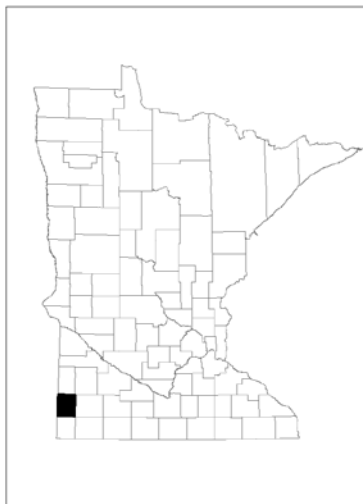


PIPESTONE COUNTY



COMPREHENSIVE LOCAL WATER MANAGEMENT PLAN 2004 – 2020

AMENDMENT DECEMBER 2015



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I. Table of Contents

Page

A. Executive Summary..... 1

- 1. Purpose & Introduction
- 2. Description of Priority Concerns
- 3. Summary of Goals, Actions, and Projected Costs
- 4. Consistency with Local, State and Regional Plans
- 5. Summary of Recommended Amendments to Other Plans and Official Controls

B. Priority Concerns..... 12

- 1. Identification of Priority Concerns
- 2. Assessment of Priority Concerns
 - Priority Concern 1. Creating Reasonable Environmental Standards
 - Priority Concern 2. Protect and Enhance the County’s Surface Water Resources
 - Priority Concern 3. Protect and Enhance the County’s Ground Water Resources
 - Priority Concern 4. Reduce Priority Pollutants
 - Priority Concern 5. Raise Public Awareness on the County’s Key Environmental Issues
- 3. Goals and Objectives to Address Priority Concerns

C. Implementation to Address Priority Concerns 34

D. Implementation Schedule of Ongoing Activities 49

- 1. Cost-Share Needs Projection

For additional information on water management in Pipestone County, Minnesota, contact:

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A. Executive Summary

Pipestone County is located in Southwestern Minnesota along the South Dakota border, approximately 200 miles Southwest of Minnesota's Capital, St. Paul, and 45 miles Northeast of Sioux Falls, South Dakota. According to the 2010 U.S. Census, Pipestone County had approximately 9,596 people living in its nine cities and twelve townships. The City of Pipestone is the county seat.

Pipestone County is divided by the Coteau des Prairies also known as Buffalo Ridge, which separates the watersheds of the Minnesota and Missouri River basins. Pipestone County is one of the few counties in the state which does not have a natural lake. There is however one reservoir (Split Rock Creek) which provides water recreation for the Split Rock Creek State Park.

A.1 Purpose & Introduction

The Pipestone *Comprehensive Local Water Management Plan* is intended to identify existing and potential water resource issues in the context of watershed units and groundwater systems, informing specific implementation actions to achieve goals for sound hydrological management of water and related resources.

Pipestone County developed a unified County Comprehensive Plan and County Comprehensive Local Water Management Plan in 2004. Pipestone Soil and Water Conservation District also through resolution adopted this plan as the SWCD Comprehensive plan. The Comprehensive Local Water Management Plan was approved by BWSR over the period of 2004 – 2014. A five year update was completed and approved in 2009. On July 22, 2014, the Pipestone County Board of Commissioners sent a formal letter to BWSR requesting a one-year, four-month extension to its existing Plan, which would have expired August 31, 2014. The extension request stated that the County is requesting additional time to align the Plan update with the current watershed based planning efforts occurring statewide. The additional time will allow staff to utilize the information and scientific data attained through the statewide efforts to focus and target watershed priorities and align future planning. BWSR approved the request and extended the current plan until December 31, 2015, at which point, Pipestone County will provide the equivalent of a five-year update to the current plan, which would then expire on December 31, 2020, this is being done in an effort to synchronize water management efforts between partners in order to develop and complete watershed based plans through the One Watershed, One Plan concept.

A.1.a Plan Requirements

Requirements of a local water plan are set forth in current state statute (Minnesota Statute §103B.311, Subd. 4.). The plan must address management of water, effective environmental protection, and efficient resource management,

and must be consistent with local water management plans prepared by counties and watershed management organizations wholly or partially within a single watershed unit or ground water systems. This Water Plan is a ten-year management plan with a five-year implementation schedule.

This amendment serves as a supplemental resource to original plan with an attempt to balance the requirements of each water management organization to achieve a useful, strategic document that is easily understandable and useful for decision makers and residents of Pipestone County. It is intended to describe a vision for the future which protects and preserves our precious water resources of Pipestone County.

A.1.b Accomplishments

Major accomplishments under Pipestone County's previous water management plans included from 2009-2013:

- Added two new staff positions to the SWCD office.
- Partnered with Rock County to develop the TMDL for the Rock River Watershed.
- Provided technical assistance to Lincoln Pipestone Rural Water, City of Edgerton, City of Pipestone, and City of Ruthton in development and updates to Wellhead protection plans.
- Conducted a tillage transect survey of the County, 2013.
- Provide free water and manure sample kits to County residents.
- Provided Funding and staff time to an annual education program by the Prairie Ecology Bus Center for local schools.
- Participated in the area Environmental Fair held annually to educated 5th and 6th graders on conservation related topics.
- Publish and distribute a Bi-annual newsletter to rural residents.
- Contracted for high resolution imagery of county, 2013.
- Constructed a new County owned Household Hazardous Waste Facility.
- Host a weekly Household hazardous waste, appliance, and electronics collection.
- Hosted a County Conservation Tour.
- Aired daily PSA on local radio station promoting conservation.
- Constructed new SWCD storage building and cooler.
- Purchased a matting machine to install fabric on tree plantings
- Purchased new no-till grass drill for native grass establishment.
- Provided drill and seeding services on 1200 acres.
- Implemented prescribed grazing on 2,489 acres.
- Implemented nutrient management on 7,581 acres.
- Implemented pest management on 1,692 acres.
- Implemented cover crops on 2,278 acres.
- Completion of 4 Grassed Waterways
- Completion of 92 Water and Sediment Control Basins

- Installed 173,000 feet of tree fabric
- Planted 35,000 trees.
- Planted 30 acres of Farmstead Windbreaks
- Installed 12,339 feet of Field windbreaks.
- Planted 5 acres of private wildlife plantings.
- Enrolled 363 acres of riparian buffers.
- Enrolled acres of permanent easements.
- Enrolled 1,393 acres into the DNR Walk in Access program.
- Enrolled/re-enrolled 2183.2 acres of non-wetland Conservation Reserve Program (CRP) acres.
- Enrolled/re-enrolled 85.5 acres of wetland practice CRP acres.
- Assisted with the completion of 17 Nutrient Management Plans.
- Assisted with the completion of 12 Ag. Waste Management systems.
- Partnered with neighboring counties and with a MPCA funded Watershed Coordinator for the Missouri River Total Maximum Daily Load (TMDL).
- Applied and received \$40,000 from MPCA Surface Water Assessment Grant to monitor 8 stream locations in Missouri River Watershed.
- Applied for and received \$48,000 in Clean Water Legacy Grant Funds in 2010 for provide grants to low income residents to upgrade non-compliant Sub Surface Sewage Treatment Systems (SSTS)
- Applied for and received \$47,368 in Clean Water Legacy Grant Funds in 2011 for provide grants to low income residents to upgrade non-compliant Sub Surface Sewage Treatment Systems (SSTS)
- Applied for and received \$41,600 in Clean Water Legacy Grant Funds in 2012 for provide grants to low income residents to upgrade non-compliant Sub Surface Sewage Treatment Systems (SSTS)
- Applied for and received \$44,050 in Clean Water Legacy funds in 2010 to address a feedlot open lot runoff issue.
- Applied for and received \$211,589 in Clean Water Legacy funds in 2011 to install a manure storage basin.
- Applied for and received \$30,407 in Clean Water Legacy Grant funds in 2012 to control feedlot open lot runoff.
- Entered into a Memorandum of Agreement (MOA) with Nobles, Jackson, Murray, Cottonwood, Martin, Pipestone, and Lyon Counties and SWCDs and the HLWD in October 2009 to leverage funds and resources by solidifying our commitment to the WFDNR watershed. This MOA allows those involved to maximize resources more effectively, provide new opportunities, and establish a diverse, unique commitment. Coordination among local government units is needed to maximize the benefits of the efforts and available resources, while providing the best possible avenues to address the environmental, educational, economic, and agricultural needs of the watershed, its communities, and its residents.

- Entered into grant agreement with MN Dept. of Ag and received grant funds in the amount of \$150,000 which are being used to offer incentive payments to producers located within the highly vulnerable wellhead protection area if they utilize nitrate inhibitors. 850 acres were enrolled in 2014, 1300 acres were enrolled in 2015.
- Partnered with MN Dept. of Health on a well inventory pilot project. Pipestone SWCD was awarded a grant for \$20,000 to complete the data entry of well data that was collected in the 90s's into an online database system.
- Provided for the coordination between the City of Trosky, RD, MPCA, Private Engineering Firm, County and SWCD so the City Council would move forward in development of a central community sewage treatment system.
- Provided cost-share assistance in the sealing of 54 unused wells.

Pipestone County				
AgBMP Loans -- New and Revolving Funds				
	Tillage Equipment	Ag Waste	SSTS Upgrades	Other
2009	0	73,408	8,244	
2010	37,550	72,000	38,403	
2011	166,000	388,561	78,890	10,728
2012	0	137,250	105,133	
2013	0	59,645	51,602	
2014	0	15,400	36,279	
Source: Pipestone SWCD				

A.1.c Plan Update, Adoption and Amendment

Pipestone SWCD is the responsible for local water management implementation activities in Pipestone County, this does also including facilitation of public input and convening the Local Water Management Task Force. Pipestone County Planning Commission is also responsible assisting in the update and hosting public hearings. The Pipestone County Conservation and Zoning Office were tasked with the Plan Amendment process.

Task Force membership included:

- Kyle Krier, Pipestone County Conservation and Zoning
- Adam Ossefoort, Pipestone Soil and Water Conservation District
- Nicole Schwebach, Pipestone Soil & Water Conservation District
- Anna Mae Fritz, Pipestone Soil & Water Conservation District Supervisor
- Bill Folger, Pipestone Soil & Water Conservation District Supervisor
- Joel Adelman, City of Pipestone
- Jerry Purdin, NRCS Pipestone F.O.

