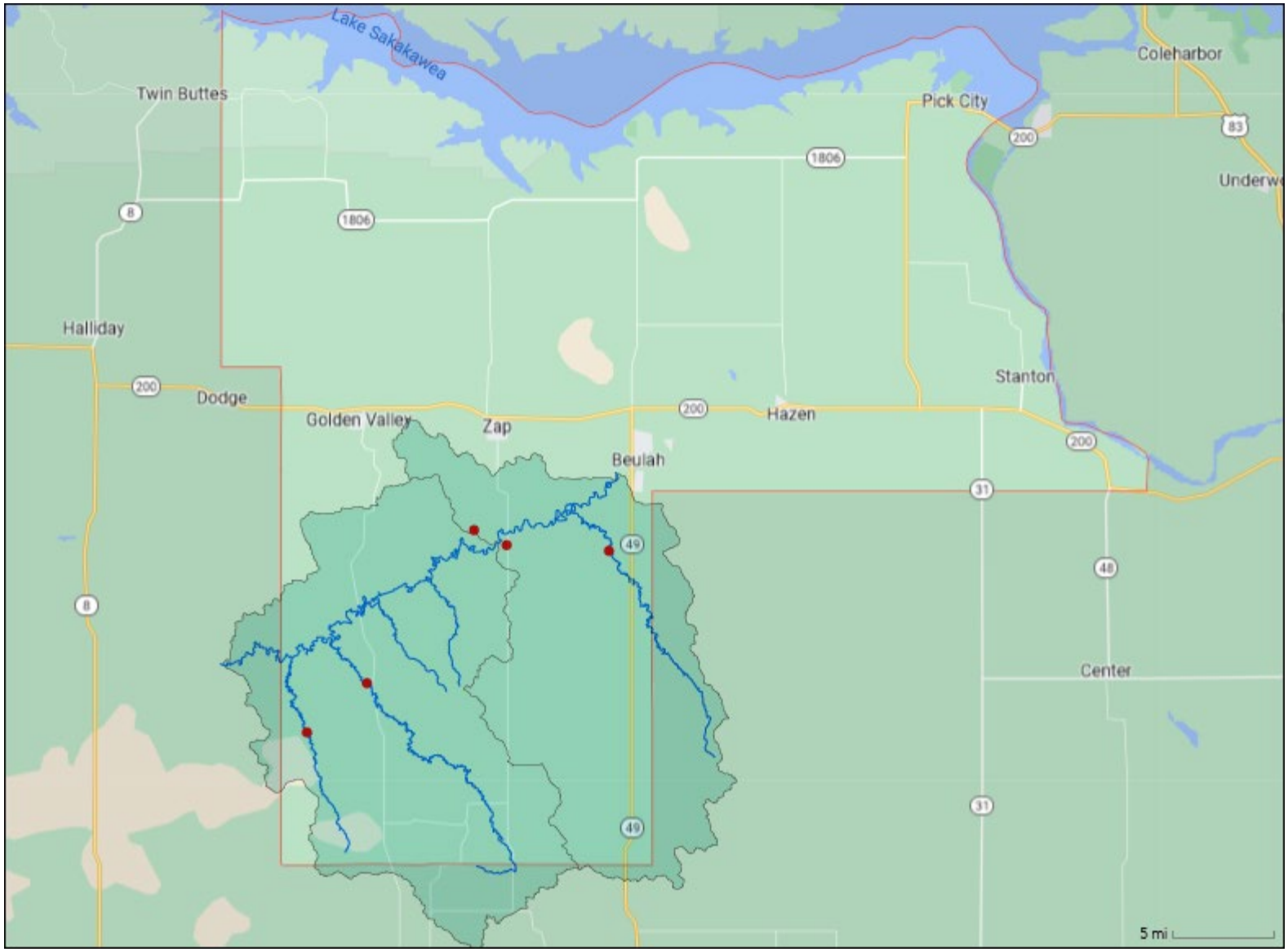
Present and past 319 projects have increased conservation practices on the ground across the county and have also been a useful tool for education and outreach activities to engage producers and landowners.

The agency looks forward to collaborating with you as you assess needs and assist landowners in this area.

