

Government Creek Watershed Project Implementation Plan



**Stark & Billings Soil Conservation District
2493 4th Ave West, Dickinson, ND 58601
E-mail**

Erin.miller2@nd.nacdnet.net
Bonnie.twogood@nd.nacdnet.net

Government Creek Watershed Project Implementation Plan

SPONSOR: Stark & Billings Soil Conservation District

2493 4th Ave West

Dickinson, ND 58601-2623

(701) 225-3811 Ext#3

Erin.Miller2@nd.nacdnet.net

Bonnie.twogood@nd.nacdnet.net

STATE CONTACT PERSON: Emilee Novak

Phone: (701)328-5240

e-mail: ejnovak@nd.gov

STATE: North Dakota

WATERSHEDS: Government Creek Watershed

HYDROLOGIC UNIT CODE:

HIGH PRIORITY WATERSHED: Yes

PROJECT TYPES

☐ STAFFING & SUPPORT

☒ WATERSHED

☐ GROUNDWATER

☐ I & E

WATERBODY TYPES

☐ GROUNDWATER

☐ LAKES/RESERVOIRS

☐ RIVERS

☒ STREAMS

☐ WETLANDS

NPS CATEGORY

☒ AGRICULTURE

☐ URBAN RUNOFF

☐ SILVICULTURE

☐ CONSTRUCTION

☐ RESOURCE EXTRACTION

☐ STOWAGE/LAND DISPOSAL

PROJECT LOCATION: Stark County, North Dakota

MAJOR GOAL: The primary goal is to improve aquatic life and mitigate agricultural uses of the creek. This will be accomplished by promoting and implementing Best Management Practices (BMP's) that are effective at reducing in-stream concentrations of Total Suspended Solid (TSS) and E. coli bacteria. A secondary goal is to also reduce mean annual nitrogen and phosphorus concentrations at each site.

PROJECT DESCRIPTION: The project sponsors intend to 1) prioritize technical and financial assistance to lands that have the most impact on water quality, 2) track water quality trends over the life of the project to rectify any concerns as they surface, 3) develop education programs to heighten public awareness of NPS pollution concerns and solutions, and 4) develop working partnerships in the local community to benefit natural resources.

Other Federal Funds: \$50,000

319 Funds requested: \$188,500

State/Local Match: \$71,000

Total project cost: \$309,500

2.0 STATEMENT OF NEED

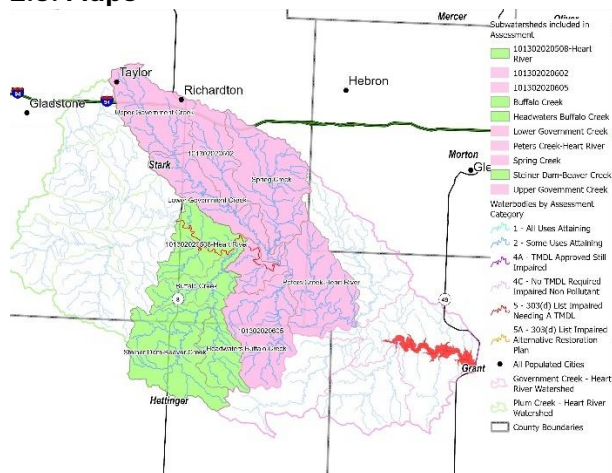
2.1: Government Creek Watershed

The Government Creek is a tributary to the Heart River. The Heart River in the Stark County portion of this watershed is identified as being threatened for recreation due to high concentrations of E. coli. To develop the TMDL for that impairment, waterbodies in the Government Creek – Heart River watershed were sampled in 2023, 2024 and 2025. The information gathered from this assessment is intended to support future local watershed projects, including cost-share opportunities for landowners to implement practices that reduce nonpoint source pollution.

2.2

The Government Creek Watershed is about 33.4 square miles of drainage area starting by Taylor and going Southeast of Richardton into Grant County. The tributaries flow into the Heart River and end up in Lake Tschida. Lake Tschida is impaired for fish consumption due to methylmercury and threatened for recreation due to nutrients. The U.S. Bureau of Reclamation in planning to drain Lake Tschida for dam repair at some point in the next few years. The Government Creek is used primarily for agricultural purposes including the watering of livestock and wildlife. No local cities obtain drinking water from the creek.