- Les Nath, Pipestone County Commissioner
- Bruce Kooiman, Pipestone County Commissioner
- Ed Lenz, MN Board of Water & Soil Resources
- Jason Overby, Lincoln-Pipestone Rural Water
- Brad Kruisselbrink, Pipestone County Planning Commission
- Mark Calamia, Pipestone National Monument
- Amanda Strommer, MN Dept. Health
- Brian Nyborg, MN DNR

Technical Committee

- Kyle Krier, Pipestone County Conservation and Zoning
- Adam Ossefoort, Pipestone Soil and Water Conservation District
- Jason Overby, Lincoln Pipestone Rural Water
- Joal Adelman, City of Pipestone

The following public and internal forums and meetings were held to provide public input into the update process:

- 7/22/14 Pipestone Board of County Commissioners requests plan extension from BWSR.
- 8/28/14 BWSR grants extension of current plan with 5 yr update requirement.
- 11/12/14 Pipestone Board of County Commissioners approved resolution to amend Water Plan.
- 11/25/14 Mail/email Notice to Revise and Update to BWSR routing list, adjacent counties, cities & townships.
- 1/15/15 Local Water Plan Public Update Information Meeting held at Pipestone Emergency Management Building (19 att.)
- 2/3/15 Local Water Plan Public Update discussed with Pipestone County Planning Commission, meeting held at Pipestone County Courthouse.
- 6/1/15 First Draft of Water Plan Amendment published on SWCD website.
- 6/17/15 Pipestone County Water Task Force Review comments and finalizes draft plan.
- 6/25/15 Pipestone Star publishes article notifying public on water plan update and request for public comment.
- 6/25/15 Draft of Water Plan Amendment published on SWCD website.

- 7/2/15 Notice of Public Hearing Published in Pipestone Star.
- 7/13/15 Public comment period closed.
- 7/14/15 Public Hearing before Pipestone County Planning Commission
- 8/7/15 Notice of State Agency review period, open until 9/8/15.
- 11/5/15 Presented Amendment to BWSR.
- 12/16/15 BWSR Board Approved Amendment.
- 1/12/16 Pipestone County Board Adopted Amendment.

Upon approval of this plan amendment by the Board of Water and Soil Resources (BWSR), the County Board has up to 120 days to pass an Adoption and Implementation Resolution. After final adoption, the plan may be amended in a similar process, by petitioning the BWSR Board, scheduling a public hearing, and sending notice to the required parties.

Approximately two years—and no later than 18 months—prior to the end of the five year management schedule, the County Board should consider a new Resolution to update this plan, according to the rules then in place.

A.2 Description of Priority Concerns

The Priority Concerns listed below were selected by the Water Plan Task Force members by consensus, after carefully reviewing submitted concerns and comments, and then refined based on discussion in public meetings. While the assessment of priority concerns utilized the best available information, this plan rests solidly on data and analysis contained in previous editions of the county’s local water management plan.

Priority Concern 1. Creating Reasonable Environmental Standards

With the multitude of Federal, State and Local Statues, Rules and Ordinances which play a major role in protecting our environment, it is imperative that the County acknowledge this and identify that these requirement are being properly enforced. In addition, that the County take the appropriate planning actions to draft and adopt any further needed requirements to aid in the protection, enhancement and preservation of our natural resources.

Priority Concern 2. Protect and Enhance the County’s Surface Water Resources.

Minnesota has an abundance of surface waters; the majority of these waters in Pipestone County and the region are listed as TMDL Impaired by MPCA and the U.S. Environmental Protection Agency (EPA). Impaired waters affect both the local

environment and communities' ability to provide for their future. High priority soil erosion problems continue to be present, while management of nutrients, feedlots and sewage treatment systems require ongoing attention.

Priority Concern 3. Protect and Enhance the County's Groundwater Resources.

A long-term, sustainable supply of ground water resource is essential for growth and development in Pipestone County. There is particular concern with Wellhead Protection Areas located within the County which are utilized to provide the majority of Pipestone and surrounding County residents with water. Much of these water supply areas are considered to be highly vulnerable to contamination. Protection of these critical lands and provisions to ensure long-term preservation of our water resources is needed. This can often be difficult without being in conflict with Ag production. The landscape of Southwest Minnesota has changed greatly since settlement. Management of the resulting drainage system—the modern hydrograph—is often disjointed and uncoordinated, leading to issues with both quantity and quality of water. Flooding and stormwater retention remain concerns across the county. There are also particular issues in the region with wetlands, habitat and critical species.

Priority Concern 4. Reduce Priority Pollutants.

Inventories assist in identifying priority pollutions within the county. Once identified, programs can be developed to aid disposal or collection of these materials so they are not improperly disposed of and lead to contamination of surface and groundwater.

Priority Concern 5. Raise Public Awareness on the County's Key Environmental Issues.

Education of both youth and adults can be challenging but is a very rewarding and beneficial means of protecting and preserving the environment. The development of a long-term and sustainable education program will spread awareness and information to current and future generations.

A.3 Summary of Goals, Actions, and Projected Costs

Goals and Actions were selected to address priority concerns, with a focus on principles of sound hydrological management.

Priority Concern 1. Creating Reasonable Environmental Standards.

This concern will be addressed to ensure there are appropriate official measures and controls at the County level. This includes periodic review of existing plans and ordinances, with consideration of additional controls to protect, preserve and

prevent future degradation of surface and ground water quality and quantity for future generations.

Implementation actions include the considerations and potential development of a soil loss ordinance, drainage management plan, and additional measures to ensure protection of the counties drinking water supply management areas.

Projected costs over the five years of the management plan to implement all priority 1 actions would be \$350,000. Expenditures include; \$20,000 for staffing to implement a soil loss ordinance, \$250,000 for the development and staffing a county drainage management plan, \$80,000 to complete amendments to the County Comprehensive Plan, as well as annual in-kind services. All dollar figures are rough estimates and recognize approximate known costs of identified implementation partners.

Priority Concern 2. Protect and Enhance the County's Surface Water Resources.

This concern will be addressed to prevent further degradation of stream and lake water quality, with a priority for shoreland areas, TMDL-listed waters, un-sewered communities, drainage management, storm water retention, and improving flood control. Objectives include addressing TMDL impaired waters, preventing soil erosion; promoting agricultural best management practices (AgBMPs), and facilitating compliance of nutrient management, feedlot and septic treatment systems with state and federal requirements.

Implementation actions include promotion, education, inventories, and administration, working with state and federal agencies on measures to improve water quality, providing technical assistance to implement best management practices, provide financial incentives for conservation practices, and enrollment of lands into conservation programs.

Projected costs over the five years of the management plan to implement all priority 2 actions would be \$4,627,500 expenditures include; \$515,000 for promotion and installation of buffers, \$1,707,500 best management practices (BMP's), \$205,000 for water retention structures, \$1,210,000 for feedlot related practices and plans, \$675,000 for drainage management practices, \$245,000 for subsurface sewage treatment systems, \$50,000 for technical assistance and administration, and \$20,000 for outreach and education, as well as annual in-kind services.

Priority Concern 3. Protect and Enhance the County's Ground Water Resources.

This concern will be addressed to assure long-term quality and quantity of water supplies, with a priority for drinking water supply management areas and areas not currently served by public/community systems. Objectives include encouraging well head protection, preventing groundwater contamination, facilitating land retirement, and supporting rural water systems and long-term water supplies.

Implementation actions include outreach and education, technical assistance and incentives for landowners and water providers, review of plans and ordinances, maintenance of GIS data, providing assistance to seal unused wells, cooperative efforts for land retirement, and working with cities and water providers for long-term water supplies.

Projected costs over the five years of the management plan to implement all priority 3 actions would be \$1,450,500 expenditures include; \$1,100,000 towards land retirement partnerships including RIM, WRP, and other easement programs, \$50,000 for inventories, \$20,000 for assistance to landowners sealing unused wells, \$250,000 for technical assistance and BMP installation, \$30,500 for outreach and education, as well as annual in-kind services.

Priority Concern 4. Reduce Priority Pollutants.

This concern will be addressed to eliminate the potential to contaminate surface and ground water quality by and from the improperly applied fertilizers and chemicals, improperly disposed of garbage, demo, chemical and hazardous waste. Objectives include encouraging proper application and disposal of farm chemical, county sponsored collection events, education, and cleanup of current dumps.

Implementation actions include outreach and education, technical assistance and incentives to landowners for dump cleanup and properly managing waste.

Projected costs over the five years of the management plan to implement all priority 4 actions would be \$370,000 expenditures include; \$200,000 towards dump cleanup, \$155,000 for waste reduction, \$15,000 for nutrient management plans, as well as annual in-kind services.

Priority Concern 5. Raise Public Awareness on the County's Key Environmental issues.

This concern will be addressed to assure the public is informed and educated on key environmental issues. Objectives include various methods of education and outreach to inform and educate the general public, outreach efforts include; newsletters, direct mailings, personal contacts, radio, newspaper, and events.

Implementation actions include outreach and education, technical assistance and incentives for landowners and water providers, review of plans and ordinances, maintenance of GIS data, providing assistance to seal unused wells, cooperative efforts for land retirement, and working with cities and water providers for long-term water supplies.

Projected costs over the five years of the management plan to implement all priority 5 actions would be \$11,250 expenditures include; \$5,000 for development and distribution of flyers, \$6,250 direct mailing, as well as annual in-kind services.

A.4 Consistency with Local, State and Regional Plans

Pipestone County has combined the Environmental Office and SWCD creating the Pipestone County Conservation and Zoning Office. Additionally the County also combined the Comprehensive Water Management Plan with the County Comprehensive plan creating one document. This combination has allowed a better coordination and cooperation between the County and SWCD and helps to maintain consistency between this plan and the County's other plans and ordinances. Task Force members have also been involved in the completion of the Pipestone Creek and Rock River TMDL's, Wellhead Protection Plans, and other various plans. Pipestone County has also been involved with the Yellow Medicine River "One Watershed One Plan" pilot project since a portion of the county is located within the Redwood River.

A.5 Summary of Recommended Amendments to Other Plans and Official Controls

No specific amendments are recommended at this time. Action items include consideration of updates to zoning ordinances within this document's management timeline. It would be recommended to incorporate data from this plan into other local plans and controls when they are updated.



Winnewissa Falls, Pipestone National Monument

B. Priority Concerns

B.1 Identification of Priority Concerns

Priority Concerns for local water management were selected by the Pipestone County Local Water Management Plan Task Force members. While the assessment of priority concerns utilizes the best available information, this Amendment process utilizes priority concerns identified in the current plan without any alteration.