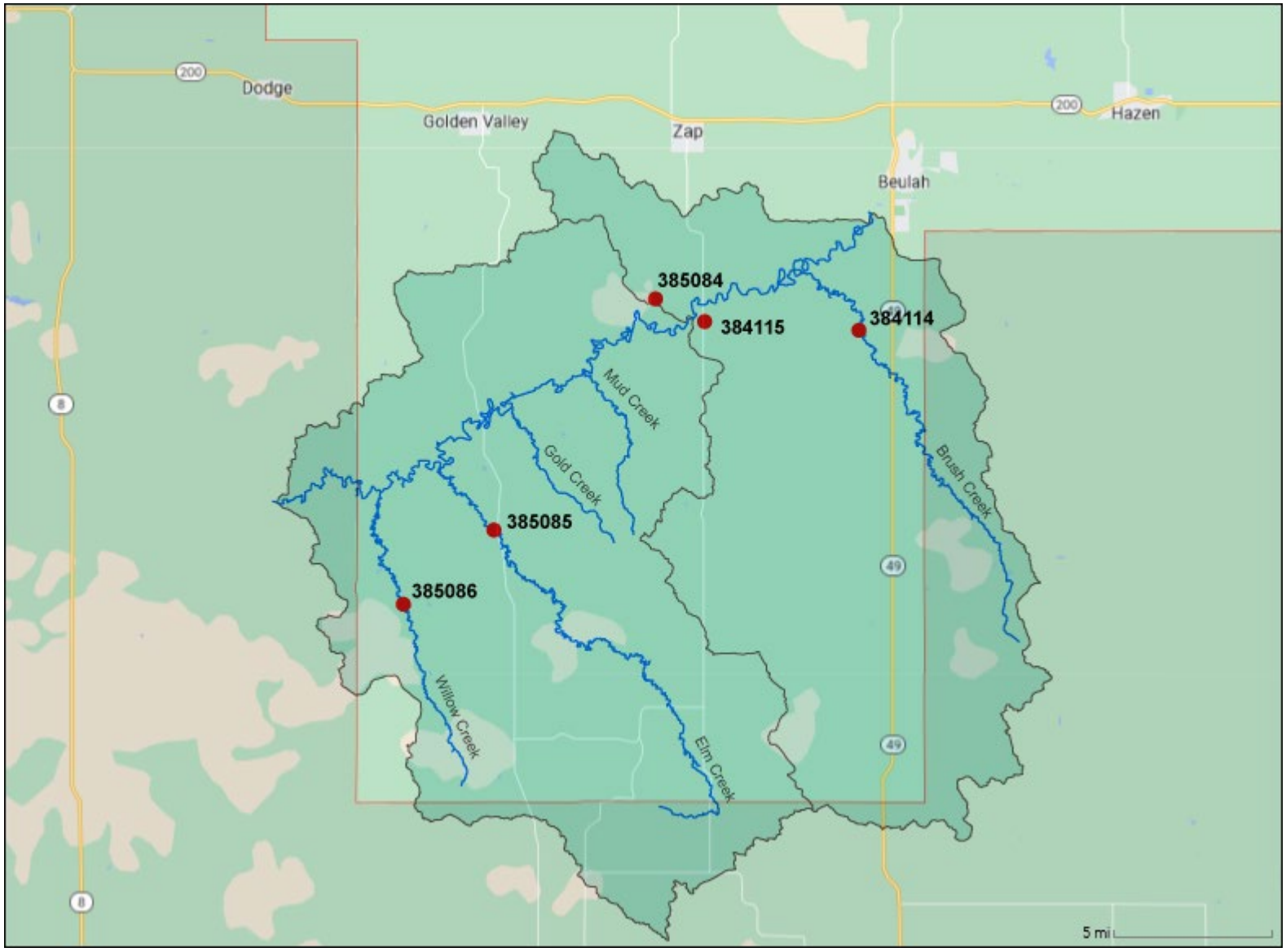
Sincerely,

Tom Claeys
State Forester

Appendix D
Maps



Nine-Townships Watershed location in Mercer County



Nine-Townships Watershed Sampling Locations, HUCs and Tributaries

Appendix E
Summary of BMP practices

340 - Cover Crop - Grasses, legumes, and forbs planted for seasonal vegetative cover. Purpose: This practice is applied to support one or more of the following purposes: Reduce erosion from wind and water. Maintain or increase soil health and organic matter content. Reduce water quality degradation by utilizing excessive soil nutrients. Suppress excessive weed pressures and break pest cycles. Improve soil moisture use efficiency. Minimize soil compaction.

380 - Windbreak/Shelterbelt Establishment - Windbreaks or shelterbelts are single or multiple rows of trees or shrubs in linear configurations. The purpose is to reduce soil erosion from wind. Protect plants from wind related damage. Alter the microenvironment for enhancing plant growth. Manage snow deposition. Provide shelter for structures, animals, and people. Enhance wildlife habitat. Provide noise screens. Provide visual screens. Improve air quality by reducing and intercepting air borne particulate matter, chemicals and odors. Delineate property and field boundaries. Improve irrigation efficiency. Increase carbon storage in biomass and soils. Reduce energy use

060 - Weed Barrier - Herbaceous vegetation established in rows or narrow strips in the field across the prevailing wind direction. The purpose is to reduce soil erosion from wind. Reduce soil particulate emissions to the air. Protect growing crops from damage by wind or wind-borne soil particles. Enhance snow deposition to increase plant available moisture.

391 - Riparian Forest Buffer - A riparian forest buffer is an area of trees and shrubs located adjacent to streams, lakes, ponds, and wetlands. Riparian forest buffers of sufficient width intercept sediment, nutrients, pesticides, and other materials in surface runoff and reduce nutrients and other pollutants in shallow subsurface water flow. Woody vegetation in buffers provides food and cover for wildlife, helps lower water temperatures by shading the stream or waterbody, and slows out-of-bank flood flows. In addition, the vegetation closest to the stream or waterbody provides litter fall and large wood important to fish and other aquatic organisms as a nutrient source and structural components to increase channel roughness and habitat complexity. Also, the woody roots increase the resistance of streambanks and shorelines to erosion caused by high water flows or waves. Some tree and shrub species in a riparian forest buffer can be managed for timber, wood fiber, and horticultural products.