2.3: Maps



DESCRIPTION:

Latitude 46°48'15", Longitude 102°18'35" NAD27

Stark County, North Dakota, Hydrologic Unit 10130202

Drainage area: 33.4 square miles

For additional Watershed maps, Tables and Figures, see Appendices.

2.4: General Information

The land south of Richardton, North Dakota, is characterized by rolling fields and generally flat terrain, making it well-suited for agricultural purposes. However, there are some steep areas and broken terrain in certain regions, particularly along the lower Heart River and in the northeast section. The geological history of the area includes glacial activity that shaped the landscape, leading to the presence of coal deposits today. Additionally, the wooded draws and uncultivated areas provide a haven for wildlife.

The average rainfall for the project area is approximately 12+ inches per year. In measurement taken between 2023-2024, on average, the area received 1.4-3.3 inches of precipitation per month during the recreation season (May-Sept). Average monthly air temperature between May and September typically ranged from high 60's to low 50's (°F) and maximum daily temperatures exceeded 100 °F.

In 2023 nearly half of the watershed was used as pasture. A majority of the rest is cropland. Land use in the Lower Government Creek was mostly cropland in the upper watershed and increased trees or shrubs in the lower watershed and riparian areas. More than half of cropland acres consisted of spring wheat. General land uses remained consistent from the previous 10 years, although rangeland areas have shifted from majority native to majority non-native grassland. Within a quarter-mile buffer of streams, "riparian areas," there was a similar ratio of land uses throughout the watershed.

2.5: Water Quality Problem Definition

Based on a culmination of data from water sampling over the past several years in the Government Creek watershed, these streams show to need well over 50% reduction in E. coli levels to safely support livestock and human health (Figure 5).

The city of Taylor has a small lagoon system in the upper reaches of the Government Creek watershed, outside of the TMDL project area. Taylor rarely discharges and serves a small population but could be adding E. coli to Government Creek. High levels of E. coli are also likely to come from runoff sources. Nearly half of the watershed area is pastureland. Additionally, manure applied to cropland as fertilizer could add large amounts of E. coli carried into streams with rain and snowmelt. The amount of E. coli in the watershed needs to be reduced by up to 93% to meet water quality standards.

There is some preliminary interest from producers in BMPs, such as pasture plantings, cross-fencing and rotational grazing, cover crops, and water developments. The Stark and Billings Soil Conservation District will send out mailings and plans to survey producers within the watershed to better understand current interest in participating in 319 projects.

3.0 PROJECT DESCRIPTION

3.1: Goal

The primary goal is to improve aquatic life and recreational uses of the creek. This will be accomplished by promoting and implementing Best Management Practices (BMPs) that are effective at reducing in-stream concentrations of Total Suspended Solids (TSS) and E. coli bacteria.

The reduction of nutrients and sediment will be accomplished through implementing nutrient management plans, reducing erosion and runoff from cropland and pastureland, addressing the need for stabilizing riparian areas, and improving soil health by implementing conservation measures that are beneficial to water quality.

- Objective 1: Provide direct planning assistance to agricultural producers and landowners to assist them with implementation of BMPs that reduce transport of TSS and E. coli bacteria from their land to the waterbodies.
 - Task 1: Current SCD staff will implement this project and develop plans for future priority initiatives addressing NPS pollution concerns in Stark and Billings Counties.
- Objective 2: Reduce E. coli bacteria concentrations to state standard levels and reduces the mean annual concentration of TSS at each site. Target TSS concentration is based on the draft index for Biological Integrity moderately disturbed threshold values for western ND.
 - Task 2: Partner with NRCS and EQIP program to design and install water developments and septic repairs for interested producers in the project area.
 - Task 3: Work with livestock producers to develop planned grazing systems and/or install vegetative buffers, riparian easements, and any other practices that will positively impact water quality throughout the watershed. Coordinate with programs such as EQIP and/or state funded grassland improvement projects to supplement funding needed.
 - Cost: Planned grazing systems on 5,000 acres - \$180,000
- Objective 3: Increase information and education on the impacts and solutions to reduce/prevent delivery of pollutants to surface waters.
 - Task 4: Coordinate with organizations/agencies (NDSU Extension, NRCS Specialists, etc.) to conduct at least 1 workshop addressing soil health, range management, cover crops, manure management, and/or riparian management.
 - Cost: Speaker fees, transportation, rental spaces, advertisements, staff time - \$4,000
 - Task 5: Use SCD newsletter and direct mailings to disseminate information on conservation and management options (BMPs) that can be used to improve water quality in priority watersheds.
 - Cost: Print and postage - \$2,000