Agency and LGU input was requested at the January 15, 2015 Taskforce Meeting regarding the amendment process. Request for comments were sent to all local government units (LGU's) that share a political boundary with Pipestone County, all State Agencies as required, as well as all the LGU's within Pipestone County. Public Comment were also requested during this Taskforce Meeting. Comments were received from the DNR, MDA, MDH, City of Pipestone, and one rural resident.

B.2 Assessment of Priority Concerns

Population		
	2010	2013
Civil Division	Census	Estimate
Edgerton City		1,142
Hatfield City		57
Holland City		176
Ihlen City		61
Jasper City		228
Pipestone City		4,157
Ruthton City		228
Trosky City		83
Woodstock City		120
County	9596	9270
Source: Minnesota State Demographic Center		

Pipestone County has nine (9) incorporated cities and twelve (12) townships. The Minnesota State Demographic Center estimates that there are currently 9,270 residents and 3,924 households in the county.

Pipestone County is well-served by transportation networks.

US Hwy 75, runs north to south through the county and connects with Minnesota highways 23 and 30 in the city of Pipestone. Highway 23 provides a major link between I-29 and north-east traffic toward the city of Marshall. Highway 30 provides a link to South Dakota and east towards Highway 59. The Burlington-Northern Railway runs

parallel to highway 23 diagonally through the county. This is a high density rail line with 12 – 15 trains per 24 hour period traveling on this tract, trains carry coal, grain, and general freight including hazardous materials.

Agriculture is the primary industry in Pipestone County consisting primarily of grain and livestock farming, swine production within the county has been on a steady increase since the mid 90's and is now estimated to be the county's largest employer.

The University of Minnesota Remote Sensing and Geospatial Analysis Laboratory analysis indicates that 74% of the land in Pipestone County was in agricultural use in the 2000. This accounts for over 220,000 of the almost 300,000 acres in the county. Almost 19% (close to 56,000 acres) of land is in grass/shrub/wetlands, while 6.5% (19,000 acres) is classified "urban". The same analysis found that only 2% (6,200 acres) of the county is considered "impervious" or developed such that water will run off rather than soak into the ground.

Pipestone County is considered a typical prairie environment, with a typical humid, mid-continental climate, with cold, dry continental polar air dominating in the winter and hot, dry tropical air masses from the Southwest meeting warm, moist maritime air masses from the Gulf of Mexico in the summer. Pipestone County's temperatures range from an average of 11 degrees Fahrenheit in January to an average 72 degrees in July. Average precipitation has ranged between 19 and 40 inches in the last two decades; between 21 and 26 inches of precipitation were observed across the county in 2008. Pipestone County typically receives 25 – 30 inches of snow over the winter season (October to March). (State Climatology Office – DNR Waters at <http://climate.umn.edu/>).

Buffalo Ridge, part of the Coteau des Prairies landform, crosses Pipestone County from the northwest to southeast, creating a steep escarpment (elevation 1995 feet) that is home to some of the largest wind farms in the United States. The southern portion of the Coteau Moraines is characterized as a transition from shallow deposits of windblown silt (loess) over glacial till. The Inner Coteau covers southwestern Pipestone County with highly dissected moraines of pre-Wisconsin drift. Bedrock is covered by up to 800 feet of glacial till; however, there are exposures of red Upper Precambrian quartzite in the area. Pipestone County is divided between the Minnesota, Des Moines-Mississippi, and Missouri basins. The Minnesota basin flows northeast, Des Moines southeast, while the Missouri basin flows south/southwest.

The USDA NRCS *U.S. General Soil Map* delineates 7 general soil units in Pipestone County. Soil Associations include: **Barnes-Buse, Barnes-Flom, Brookings-Hidewood, Estelline-Lamore, Ihlen-Rock outcrop, Kranzburg-Vienna, and Moody-Trent-Whitewood.**

The NRCS *Soil Survey of Pipestone County Minnesota* (2003), the Soil Survey Geographic (SSURGO) Database and the NRCS Web Soil Survey at <http://websoilsurvey.nrcs.usda.gov/app/> describe much more detailed soil properties and interpretations. The most current soils data is available through the NRCS website at soils.usda.gov.

***High priority water quality problems* are seen in areas where sediment, nutrients, chemicals or other pollutants discharge to DNR designated protected waters or to any high priority waters as identified in this plan, or discharge to a sinkhole or ground water. The pollutant delivery rate to the water source is in amounts that will impair the quality or usefulness of the water resource.**

Priority Concern 1. Creating Reasonable Environmental Standards.

Local County ordinances authorized under MN Statue 394 is a way of ensuring compliance and protection of our natural resources. Identification of these standards is the first step so Counties are able to identify the concerns in their local comprehensive plans. Once identified in the comprehensive plan, counties are able to create ordinances to regulate and/or ensure compliance with applicable guidelines and standards.

a. Shore land Promotion

Current DNR shore land rule and 2015 Legislation require buffers to be installed along lakes, streams and ditches. A study conducted in 2013 by the Environmental Working Group identified only 18% of Minnesota’s perennial river and steam banks in agricultural areas are fully protected. Promotion of enrollment of these area’s into a conservation program such as CRP and RIM have been ongoing but these programs have not been attractive with past grain and land prices.

b. Soil Loss Enforcement

Because of global demand for agricultural products in recent years, the pressure to produce more food, fiber and fuel (biofuels) has been evident. As a result, marginal lands have been placed into production. In some circumstances, maintenance of conservation structures has been an issue. In addition, some farming practices such as cover crops, conservation tillage, and conservation practices need to be adopted to enhance water quality.

Priority Concern 2. Protect and Enhance the County’s Surface Water Resources.

We often take surface water for granted. Surface water is easy to see and touch, in the creeks, streams, and lakes where we fish and play, and where we draw water for drinking and irrigation. Yet surface waters are also vulnerable to natural and man-made threats from pollution and erosion.

a. TMDL Impaired Waters

The federal Clean Water Act requires states to adopt water quality standards. A water body is considered “impaired” or polluted if it fails to meet these standards. Section 303(d) of the Act requires the State to conduct a TMDL Study to identify sources of each of pollutants, calculate the maximum amount of a

pollutant a water body can receive, and allocate reductions necessary to meet water quality standards.

As BWSR has explained in water planning guidance, there is a straight-forward process for addressing impaired waters:

1. Monitor and assess the state's waters
2. List impaired waters
3. Identify sources and reductions needed (TMDL study)
4. Implement restoration activities (Implementation Plan)
5. Evaluate water quality.

Pipestone County 2014 Impaired Waters List

Reach name	Reach Description	Year added to List	Basin	River AUID	Affected designated use	Pollutant or stressor	Year TMDL Plan Approved	Approved TMDL EPA ID#
Chanarambie Creek	Headwaters to Rock R	2014	MoR	10170204-522	Aquatic Life	Aquatic Macroinvertebrate Bioassessments		
Chanarambie Creek	Headwaters to Rock R	2014	MoR	10170204-522	Aquatic Life	Fishes Bioassessments		
Chanarambie Creek	Headwaters to Rock R	2014	MoR	10170204-522	Aquatic Life	Turbidity		
Chanarambie Creek	Headwaters to Rock R	2014	MoR	10170204-522	Aquatic Recreation	Escherichia coli		
Flandreau Creek	T108 R46W S14, north line to Willow Cr	2014	MoR	10170203-517	Aquatic Life	Aquatic Macroinvertebrate Bioassessments		
Flandreau Creek	T108 R46W S14, north line to Willow Cr	2014	MoR	10170203-517	Aquatic Life	Fishes Bioassessments		
Flandreau Creek	Willow Cr to MN/SD border	2014	MoR	10170203-502	Aquatic Life	Fishes Bioassessments		
Flandreau Creek	Willow Cr to MN/SD border	2014	MoR	10170203-502	Aquatic Recreation	Escherichia coli		
Main Ditch	CD A to Pipestone Cr	2006	MoR	10170203-527	Aquatic Life	Turbidity	2008	35383
Main Ditch	CD A to Pipestone Cr	2004	MoR	10170203-527	Aquatic Recreation	Fecal Coliform	2008	35383
Pipestone Creek	Headwaters to N Br Pipestone Cr	2014	MoR	10170203-506	Aquatic Life	Aquatic Macroinvertebrate Bioassessments		
Pipestone Creek	Headwaters to N Br Pipestone Cr	2014	MoR	10170203-506	Aquatic Life	Fishes Bioassessments		
Pipestone Creek	N Br Pipestone Cr to MN/SD border (Pipestone County)	2014	MoR	10170203-501	Aquatic Life	Aquatic Macroinvertebrate Bioassessments		
Pipestone Creek	N Br Pipestone Cr to MN/SD border (Pipestone County)	2014	MoR	10170203-501	Aquatic Life	Fishes Bioassessments		
Pipestone Creek	N Br Pipestone Cr to MN/SD border (Pipestone County)	2002	MoR	10170203-501	Aquatic Life	Turbidity	2008	35381
Pipestone Creek	N Br Pipestone Cr to MN/SD border (Pipestone County)	1994	MoR	10170203-501	Aquatic Recreation	Fecal Coliform	2008	35381
Pipestone Creek, North Branch	Headwaters to Pipestone Cr	2014	MoR	10170203-514	Aquatic Life	Aquatic Macroinvertebrate Bioassessments		
Pipestone Creek, North Branch	Headwaters to Pipestone Cr	2014	MoR	10170203-514	Aquatic Life	Fishes Bioassessments		
Pipestone Creek, North Branch	Headwaters to Pipestone Cr	2004	MoR	10170203-514	Aquatic Life	Turbidity	2008	35382
Pipestone Creek, North Branch	Headwaters to Pipestone Cr	2006	MoR	10170203-514	Aquatic Recreation	Fecal Coliform	2008	35382
Poplar Creek	Headwaters to Rock R	2014	MoR	10170204-523	Aquatic Life	Aquatic Macroinvertebrate Bioassessments		
Poplar Creek	Headwaters to Rock R	2014	MoR	10170204-523	Aquatic Life	Fishes Bioassessments		
Poplar Creek	Headwaters to Rock R	2014	MoR	10170204-523	Aquatic Life	Turbidity		
Poplar Creek	Headwaters to Rock R	2014	MoR	10170204-523	Aquatic Recreation	Escherichia coli		
Redwood River	Headwaters to Coon Cr	1998	MnR	07020006-505	Aquatic Consumption	Mercury in fish tissue	2008	35500
Redwood River	Headwaters to Coon Cr	2002	MnR	07020006-505	Aquatic Life	Fishes Bioassessments		
Redwood River	Headwaters to Coon Cr	2008	MnR	07020006-505	Aquatic Recreation	Fecal Coliform	2014	