516 - Pipelines - Pipeline having an inside diameter of 8 inches or less. This practice may be applied as part of a resource management system to achieve one or more of the following purposes: Convey water from a source of supply to points of use for livestock, wildlife, or recreation. Reduce energy use. Develop renewable energy systems (i.e., in-pipe hydropower).

614 - Tank/Trough - A watering facility is a means of providing drinking water to livestock or wildlife. The purpose is the store or provide designated access to drinking water for livestock or wildlife to: supply daily water requirements, improve animal distribution, provide a water source that is an alternative to a sensitive resource.

642 - Well - A hole drilled, dug, driven, bored, jetted or otherwise constructed to an aquifer for water supply. The purpose is to provide water for livestock, wildlife, irrigation, and other agricultural uses. Facilitate proper use of vegetation, such as keeping animals on rangeland and pastures and away from streams and providing water for wildlife.

382 -Fencing - Managing the harvest of vegetation with grazing and/or browsing animals with the intent to achieve specific ecological, economic, and management objectives. This practice is applied as a part of a

conservation management system to achieve one or more of the following: Improve or maintain desired species composition, structure and/or vigor of plant communities. Improve or maintain quantity and/or quality of forage for grazing and browsing animals' health and productivity. Improve or maintain surface and/or subsurface water quality and/or quantity. Improve or maintain riparian and/or watershed function. Reduce soil erosion and maintain or improve soil health. Improve or maintain the quantity, quality, or connectivity of food and/or cover available for wildlife. Manage fine fuel loads to achieve desired conditions.

001 - Cultural Resources - Cultural Resources are tangible remains of past human activity. The purpose is to examine existing information to determine the likelihood that cultural resources are, or may be, present in an area that may be affected by BMP undertakings. This review includes checking the current National Register of Historic Places, as well as equivalent state level registers and state site files, consulting the State Historic Preservation Officer, and talking with the landowner(s)/cooperator(s). If resources are found a reconnaissance survey will examine all or part of an area in sufficient detail to generalize the types and distributions of cultural resources that may be present.

550 - Range Planting - Establishment of adapted perennial or self-sustaining vegetation such as grasses, forbs, legumes, shrubs and trees. The purpose is to restore a plant community like the Ecological Site Description reference state for the site or the desired plant community. Provide or improve forages for livestock. Provide or improve forage, browse or cover for wildlife. Reduce erosion by wind and/or water. Improve water quality and quantity. Increase carbon sequestration

512 - Pasture & Hayland Planting - Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species suitable for pasture, hay, or biomass production. This practice may be applied as part of a conservation management system to accomplish one or more of the following purposes. Improve yield and plant longevity by providing guidance for selection and establishment of adapted and compatible plant varieties, species, and cultivars. Improve or maintain livestock nutrition and/or health. Provide or increase forage supply during periods of low forage production. Reduce soil erosion. Improve soil and water quality. Produce feedstock for biofuel or energy production.

390 - Riparian Herbaceous Cover - Grasses, sedges, rushes, ferns, legumes, and forbs tolerant of intermittent flooding or saturated soils, established or managed as the dominant vegetation in the transitional zone between upland and aquatic habitats. The purpose is to provide or improve food and cover for fish, wildlife and livestock, Improve and maintain water quality. Establish and maintain habitat corridors. Increase water storage on floodplains. Reduce erosion and improve stability to stream banks and shorelines. Increase net carbon storage in the biomass and soil. Enhance pollen, nectar, and nesting habitat for pollinators. Restore, improve or maintain the desired plant communities. Dissipate stream energy and trap sediment. Enhance stream bank protection as part of stream bank soil bioengineering practices.

393 - Filter Strip - A strip or area of herbaceous vegetation that removes contaminants from overland flow. The purpose is to reduce suspended solids and associated contaminants in runoff and excessive sediment in surface waters. Reduce dissolved contaminant loadings in runoff. Reduce suspended solids and associated contaminants in irrigation tailwater and excessive sediment in surface waters.

Partial Manure Management System for Winter Feeding - Manure management changes that minimize the water quality impacts associated with an animal feeding operation. The specific types of practices used within a partial system will vary considerably and be dependent on several factors including facility size, type of animals, and the producer's management objectives.

528A - Prescribed Grazing – Managing the harvest of vegetation with grazing and/or browsing animals. This practice may be applied as a part of conservation management system to achieve one or more of the following:

Improve or maintain desired species composition and vigor of plant communities Improve or maintain quality and quantity of forage for grazing and browsing animals' health and productivity. Improve or maintain surface and/or subsurface water quality and quantity. Improve or maintain riparian watershed function. Reduce accelerated soil erosion and maintain or improve soil condition. Improve or maintain the quantity and quality of food and/or cover available for wildlife. Manage fine fuel loads to achieve desired conditions.