- Task 6: Work with Stark and Billings Counties schools in educating students on water quality issues.
 - Water Festival in Dickinson: Students learn at several stations about the characteristics and importance of water, as well as the pollutants and other issues that could put water quality at risk. Cost: Staff time - \$2,500

3.2: Permits

All necessary permits will be obtained. These may include Clean Water Act (CWA) Section 404 permits. The State Historic Preservation Office will be consulted regarding potential impacts to cultural resources associated with BMP implementation. Project sponsors will work with NDDEQ to determine if National Pollution Elimination System permits are needed for the proposed livestock systems.

3.3: Lead sponsor

The Stark and Billings Soil Conservation District is the appropriate entity to coordinate and implement this project. The SCD is a locally elected volunteer conservation organization that serves all people in these two counties. They are able to provide the necessary personnel to carry out the project and manage its funds.

3.4: Operation and Maintenance

The Stark and Billings SCD will be responsible for auditing Operation and Maintenance Agreements and BMPs after completion through yearly status reviews of EPA 319 contracts. The lifespan of each BMP will be listed in the individual contracts to ensure longevity of the practices. The producer signs EPA 319 Funding Agreement Provisions for, which explains the consequences of destroying a BMP before completion of its lifespan.

4.O COORDINATION PLAN

4.1: Identify Agency Roles

1. The Stark and Billings SCD will be the lead agency liable for project administration, conservation planning, technical assistance, educational campaign, clerical assistance, access to equipment and supplies, and annual financial support. The appropriate staff will serve as liaison between watershed projects/producers and USDA program participation.

2. USDA Natural Resources Conservation Service (NRCS) will provide technical assistance by coordinating project activities, facilitating local involvement, providing technical support, and participating in educational outreach programs during the project. NRCS will also provide cost-share assistance through the USDA conservation programs. Staff will incorporate existing USDA programs (financial and technical) 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, District Conservationist, and the SCD to reaffirm and acknowledge NRCS's commitment to the project.

3. The NDDEQ will administer the Section 319 funding allocations and agreements with the Morton County SCD. Technical assistance will be provided for the development of the necessary quality assurance project plans for the watershed assessment projects and the appropriate training will be provided for the proper water quality sample collection, preservation, and transportation. The NDDEQ will also provide analytical support for water quality samples collected by the project.

4. North Dakota Extension Service (EXT) will assist in project information and education resources and activities. These activities will pertain to such topics as specific BMP publications and assistance with workshops and tours. The Extension Service Specialists will also be asked to assist with tours and demonstrations.

5. North Dakota Game & Fish Department and US Fish & Wildlife Service may provide technical and financial assistance, as needed.

6. The NPS BMP Team is a ready source for engineering services to producers installing manure management systems, streambank stabilization projects, or other structural BMP. These services are supported through another NPS projects and provided at no cost to the producers or watershed project.

7. Other potential partners include the County Commission, Stockmen's Association, Grant County Soil Conservation District, and the Bureau of Reclamation.

4.2: Local support

Stark and Billings SCD plans to initiate a survey to evaluate current interest. This will be sent out to landowners and operators in the project area. A good working relationship has been established with many producers in the current project area. These relationships have been built through involvement in NRCS programs, past tree-planting projects, the Alliance for Climate-Smart Ag cost-share program that the District administers, and/or one-on-one contact from technical assistance inquiries.

4.3: Coordination

The Stark and Billings SCD will continue to work closely with the local NRCS field offices to ensure that funds from programs such as EQIP can be used with, or in lieu of, 319 funds, for relevant projects. The project sponsors will also continue to work with other agencies to put on information/education events.