Rock River	T107 R44W S30, east line to Chanarambie Cr	2014	MoR	10170204-504	Aquatic Life	Aquatic Macroinvertebrate Bioassessments		
Rock River	T107 R44W S30, east line to Chanarambie Cr	2014	MoR	10170204-504	Aquatic Life	Fishes Bioassessments		
Rock River	T107 R44W S30, east line to Chanarambie Cr	2014	MoR	10170204-504	Aquatic Life	Turbidity		
Rock River	T107 R44W S30, east line to Chanarambie Cr	2014	MoR	10170204-504	Aquatic Recreation	Escherichia coli		
Rock River, East Branch	Headwaters to Rock R	2014	MoR	10170204-530	Aquatic Life	Aquatic Macroinvertebrate Bioassessments		
Split Rock Creek	Headwaters to Split Rock Lk	2014	MoR	10170203-509	Aquatic Life	Aquatic Macroinvertebrate Bioassessments		
Split Rock Creek	Headwaters to Split Rock Lk	2014	MoR	10170203-509	Aquatic Life	Fishes Bioassessments		
Split Rock Creek	Split Rock Lk to Pipestone Cr	2014	MoR	10170203-507	Aquatic Life	Aquatic Macroinvertebrate Bioassessments		
Split Rock Creek	Split Rock Lk to Pipestone Cr	2014	MoR	10170203-507	Aquatic Life	Fishes Bioassessments		
Split Rock Creek	Split Rock Lk to Pipestone Cr	1994	MoR	10170203-507	Aquatic Life	Oxygen, Dissolved		
Unnamed creek	Unnamed cr to N Br Pipestone Cr	2014	MoR	10170203-549	Aquatic Life	Aquatic Macroinvertebrate Bioassessments		
Unnamed creek	Unnamed cr to N Br Pipestone Cr	2014	MoR	10170203-549	Aquatic Life	Fishes Bioassessments		
Unnamed creek	Unnamed cr to Poplar Cr	2014	MoR	10170204-588	Aquatic Life	Aquatic Macroinvertebrate Bioassessments		
Unnamed creek	Unnamed cr to Poplar Cr	2014	MoR	10170204-588	Aquatic Life	Fishes Bioassessments		
Unnamed creek	Unnamed cr to Poplar Cr	2014	MoR	10170204-589	Aquatic Life	Aquatic Macroinvertebrate Bioassessments		
Unnamed creek	Unnamed cr to T106 R45W S25, south line	2014	MoR	10170204-593	Aquatic Life	Aquatic Macroinvertebrate Bioassessments		
Unnamed creek	Unnamed cr to T106 R45W S25, south line	2014	MoR	10170204-593	Aquatic Life	Fishes Bioassessments		
Unnamed creek	Unnamed cr to Willow Cr	2014	MoR	10170203-531	Aquatic Life	Aquatic Macroinvertebrate Bioassessments		
Willow Creek	Headwaters to Flandreau Cr	2014	MoR	10170203-515	Aquatic Life	Aquatic Macroinvertebrate Bioassessments		
Willow Creek	Headwaters to Flandreau Cr	2014	MoR	10170203-515	Aquatic Life	Fishes Bioassessments		

Source: MPCA

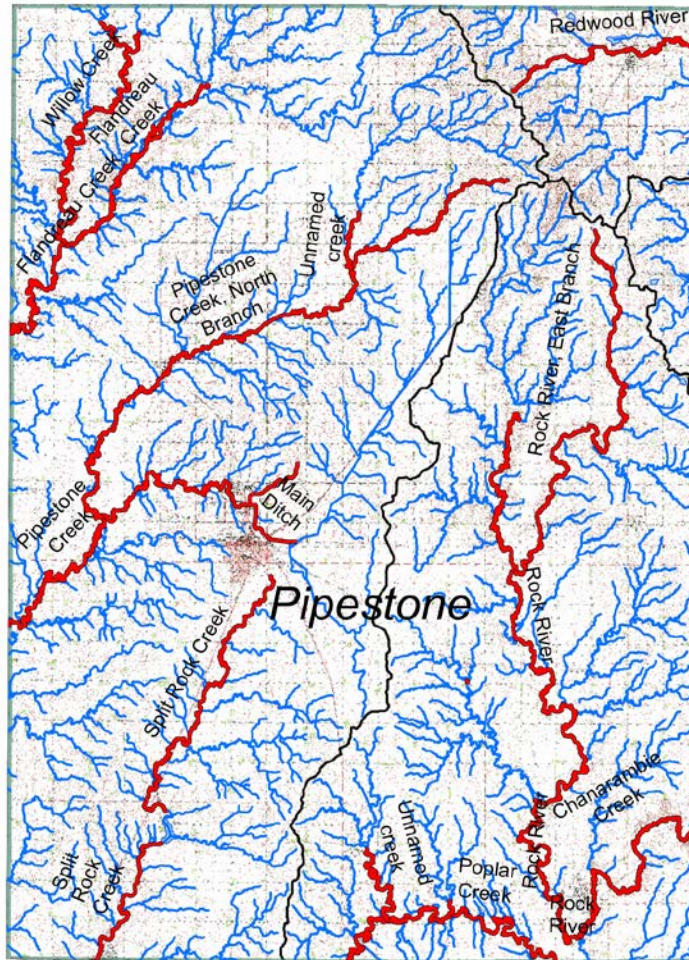
Pipestone County Impaired Waters Map

Source: MPCA

Pipestone Creek was listed as an impaired water at the Minnesota, South Dakota line in 2002. Beginning in 2005 and 2006 staff from the SWCD coordinated with the MPCA and DNR to monitor and assess the Pipestone Creek Watershed. In 2007 and 2008 staff assisted the MPCA in drafting a TMDL Study and implementation plan for Pipestone Creek which was approved by EPA in 2008.

The Redwood River Watershed is listed for turbidity and, fecal and mercury in various reaches. A TMDL was approved February 2014 for Fecal Coliform. MPCA is planning to conduct intense monitoring on the Redwood River with hopes of completion by 2020.

The Rock River TMDL study was approved by EPA in April 2008. The study found



that “For turbidity, load duration curves and water quality data indicate the primary sources to be soil erosion in the riparian zone from livestock, stream bank erosion/slumping, upland soil loss from row cropland and algae growth.” Staff from

the Pipestone Conservation and Zoning office assisted and participated in the study. Rock County Land Management has been leading planning for implementation.

WRAPS (Watershed Resource and Protection Strategies)

Watershed approach to restoring and protecting water quality

The passage of Minnesota’s Clean Water Legacy Act in 2006 provided policy framework and money for state and local governments to accelerate efforts to monitor, assess, and restore impaired waters, and to protect unimpaired waters. Following the passage of the Act, the MPCA began implementing what it calls the Watershed Approach. There are 81 major watersheds in Minnesota. Intensive water quality monitoring and assessments will be conducted in each of these watersheds every 10 years. During the 10-year cycle, the MPCA and its partner organizations work on each of the state's watersheds to evaluate water conditions, establish priorities and goals for improvement, and take actions designed to restore or protect water quality. When a watershed's 10-year cycle is completed, a new cycle begins. The table below show the projected timeline for Pipestone Watershed WRAP completions.

The Missouri River basin began the Major Watershed Approach call WRAPS (Watershed Resource and Protection Strategies) with PCA in the spring of 2011. This includes the Rock River, Poplar Creek, Split Rock Creek, Pipestone Creek, Flandreau Creek, Willow Creek, and Spring Creek. In 2012, 56 streams were added to the impaired waters list in the Missouri River basin and will have TMDLs completed on them. In 2014 following the completion of the Missouri river watershed WRAPS there were only three steam in the entire watershed which were not classified as being impaired. Major concerns for these streams and rivers are impaired aquatic life and recreation. Pollutants are primarily turbidity and E. coli. Area County and SWCD representatives are participating in this process with PCA.

WATERSHEDS	WRAP Document
Big Sioux River Watershed	December 2016
Rock River Watershed	December 2016
Des Moines River Watershed	December 2018
Redwood River Watershed	December 2020

Current TMDL projects and schedules may be found on the MPCA website (<http://www.pca.state.mn.us/water/tmdl/tmdl-projects.html>).

b. Soil erosion

High priority erosion problems occur in areas where erosion from wind or water is occurring equal to or in excess of twice the “tolerable rate” as defined by NRCS. High priority erosion problems also occur in any area that exhibits active gully erosion. As well, the focus areas for this local water management plan, including watersheds of impaired waters, should be considered high priority for erosion prevention.

Conservation practices, such as grass waterways, terraces, and sediment basins, reduce impacts of soil erosion on surface waters and wetlands. Vegetative buffers separating cropland from bodies of water act as a last line of defense from runoff. These buffers should be a minimum of 50 feet wide and extend at least to the edge of the flood plain, with wider buffers further enhancing water quality. Local cost-share assistance is available for these and other conservation practice if producers are interested.

c. Agricultural Best Management Practices

Voluntary conservation programs are a proven method to reward agricultural producers for doing their part to safeguard water quality and prevent soil erosion. CRP, Conservation Reserve Enhancement Program (CREP), Grassland Reserve Program (GRP), Environmental Quality Incentives Program (EQIP), Reinvest in Minnesota (RIM), Wetland Reserves Program (WRP), Conservation Stewardship Program (CSP), and other similar initiatives provide tools to return appropriate land to a native ecology that is better able to respond to erosion pressures. According to the Pipestone County Farm Service Agency and Natural Resources Conservation Service it is estimated that as of January 2015, approximately 12.6% of cropland acres in Pipestone County is enrolled in these conservation programs. While some of the land retirement program participation has reduced other incentive based conservation program participation has dramatically increased.

Conservation tillage—leaving adequate crop residue—provides a layer of protection from water and wind erosion and increases organic matter in the soil. Ridge till and strip till have become popular methods to protect soils. In the state of Illinois, for example, no-till soil conservation practices have surpassed conventional tillage, according to NRCS and state SWCD surveys. Pipestone County SWCD has been partnering with NRCS and other conservation organizations in the promotion of Soil Health.

Changes in market economics for corn and soybean production have raised concerns among producers about the efficiency of conservation tillage. A sustained high price for corn has led to more acres planted “corn-on-corn”, rather than the typical corn-soybean rotation. There is a constant need to balance program standards, such as national criteria which may conflict with mapped or actual conditions in the field. These concerns must be addressed by agricultural educators and advocates, such as the University of Minnesota

Extension Service, watershed districts, SWCD, and other County officials, through promotion, education and demonstration.

d. Drainage systems

Agricultural drainage is intended to remove standing or excess water from land which does not drain naturally. These systems use surface ditches and permeable subsurface pipes to direct water off the land. Research continues to optimize strategies such as variable depth tilling, drainage structures and controlled intakes.

Pipestone County which is already intensely drained continues to see the addition and installation of new and more intense pattern tilling systems. Following the recent MPCA nitrate report, tile outlet loading rates have gotten more attention. While tile outlet water treatment systems are limited there are trials of alternative outlets where tile outlet water is released under ground in a series of shallow tile lines which use grass and evaporation as the outlet. These systems are referred to as Alternative Outlets. Woodchip bioreactors are also being experimented with as a tool to remove upwards of 80% of tile outlet water nitrates. These systems are constructed by the excavation of a trench which is filled with woodchips, these systems also known as denitrification bioreactors convert nitrate to nitrogen gas. These systems typical treat small tile system 30 to 80 acres and only have an estimated lifespan of 15 to 20 years. Alternative Tile Intakes, also known as rock inlets, are a drainage tool that is currently being implemented in surrounding counties which have more tile inlets. Throughout Pipestone County there are a very limited number out tile inlets.

Drainage systems have been constructed since settlement to move runoff and melt water from private tile lines to public waters. A county drainage system is authorized and established through action of the County Board of Commissioners. A Judicial drainage system is authorized and established by the Courts. Both drainage systems are supported financially through assessments based on benefits received by the landowner. Pipestone County currently has one County Ditch with consist of 14.6 miles of open ditch, and 62.7 miles of county tile.

Water retention projects in the region have demonstrated a method of reducing peak run off events, as well as providing other benefits. Restoration of small ponds and dams in appropriate locations (which are not barriers to fish movement) can help to stabilize the hydrograph and mitigate drainage impacts.

e. Shoreland and impervious surface areas

Water quality has a direct effect not only on the health of the environment but on the value of property and appeal of our communities. Unfortunately, effects of development are evident on many of the county's stream banks and lakeshores. Aquatic plants provide a natural buffer between windswept open water and fragile shores. Drainage and development have eliminated many of

these plants, leading to bank erosion, runoff of fertilizer from fields and lawns, and other problems. The typical modern response has been “hard-scape” — concrete, rock rip-rap and other impervious surface areas. A concerted effort to replace riparian vegetation in shorelands, including tree windbreaks, would help protect lake shores and restore wildlife habitat.

Pipestone County regulates the use of shoreland—land within 300 feet of a river or stream, within 1,000 feet of a lake, or to the full extent of a designated flood plain. The DNR identifies three types of lakes and wetlands—Natural Environment, Recreational Development and General Development. Pipestone County has Natural Environment. Guidelines for the development of shoreland areas were developed by the DNR and adopted by the County in its zoning ordinance in 1972. Legislation was passed during the 2015 session requiring a 50’ buffer be installed and maintained on all DNR indentified steams by November 1, 2017, and a rod buffer (16.5’) be installed and maintained along ditches by November 1, 2018.

Pipestone County DNR Lake Shoreland Classifications List:

Pipestone	59000100	Split Rock Reservoir	Natural Environment	Natural Environment
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Minnesota's lakes range from the sterile, rock basin lakes of the Arrowhead region to the naturally fertile, shallow lakes of the southwest prairie region. These different types of lakes require different shoreland development standards. A classification system was developed so that the appropriate development standards could be applied. This classification system has been in effect since the early 1970's when the shoreland management program was originally established. It includes public waters basins (lakes) down to 25 acres in size in unincorporated areas and ten acres in size in incorporated areas that have DNR-approved shoreland ordinances. Lakes are divided into the following classes based on a combination of factors:

- **Natural Environment Lakes** usually have less than 150 total acres, less than 60 acres per mile of shoreline, and less than three dwellings per mile of shoreline. They may have some winter kill of fish; may have shallow, swampy shoreline; and are less than 15 feet deep.
- **Recreational Development Lakes** usually have between 60 and 225 acres of water per mile of shoreline, between 3 and 25 dwellings per mile of shoreline, and are more than 15 feet deep.
- **General Development Lakes** usually have more than 225 acres of water per mile of shoreline and 25 dwellings per mile of shoreline, and are more than 15 feet deep.

Source:http://www.dnr.state.mn.us/waters/watermgmt_section/shoreland/lake_shoreland_classifications.html

f. Flood Control

Areas in the county are known to be at risk of seasonal and storm-event flooding. Statewide, the DNR Division of Ecological and Water Resources administers the National Flood Insurance Program (NFIP) of the Federal Emergency Management Agency (FEMA), now part of the Department of Homeland Security. Pipestone County, and the city of Pipestone, regulate development in floodplains based on Flood Insurance Rate Maps completed in the 1980s. Pipestone County has a history of flooding issues, we are fortunate to be located at the top of three major water sheds which limits our flood potential. Pipestone County also has a very limited number of structures located within the flood way and flood plain areas of the county. Flooding within the county is most prevalent within the northern portions of the City of Pipestone where Pipestone Creek and the Pipestone County Ditch outlet just above Winnewissa Falls located within the Pipestone National Monument.

Following the flood of 2010 the City of Pipestone was able to obtain a FEMA Hazard Mitigation grant that was used to remove the Tianna Trailer park from the flood plain. This area has since been converted to a dog park. The northern portion of the City of Pipestone is our most prone area to have flooding. The Pipestone County FEMA Flood Insurance Rate Maps are slated to be updated and digitized but this update process continues to be delayed with no projected completion date at this time.



Flooded Ag land in Pipestone County

Priority Concern 3. Protect and Enhance the County's Groundwater Resources

Demand for water resources is expected to continue to grow for the foreseeable future. Groundwater is the primary source of drinking water in southwestern Minnesota. The original editions of the *Pipestone County Comprehensive Water Plan* contain extensive information on the geology and aquifers of the county.

Groundwater is not always a reliable source of water in Pipestone County. Surficial formations in glacial outwash, a common groundwater source, have the potential to yield large quantities of water depending on local factors of grain size, degree of sorting and extent of deposit, but often also have high levels of contaminants. While water yielding from deeper wells and formation is moderate to low they typically are high in dissolved minerals. This has been the reason for the majority of rural resident and small cities to rely on Lincoln Pipestone Rural Water as their provider.

a. Wellhead protection

There is a very limited number of sources in the Pipestone County which are considered public water suppliers by the Minnesota Department of Health (MDH). A Source Water Assessment is a document - produced by the Minnesota Department of Health (MDH), provided to the public water system, and made available to the public - which summarizes a variety of information regarding the water sources used by a public water system. MDH has completed source water assessments on 13 public water systems in the county, including several non-community systems.

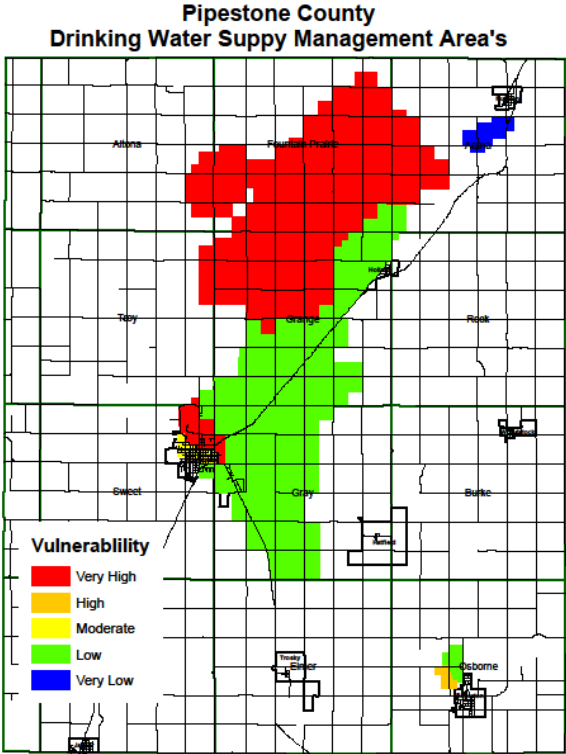
Pipestone County Source
Water Assessments List

PWS Name	ID	Surface/Ground Water Assessment	Address	City	County
Trosky	1590008	Purchased Water	City Hall	Trosky	Pipestone
Pipestone	1590005	GW	417 Second Street NE	Pipestone	Pipestone
Cenex Harvest States	5590231	GW	1780 - 221st Street	Ruthton	Pipestone
Holland	1590010			Holland	Pipestone
Ruthton	1590007	GW	320 Main	Ruthton	Pipestone
Hatfield Municipal Water Supply	1590011			Hatfield	Pipestone
Edgerton	1590001	GW		Edgerton	Pipestone
Cargill, Inc.	5590005	GW	651 - 60th Avenue, Highway 23 South	Pipestone	Pipestone
Jasper	1590004			Jasper	Pipestone
Heartland Colony	1590012	GW	Rural Route 2, Box 157	Lake Benton	Pipestone
Woodstock	1590009			Woodstock	Pipestone
Ihlen	1590003			Ihlen	Pipestone
Split Rock Creek State Park	5590230	GW	336 - 50th Avenue	Jasper	Pipestone
Number of PWS selected	13	Last Date when data was updated: 04/10/2015			

The Wellhead Protection program is designed to protect drinking water from becoming polluted by managing potential sources of contamination. As explained on the MDH website, “A capture zone for the well (called the wellhead protection area) is designated and a plan is developed and implemented for

managing potential contamination sources within the wellhead protection area.” A Drinking Water Supply Management Area (DWSMA) provides a geographic focus for securing the water supply.

Wellhead Protection Plans have been completed for Lincoln Pipestone Rural Water’s Holland and North Holland Wellfields, the cities of Edgerton, Ruthton, and Pipestone. Pipestone has just completed the first plan, while other plans are in the wellhead protection plan amendment process which includes further refinement of the groundwater model, delineation of the wellhead protection area, identification of potential sources of contamination, and development of management strategies. The Pipestone SWCD has been assisting, and promoting the use of Best Management Practices, within these wellhead areas. Additionally grant funds have been obtained through the Department of Ag to encourage producers to utilize nitrate inhibitors when applying nitrogen to ag fields. There has been good participation in these and other programs, but much work is still needed to protect and preserve these water resources.



b. Long-term water supply

There is growing concern in the region about the quantity and quality of available ground water.