5.O EVALUATION AND MONITORING PLAN

The “assessment phase” Sampling and Analysis Plan (SAP) will be updated by the ND Department Environmental Quality to cover the entire project period for the Government Creek watershed project.

6.O BUDGET

See Table 1.

7.O PUBLIC INVOLVEMENT

As previously mentioned, educational and informational meetings will continue to be conducted to keep the public informed. This includes regular newsletters from the Stark and Billings SCD, as well as information posted to the SCD website. An additional resource that will be produced is a preliminary mailing to alert landowners of the project and opportunities within it and to gauge interest.

Appendices

Figure 1: Water Quality Monitoring Locations in the Government Creek Watershed

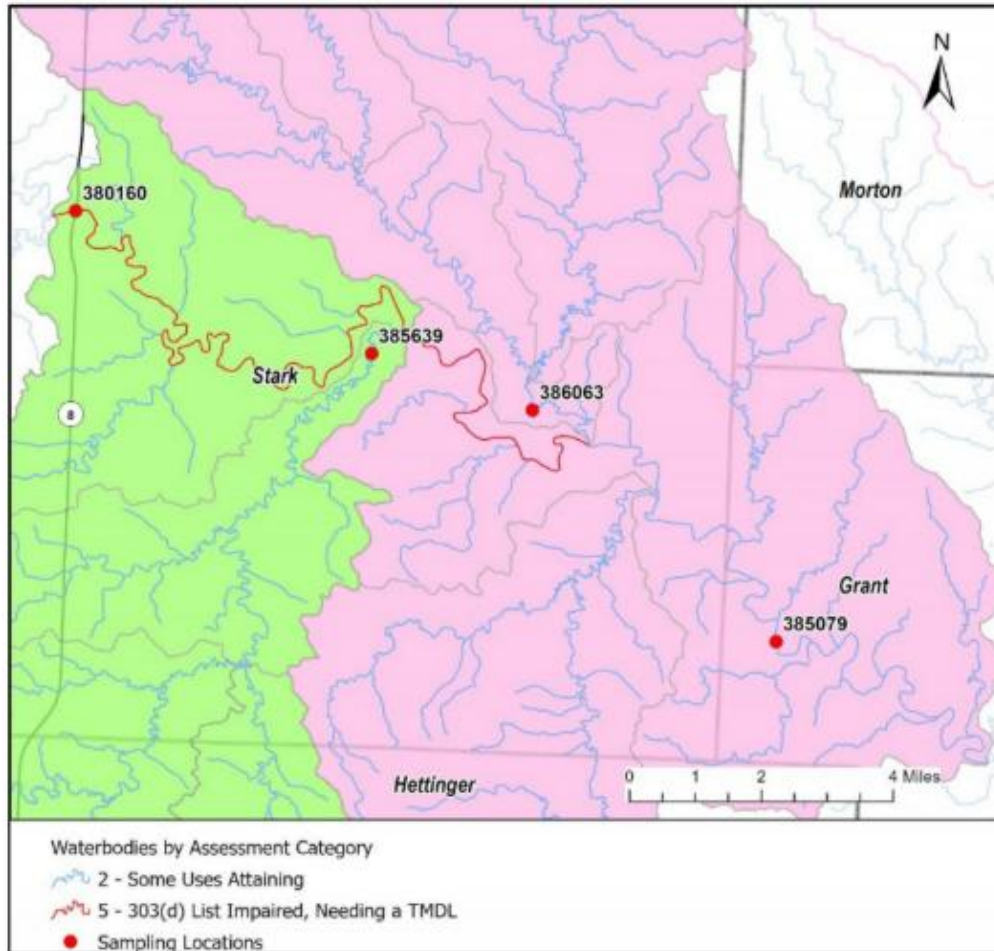


Figure 2: Land Uses in the Heart River Watershed

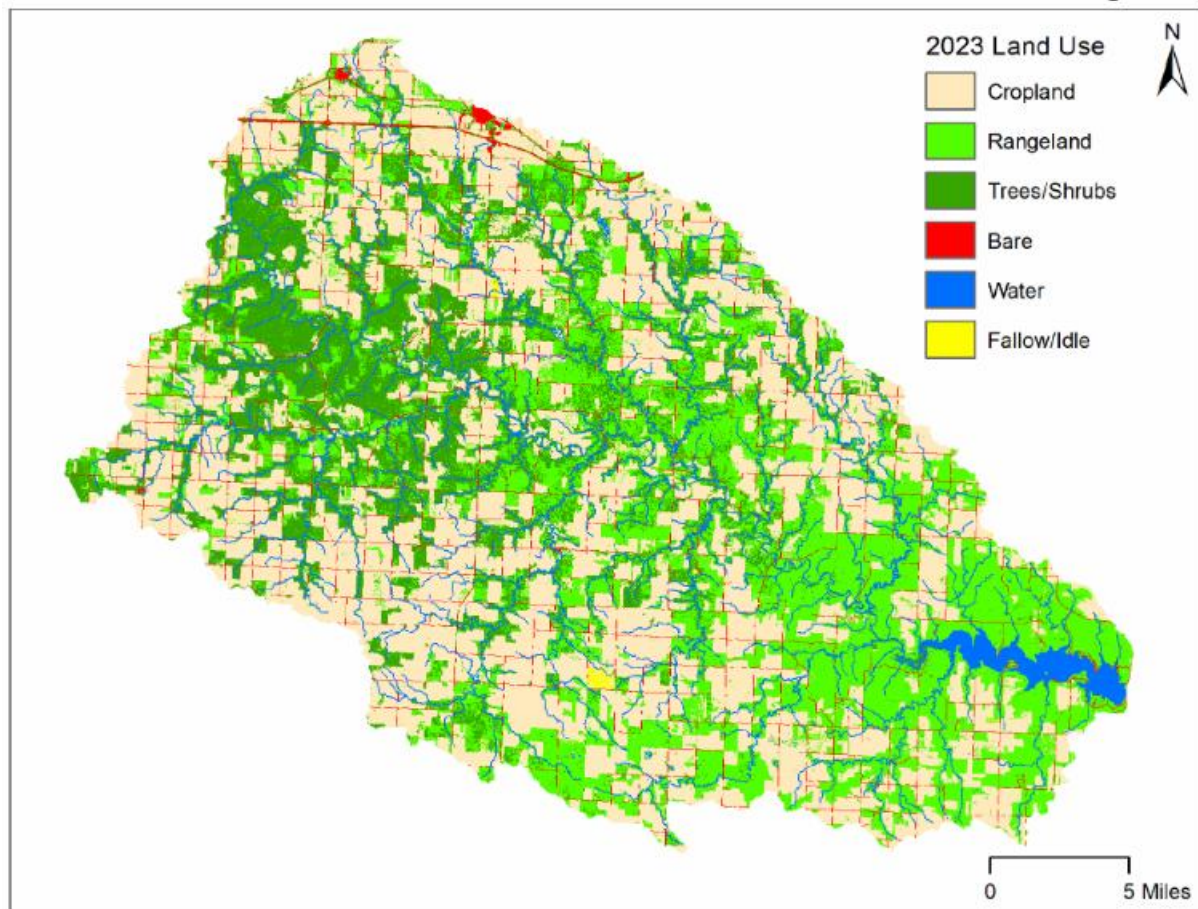


Figure 3: Land Uses in the Lower Government Creek Watershed

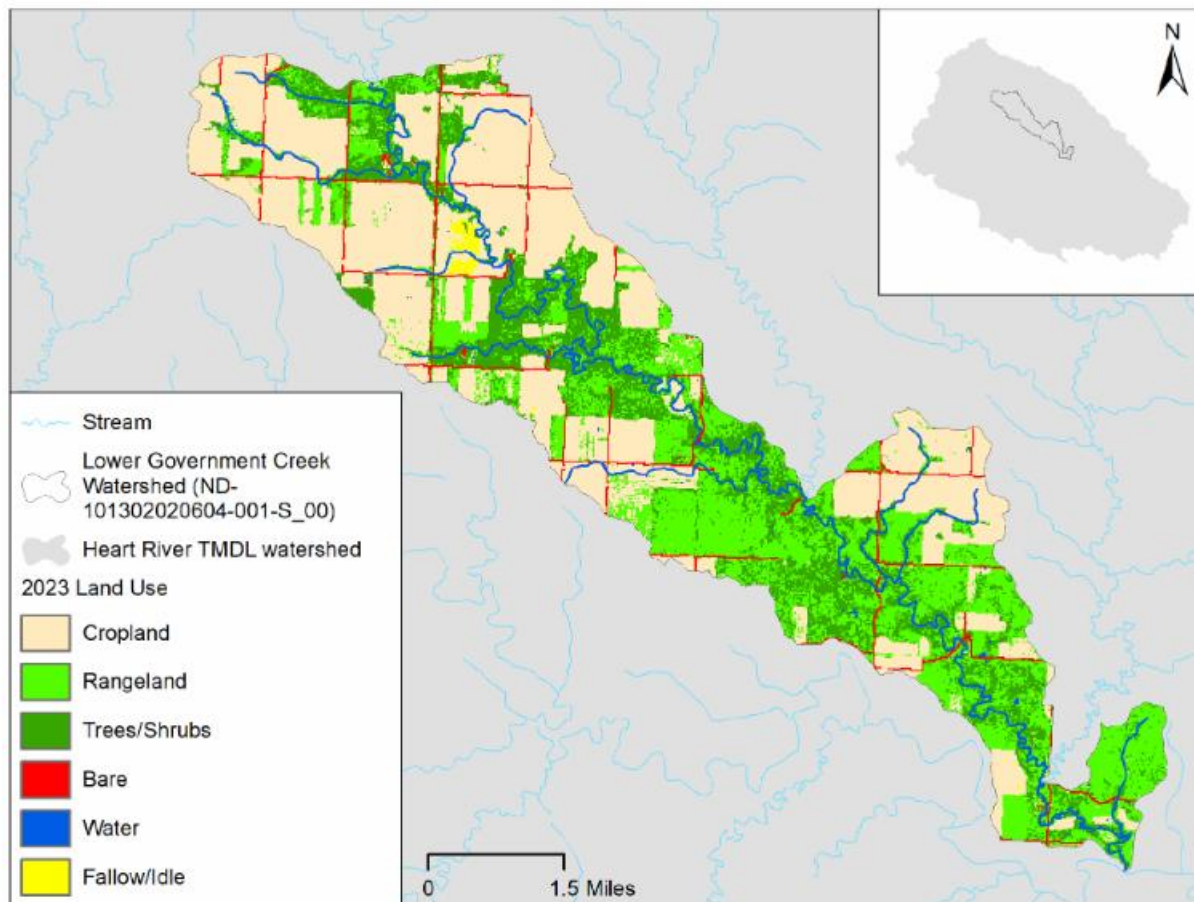


Figure 4: Description of Land Uses in the Government Creek Watershed

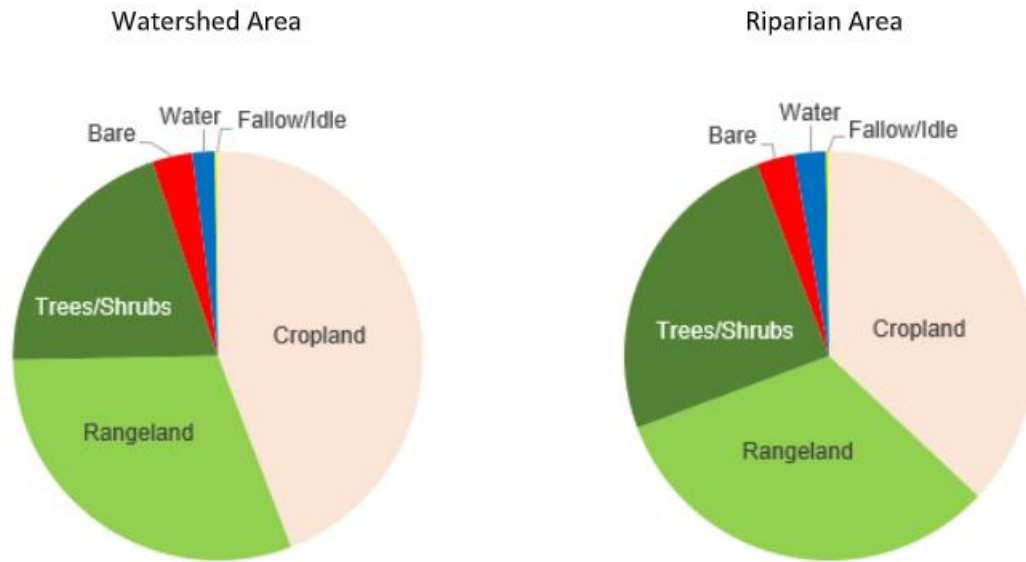


Figure 5: Example E. coli Load Goal for Sampling Site 380160

E. coli TMDL for the Heart River based on site 380160.

E. coli unit: CFU x 10 ⁷ /day	Flow Zone			
	High	Moist	Dry	Low
Existing Load	347,499	50,938	11,080	10,007
Loading Goal	91,109	15,894	5,117	2,643
LA (90% of TMDL)	81,998	14,305	4,606	2,379
MOS (10% of TMDL)	9,111	1,589	512	264
Reduction Needed	74%	69 %	54 %	74 %

Figure 6: Pre-project Status of Sampling Sites

Site IDs	Assessment Unit ID	Pre-Project Status*
380160 Heart River	ND-10130202-012-S_00	Recreation: Impaired based on <i>E. coli</i> Aquatic Life: Insufficient data
385079 Heart River	ND-10130202-002-S_00	Recreation: Not assessed Aquatic Life: Insufficient data
386063 Government Creek	ND-10130202-013-S_00	Recreation: Not assessed Aquatic Life: Not assessed
385639 Buffalo Creek	ND-10130202-016-S_00	Recreation: Not assessed Aquatic Life: Not assessed

*Based on 2020-2022 Integrated Report (data collected from 2008-2018)