Lincoln Pipestone Rural Water among others, are participating in the Lewis & Clark Regional Water System. This project will bring Missouri River water to Southeast South Dakota, Northwest Iowa, and Rock and Nobles counties in Southwest Minnesota. Groundbreaking occurred in August 2003, and by July 2008, construction had reached Harrisburg, South Dakota. The project has an estimated completion date of 2019 depending on continued federal funding.

Recent growth of renewable energy facilities has brought the need for sustainable, long-term water supplies to the forefront. An average rural residence may use about 100,000 gallons of potable water a year. An average

feedlot may use 1,000,000 gallons of water a year. With current technology, corn-based ethanol refineries use water at an average rate of four-to-six gallons, per gallon of fuel produced; therefore, a 100 million gallon plant will require at least 400,000,000 gallons of water each year. Moreover, where potable drinking water supplies must meet basic standards for public safety, ethanol plants require further pre-treatment to remove minerals and chemicals commonly found in groundwater in the region. Further growth in animal agriculture and renewable energy will require careful balancing of interests in economic development and residential water supply.

c. Irrigation

Irrigation is prevalent within the county primarily within the Pipestone Creek region of the County. This region has an abundance of water available and is in close proximity to the surface. Most wells within this region draw water from less than 80 feet from the surface. Currently it is estimated there are 25 center pivot irrigation system within the County. In recent years while grain prices were at an all-time high, many producer were considering the addition of irrigation to their operations. Recently DNR has amended the irrigation permits within the upper reaches of Pipestone Creek to require the addition of automated monitoring wells. This monitoring is being done as part of a surface water ground water impact study being done jointly with the SWCD. The object of the project is to determine if there are surface water impacts due to ground water withdrawals and obtain additional ground water data to better determine at what stage to withdrawals need to be regulated.

d. DNR Appropriations Permits:

Ground Water permits

PERMIT	PERMITTEE	CATEGORY	PERMIT_VOL	PERMIT_WELL_DEPTH	USE_2011	USE_2010	USE_2009
1964-1182	PIPESTONE, CITY OF	Waterworks	210.0	1600 500	54.1	58.4	63.6
1964-1182	PIPESTONE, CITY OF	Waterworks	210.0	1600 390	52.2	62.7	67.3
1964-1182	PIPESTONE, CITY OF	Waterworks	210.0	1600 430	5.5	12.4	1.6
1964-1182	PIPESTONE, CITY OF	Waterworks	210.0	1600 505	30.2	34.7	35.3
1974-4013	PRITCHETT, KEITH	Major Crop Irrigation	54.0	1000	4.0	4.0	22.0
1976-4375	UULK BROTHERS	Major Crop Irrigation	50.0	700 34	2.0	0.0	5.5
1977-4111	STEENSTRA, HAROLD	Major Crop Irrigation	33.3	600 30	0.0	0.0	0.0
1977-4361	SYBESMA, STUART AND JANICE	Major Crop Irrigation	138.0	1200 52	3.6	2.5	22.3
1977-4417	BRECHER, DALE	Major Crop Irrigation	42.4	750 30	0.0	0.0	0.0
1977-4417	BRECHER, DALE	Major Crop Irrigation	42.4	750 30	0.0	0.0	0.0
1977-4421	BURGGRAAFF, RICHARD	Major Crop Irrigation	92.0	1300 68	0.0	0.0	0.0
1977-4709	EDGERTON, CITY OF	Waterworks	55.0	375 24	0.0	0.0	0.0
1977-4709	EDGERTON, CITY OF	Waterworks	55.0	375 44	38.9	36.0	38.9
1979-4195	LINCOLN PIPESTONE RURAL WATER	Waterworks	26.3	100 49	0.0	0.0	0.0
1980-4219	BURGGRAAFF, CALVIN H	Major Crop Irrigation	80.0	1500 84	12.7	0.0	12.4
1981-4178	BURGGRAAFF, CALVIN H	Major Crop Irrigation	65.0	1200 60	13.4	0.0	7.6
1981-4196	SYBESMA, STUART AND JANICE	Major Crop Irrigation	143.0	1800 72	0.0	0.0	0.0
1981-4196	SYBESMA, STUART AND JANICE	Major Crop Irrigation	143.0	1800 31	0.0	0.0	0.0
1981-4196	SYBESMA, STUART AND JANICE	Major Crop Irrigation	143.0	1800 30	0.0	0.0	0.0
1981-4196	SYBESMA, STUART AND JANICE	Major Crop Irrigation	143.0	1800 53	8.4	1.7	19.8
1981-4251	UULK BROTHERS	Major Crop Irrigation	58.0	800 62	4.8	0.9	9.8
1981-4280	UULK BROTHERS	Major Crop Irrigation	43.0	550 44	4.8	0.7	9.9
1981-4334	NELSON, JAMES	Major Crop Irrigation	59.0	900 44	21.9	0.4	24.3
1984-4125	RUTHTON, CITY OF	Waterworks	12.0	150 114	4.6	4.7	4.9
1984-4125	RUTHTON, CITY OF	Waterworks	12.0	150 114	2.0	2.0	2.1
1984-4125	RUTHTON, CITY OF	Waterworks	12.0	150 241	0.1	0.2	0.1
1989-4296	PAULSEN, STEVEN & RICHARD	Major Crop Irrigation	45.3	1100 73	6.3	0.0	40.0
1990-4140	LINCOLN PIPESTONE RURAL WATER	Waterworks	400.0	2515 37	0.0	21.7	29.1
1990-4140	LINCOLN PIPESTONE RURAL WATER	Waterworks	400.0	2515 55	0.0	24.6	99.3
1990-4140	LINCOLN PIPESTONE RURAL WATER	Waterworks	400.0	2515 32	20.0	7.7	61.1
1990-4140	LINCOLN PIPESTONE RURAL WATER	Waterworks	400.0	2515 39	31.0	14.0	87.8
1990-4140	LINCOLN PIPESTONE RURAL WATER	Waterworks	400.0	2515 41	4.5	53.1	28.1
1990-4140	LINCOLN PIPESTONE RURAL WATER	Waterworks	400.0	2515 70	184.9	172.7	74.8
1998-4118	BURGGRAAFF, CALVIN H	Major Crop Irrigation	128.0	1500 86	0.0	0.0	0.0
2002-4014	LINCOLN PIPESTONE RURAL WATER	Waterworks	200.0	500 82	0.0	0.7	77.7
2002-4014	LINCOLN PIPESTONE RURAL WATER	Waterworks	200.0	500 72	117.4	198.2	81.3
2003-4189	PIPESTONE GOLF AND COUNTRY CLUB	Non-Crop Irrigation	9.8	100 597	2.0	1.6	2.2
2005-4198	WINSEL, KEN M	Special Categories	7.0	30 113	2.7	2.7	2.7
2007-0723	NEWALTA DAIRY	Special Categories	27.0	50 360	15.4	15.2	16.5
2008-0085	CRAWFORD, JOE	Major Crop Irrigation	66.0	800 56	24.0	3.9	29.2
2009-0056	SPRONK, JERLYN	Major Crop Irrigation	34.0	550 72	4.7	5.1	2.9
2009-0184	SYBESMA, STUART	Major Crop Irrigation	43.0	670 42	4.1	0.9	10.0

Source: DNR Division of Ecological and Water Resources

Surface Water Permits

PERMIT	PERMITTEE	USERNAME	PERMIT_VOL	PERMIT_GPM	PERMIT_ACR	USE_2011	USE_2010	USE_2009
1976-4182	SORENSEN, MARK	Major Crop Irrigation	21	500	131	0	0	0
1976-4182	SORENSEN, MARK	Major Crop Irrigation	21	500	131	0	0	0
1977-4033	VAN HULZEN, KEITH	Major Crop Irrigation	46	800	137	7	10.4	20
1982-4103	VAN GROOTHEEST, WILBUR	Major Crop Irrigation	58	800	133	0	0	12
2003-4189	PIPESTONE GOLF AND COUNTRY CLUB	Golf Course Irrigation	9.8	100	30	3.4	2.7	3.7

Source: DNR Division of Ecological and Water Resources

Priority Concern 4. Reduce Priority Pollutants

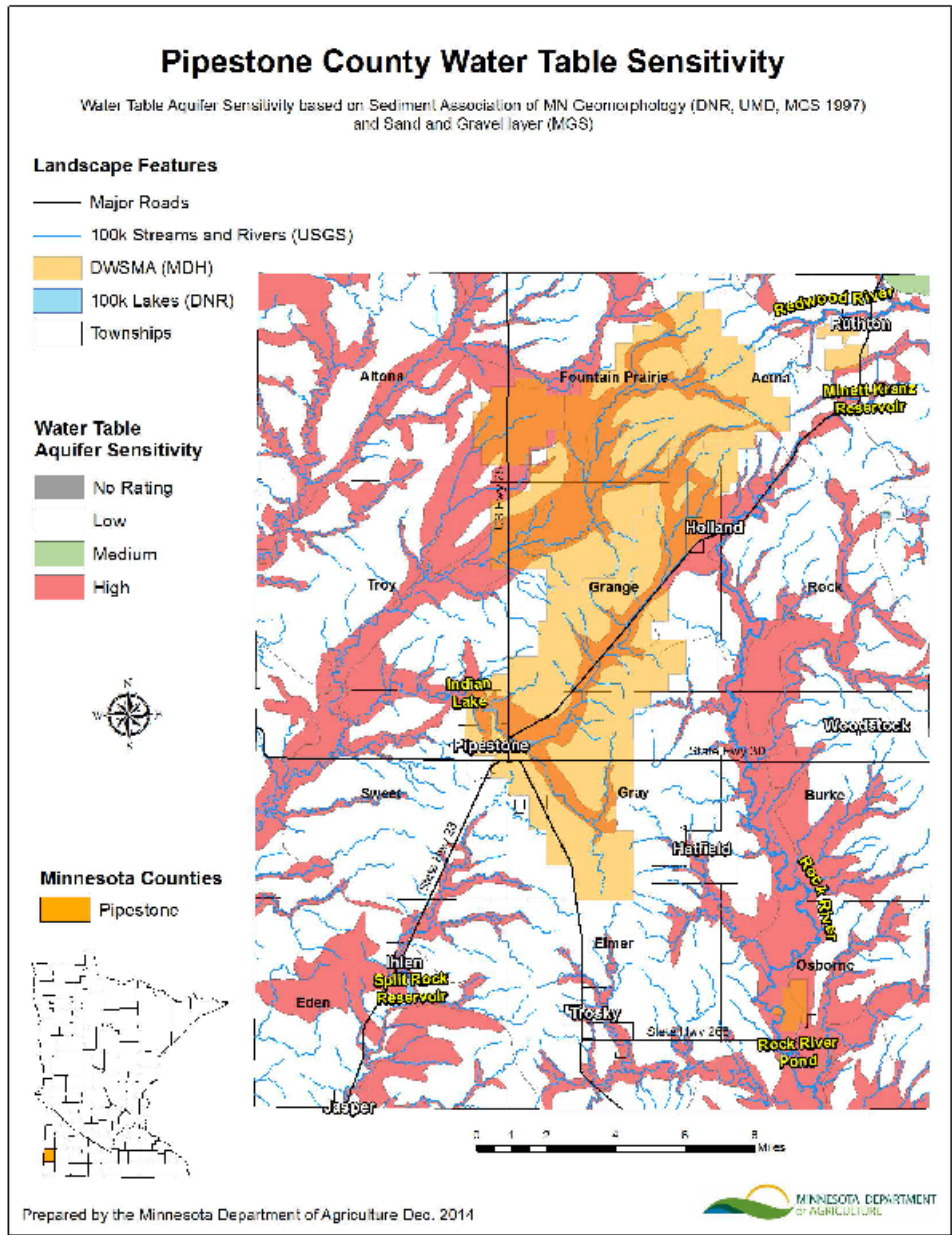
a. Nutrients

Nutrients such as phosphorus and nitrogen negatively impact surface water as well as groundwater. Nutrient management programs and regulations for treatment of waste are intended to prevent and mitigate contamination of water and soil resources.