Figure 7: Identified Impairments on Heart River, Including Government Creek

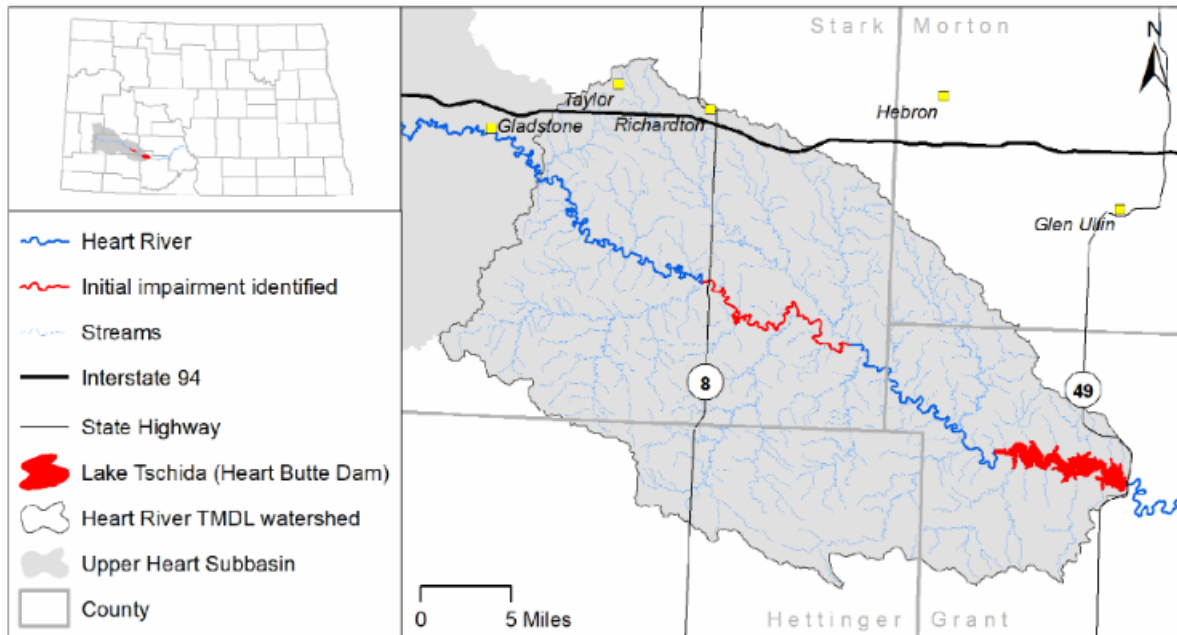


Figure 8: E. coli Levels Mapped Across 2023 and 2024



Figure 9: Current Total Suspended Solid Levels at Sampling Site 380160

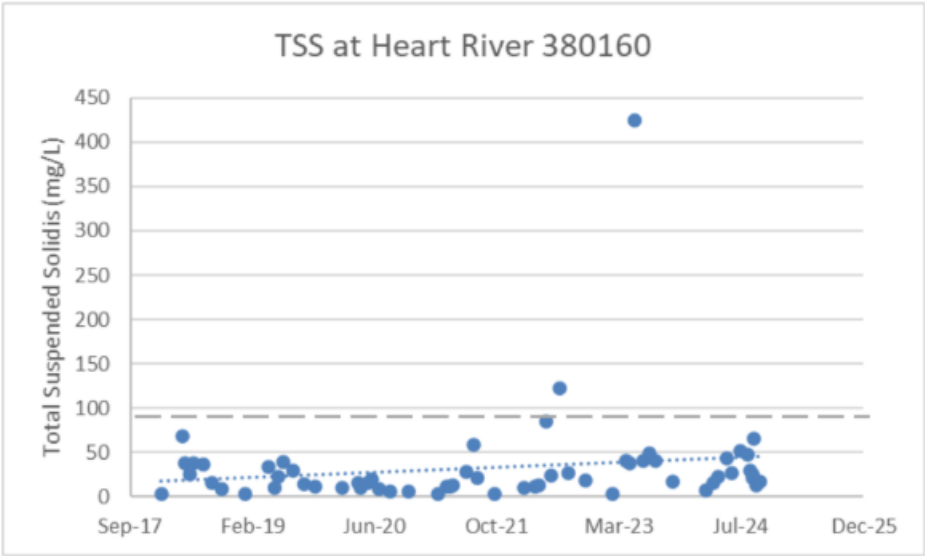


Table 1: Budget, Funding Sources

	2026	2027	2028	TOTAL
EPA Section 319 Funds				
1. FY26 Funds (FA)	47,125	94,250	47,125	188,500
Other Federal Funds				
1. NRCS (TA&FA)	20,000	15,000	15,000	50,000
State/Local Match				
1. Local SCD (TA&FA)	8,000	8,000	8,000	24,000
2. Landowners (FA)	15,000	15,000	15,000	45,000
3. State DEQ	500	1,000	500	2,000
Subtotals	23,500	24,000	23,500	71,000
TOTAL BUDGET	90,625	133,250	85,625	309,500

Table 2: Milestone Table for Government Creek Watershed

Task	Output	Quantity	2026	2027	2028
Objective 1: Assist landowners with implementation of BMPs. Task 1: Current SCD staff will implement NPS project.	BMP implementation				
Objective 2: Reduce E. coli bacteria concentrations to state standard levels and reduce the mean annual TSS concentration. Task 2: Design and install water developments and septic repairs.	Water development plans	3	1 complete system	1 complete system	1 complete system
Task 3: Develop grazing systems and/or install vegetative buffers, riparian easements, etc.	Grazing systems	3	1 complete system, 1,000 acres applied	1 complete system, 1,000 acres applied	1 complete system, 1,000 acres applied
Objective 3: Increase information and education on the impacts and solutions to reduce/prevent delivery of pollutants to surface waters. Task 4: Conduct at least 1 workshop addressing soil health, range management, cover crops, manure management, and/or riparian management.	BMP-related workshop	1+		1 workshop held	
Task 5: Use SCD newsletter and direct mailings to disseminate information on conservation and management options (BMPs) that can be used to improve water quality in priority watersheds.	Mailings and newsletters	9	2 newsletters, 1 direct mailing	2 newsletters, 1 direct mailing	2 newsletters, 1 direct mailing
Task 6: Hold Dickinson Water Festival to teach students the characteristics and importance of water	Water Festival	3	1 Water Festival	1 Water Festival	1 Water Festival