Local trends in agriculture have been similar to other areas across southwestern Minnesota. The 2012 U.S. Census of Agriculture reported 637 farms on 241,970 acres in Pipestone County. Of these, 205,916 acres were harvested cropland. The Ag Census reported Pipestone County annual production of animals included 54,199 cattle produced, 267,097 hogs produced, 6,489 Sheep and lambs, and 1,688 layers produced.

An increasing number of producers have recently enrolled in the NRCS Conservation Stewardship Program. CSP compensates producers based on BMP's installed. Nutrient management and varied rate application of nutrients has been one of the more popular practices, through implementation of this practice producers are grid soil sampling their field and applying a specific amount of nutrients based on location and soil types based on the recommendations of their nutrient management plan.

Over the last two years the Pipestone SWCD and MN Dept. of Ag has been provided a per acre incentive to producers located within the highly vulnerable areas of wellheads if they apply a nitrate inhibitor to minimize nitrate conversion and losses. Technical assistance from County staff can also help farm operators understand the variety of rules and regulations. But the rising cost of commercial fertilizer is also raising awareness of producers of the need for professional management planning. Below is a map created by the Minnesota Department of Ag which shows the water table sensitivity based on Sediment Association of Geomorphology and sand and gravel layers.



b. Feedlots

MPCA regulates the collection, transportation, storage and processing and disposal of animal manure. As of December 2014, there were 450 registered feedlots registered in Pipestone County, with 36 of them being located within shoreland and 37 of them being NPDES permits generally these site are those with more than 1,000 animal units.

Pipestone County is delegated to administer the MPCA Animal Feedlot Rules (MN Rule Chapter 7020) for feedlots. According to the University of Minnesota, land application of manure is potentially a larger contributor to nutrient loading

of water than open lot feedlots. In many cases, issues are minimized simply by improving record keeping and regulatory compliance.

c. SSTS

The Cities of Pipestone, Jasper, Edgerton, Ruthton, Holland and Woodstock rely on traditional central sewer systems. The Cities of Ihlen and Hatfield have municipal mound treatment systems. The City of Trosky still currently working on a design of a municipal system. Technology and regulatory requirements are constantly changing and improving, demanding professional and skilled management to maintain and monitor systems. All rural households rely on Subsurface Sewage Treatment Systems (SSTS, also known as ISTS or Individual Septic Treatment Systems), these system properly treat sewage also but do require regular maintenance.

State legislation governing SSTS is implemented at the county level. Failing and nonconforming sewage treatment systems are considered an imminent threat to public health. These systems can spread hepatitis, dysentery and other diseases that are spread by bacteria, viruses and parasites in wastewater. Untreated sewage also may contain toxic chemicals from household cleaning products. This wastewater can directly enter surface waters and spread to unsuspecting humans, as well as pets and wildlife. Excess nutrients reaching lakes or streams will also promote algae growth, making lakes unsuitable for swimming, boating and fishing. Over time, wastewater will reach down to groundwater as well.

Pipestone County SSTS Ordinance is more restrictive than Minnesota Rules Chapter 7080 through 7083. It regulates the treatment and dispersal of sewage within the County to protect public health, groundwater quality, and prevent and eliminate the development of public nuisances. All systems are brought into compliance at a time of failure, addition of a bedroom or property transfer. Currently it is estimated that 65% of all County SSTS are compliant with state and county rules.

Pipestone County has been successful in obtaining and providing low interest loans to landowners to upgrade their septic systems. The majority of system install utilize the loan programs available.

d. Solid Waste Disposal

MPCA solid waste rules regulate the disposal of solid waste and demolition & debris. All municipalities within the county provide for solid waste disposal. There are also many rural residents that have rural collection of solid waste services provided. It is estimated that upwards of 50% rural residents do have rural collection services provided. However most rural residents will still burn or bury portions of their waste. Burning and Burying of waste has the potential to contaminate surface and ground water supplies. Much education is needed so

people are informed of current waste rules and the environmental impacts of unpermitted waste disposal.

e. Abandoned wells and gravel pits

There are many potential sources of groundwater contamination outside of the immediate wellhead and near-term aquifer supply areas. For example, there are concerns expressed about pollution entering the water supply by way of gravel pits with standing water. Some counties in the region have worked with the mining industry to more clearly outline water management practices both for active operations and for reclamation after a gravel pit is abandoned.

New wells drilled today have an established permitting process, which allows the public to track well locations and characteristics. However, there are an unknown number of wells put in place since settlement that continue to provide pathways for potential pollutants to reach the county's aquifers. Established farmstead sites are often abandoned as agricultural operations consolidate into larger units and rural residents choose different home locations. Each of these sites typically has a well that needs to be correctly sealed by a licensed contractor. Property owners who connect to rural water systems should decommission their existing wells if the wells will no longer be used, to prevent pollution from entering aquifers.

The Pipestone SWCD offers cost share to assist landowners in the proper closure of unused wells. They will reimburse 50% of the cost to seal a well to a maximum of \$300. Public demand for this assistance is likely to continue into the future.

f. Wetland restoration

The Prairie Pothole Region of the Northern Tallgrass Prairie is a large grass and wetland complex which includes Southwestern Minnesota. The county's remaining wetlands act as natural filters, purifying water by recycling nutrients and reducing siltation, controlling erosion, recharging groundwater and storing carbon. These interrelated prairie potholes and wetland complexes provide habitat to a variety of plants and animals. Wetlands also reduce the size and scope of storm event and snowmelt flooding.

Pipestone County will only see the greatest benefit from wetlands when integrated into management of the larger drainage system. State and federal funding sources such as WRP, CRP and RIM have been somewhat effective in promoting local wetland restoration. Wetland banking—restoring or creating a wetland as a “deposit” available for sale—has also shown some long-term potential. However, new drain tile installation will continue to accelerate water flow to the potential detriment of downstream users, unless new and/or replacement wetlands are created to balance flows within and between watersheds.

Priority Concern 5. Raise Public Awareness on the County's Key Environmental Issues.

a. Soil Health

Soil health, also referred to as soil quality, is defined as the continued capacity of soil to function as a vital living ecosystem that sustains plants, animals, and humans. This definition speaks to the importance of managing soils so they are sustainable for future generations. To do this, we need to remember that soil contains living organisms that when provided the basic necessities of life - food, shelter, and water - perform functions required to produce food and fiber.

Only "living" things can have health, so viewing soil as a living ecosystem reflects a fundamental shift in the way we care for our nation's soils. Soil isn't an inert growing medium, but rather is teeming with billions of bacteria, fungi, and other microbes that are the foundation of an elegant symbiotic ecosystem. Soil is an ecosystem that can be managed to provide nutrients for plant growth, absorb and hold rainwater for use during dryer periods, filter and buffer potential pollutants from leaving our fields, serve as a firm foundation for agricultural activities, and provide habitat for soil microbes to flourish and diversify to keep the ecosystem running smoothly.

Managing for soil health (improved soil function) is mostly a matter of maintaining suitable habitat for the myriad of creatures that comprise the soil food web. This can be accomplished by disturbing the soil as little as possible, growing as many different species of plants as practical, keeping living plants in the soil as often as possible, and keeping the soil covered all the time. Healthy soil gives us clean air and water, bountiful crops and forests, productive grazing lands, diverse wildlife, and beautiful landscapes.

b. Drainage Management.

Surface waters of Minnesota are managed under the doctrine of riparian rights. This means that riverbank landowners have equal rights to reasonable use of waters that border their property. The Minnesota DNR Division of Ecological and Water Resources has the authority to issue permits for water use, and to limit withdrawals of surface water and groundwater in accordance with the public interest (see ground water permits above on page 26).

The state of the art in drainage management has changed substantially over the years. The traditional approach sought to drain land as quickly and efficiently as possible. This can lead to environmental issues that will take years to resolve. Modern, comprehensive drainage management can provide the private and public tools to stabilize the effects of both wet and dry weather cycles, reduce soil erosion, and improve water quality, while also providing additional benefits to plant and wildlife habitat.

c. Land retirement

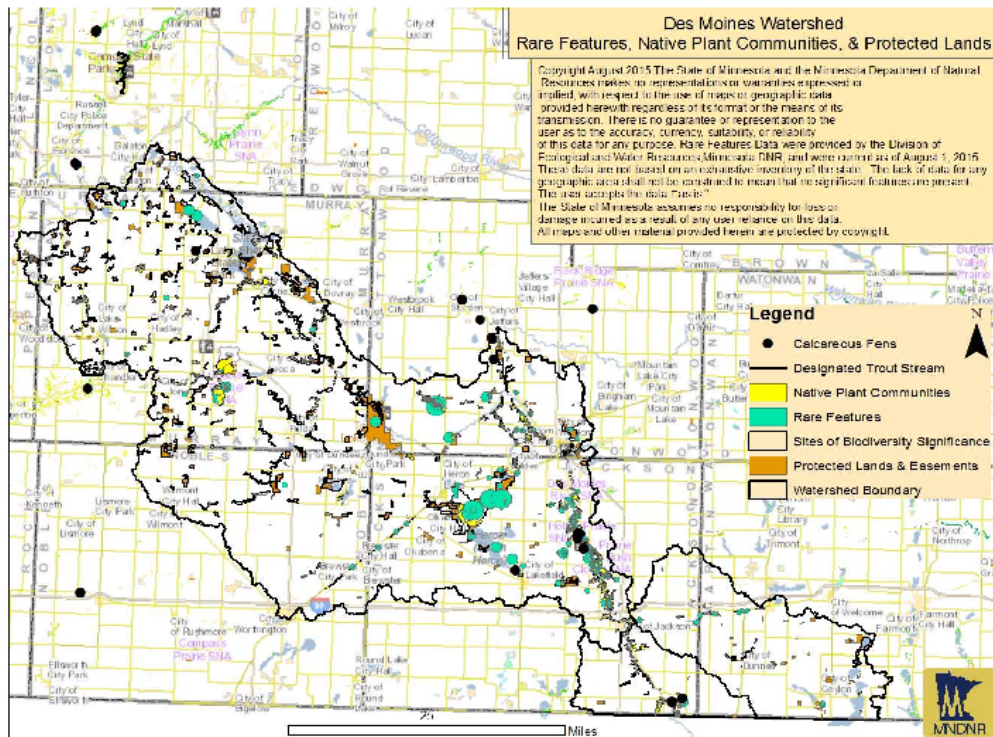
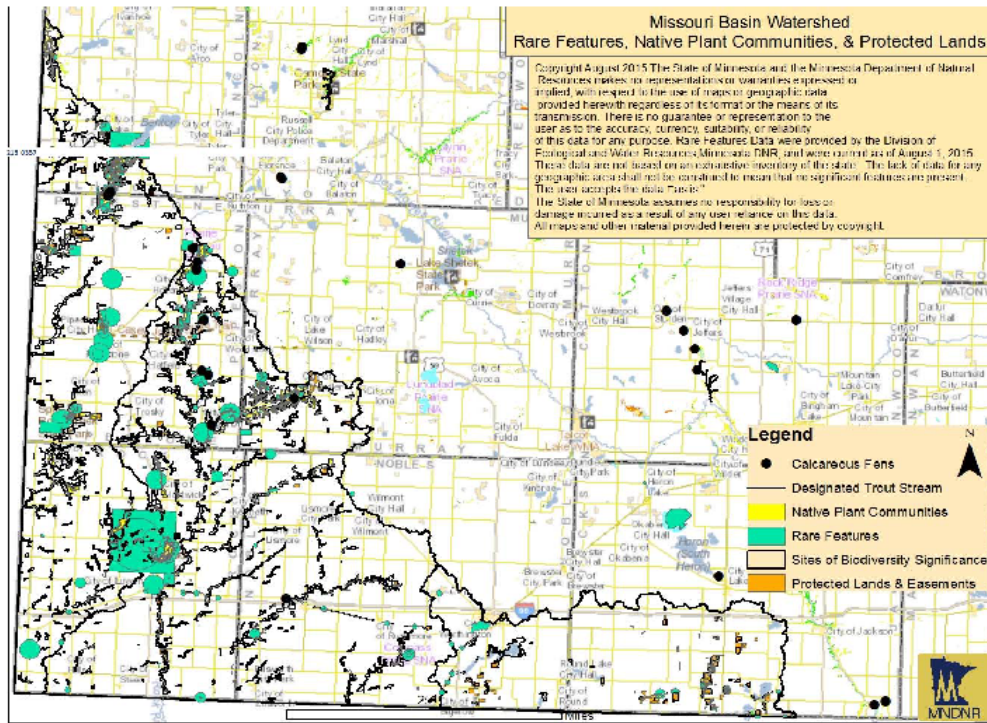
Voluntary conservation practices are essential to achieve broad water and soil conservation goals, as discussed previously. Local organizations are often able to achieve multiple goals—such as surface and groundwater protection—by making existing programs more attractive. Offering incentive payments in addition to landowners CRP payments would be one way of doing this.

There are times, however, when the most effective, efficient and equitable approach requires purchase of property in order to retire land from active production or conversion to urban uses. In 1999, Lincoln Pipestone Rural Water purchased 200 acres of tillable land adjacent to their wells and seeded it into permanent cover.

While the priority concerns of this water plan focus on water quality, management and supply, there are opportunities to address these concerns with cooperating organizations to achieve benefits outside of soil and water concerns. US Fish and Wildlife Service and DNR, often working in partnership with private non-profit conservation organizations, have acquired marginal land to take out of production, planting native prairie grasses to promote habitat and conservation. According to the *Pipestone County Star*, the local chapter of Pheasants Forever has secured over 3,100 acres of Pipestone County land for conservation of the last 30 years.

d. Habitat and critical species

Wetlands and other natural resources provide important habitat for wildlife, in addition to protecting waterways and aquifer recharge areas, on public and private lands. Native pre-settlement vegetation in Pipestone County was predominately grasslands and wet prairie. Today, there are documented occurrences of rare species that depend on these ecological systems for survival. According to DNR, these include (but are not limited to) the Blanding's Turtle, Dakota Skipper (a small butterfly), Western Prairie Fringed Orchid, and Topeka Shiner. In 2008 the MN DNR, Division of Ecological and Water Resources inventoried and mapped native plant communities found in Pipestone County. This *County Biological Survey* should be used as a resource in the protection and preservation of these native resources.



C. Implementation to Address Priority Concerns

This section establishes the implementation program for local water management to address priority concerns by watersheds. Action items describe specific measures that the County intends to implement, in cooperation with appropriate local, state and federal agencies and organizations. Action items listed below were reached by consensus and are not necessarily in rank order.

Goals and Objectives				
Priority Concern 1. Creating Reasonable Environmental Standards				
Goal 1: Official County Measures and Controls.				
Objective 1.a Review and Update Plans and Ordinances				
	Action	Responsibility	Time Frame	Total Units/Cost
1.a.1	Review land use plans and ordinances to insure minimal development impacts on surface waters.	ENVS	2016-2020	In-Kind
1.a.2	Encourage and enforce soil erosion provisions County wide. Outreach- Personal contacts, public meetings Staffing - \$5,000 annually	ENVS, SWCD, County	2016-2020	\$20,000
1.a.3	Review plans and zoning ordinances against updated floodplain maps to limit development in areas prone to flooding. Outreach-personal contacts Audience- 500/year; Floodplain landowners	ENVS, City of Pipestone	2016-2020	In-Kind
1.a.4	Administer and promote shoreland zoning regulations. Outreach – Direct mailings, news releases, personal contacts. Audience – 2000 landowner and operators/year	ENVS, SWCD, DNR	2016-2020	In-Kind
1.a.5	Provide technical assistance in preparation and implementation of the Missouri River, Rock River, Redwood River, and Des Moines River TMDL's. Outreach – Provide Technical Assistance	SWCD, ENVS, MPCA	2016-2020	In-Kind

1.a.6	<p>Develop a Comprehensive Drainage Management Plan (DMP), for Pipestone County, that addresses present and future drainage needs as well as methods to mitigate the unintended consequences of agricultural drainage on water quality. Hiring of technical personnel to investigate and resources to complete work by present staff in developing plan.</p> <p>Technology – Data collection</p> <p>Research – Compiling information and data</p> <p>Outreach - Direct mailings, news releases, personal contacts.</p> <p>Target Audience – Pipestone County Drainage Authority and County residents</p> <p>New Staff-\$50,000/year</p>	<p>Pipestone County</p> <p>SWCD</p> <p>SWCD, ENVS, County Departments, NRCS</p> <p>ENVS, SWCD, MPCA, DNR, BWSR, other LGUs</p>	2016-2020	\$250,000
1.a.7	<p>Protect DWSMA and surficial aquifer areas from agricultural and industrial contamination by enforcement of zoning ordinances.</p> <p>Outreach – Direct mailings and personal contacts.</p> <p>Audience – 10 landowners/year</p>	<p>ENVS, SWCD, LPRW, Pipestone, Ruthton, Edgerton</p>	2016-2020	In-Kind
1.a.8	<p>Amend the County Comprehensive Plan and Zoning ordinances to better address surface and ground water quality and quantity.</p> <p>Consultant and Outreach – public meetings, Direct mailings and personal contacts</p> <p>Audience – Planning Commission, Cities, Water Suppliers, landowners; \$50/year</p>	<p>Consultant, Pipestone County Planning Commission and County Commissioners, ENVS, SWCD</p>	2019-2020	\$80,000
			Total	\$350,000

Goals and Objectives

Priority Concern 2. Protect and Enhance the County's Surface Water Resources

Goal 1: Prevent further degradation of stream and lake water quality, with a priority for Shoreland, TMDL-listed waters, and unsewered communities.

Objective 2.a Address TMDL Impaired Waters.

	Action	Responsibility	Time Frame	Total Units/Cost
2.a.1	<p>Provide technical and administrative assistance to MPCA on impaired waters listings and water monitoring</p> <p>Outreach – Provide Technical Assistance.</p>	ENVS, SWCD, MPCA	2016-2020	\$25,000

	Target-Assist with water quality assessments and monitoring; \$5,000/year			
2.a.2	Work with MPCA, BWSR, DNR and USFWS to improve quality of waters entering the Split Rock Creek Reservoir. Target- Targeting and prioritizing water quality projects and activities; \$5,000/year	SWCD, ENVS, MPCA, DNR, USFW, BWSR	2016-2020	\$25,000
2.a.3	Provide technical assistance for the Des Moines River TMDL, Rock River TMDL, Missouri River TMDL and other TMDL preparation and implementation plans as needed. Outreach – Provide Technical Assistance	SWCD, ENVS, MPCA	2016-2020	In-Kind
2.a.4	Promote, assist and seek funding to implement BMPs towards improving the water quality of the Split Rock Creek Watershed. Outreach – Direct mailings, news releases, personal contacts and provide technical assistance. Target-5 projects per year @ \$4000 each	SWCD, ENVS, MPCA, NRCS, BWSR	2016-2020	25 projects \$100,000
2.a.5	Promote, assist and seek funding to implement BMPs towards improving the water quality of the Rock River Watershed. Outreach – Direct mailings, news releases, personal contacts and provide technical assistance. Target-7 projects per year @ \$4000 each	SWCD, ENVS, MPCA, NRCS, BWSR	2016-2020	35 projects \$140,000
2.a.6	Promote, assist and seek funding to implement BMPs towards improving the water quality of the Des Moines River. Outreach – Direct mailings, news releases, personal contacts provide technical assistance. Target-1 projects per year @ \$4000 each	SWCD, ENVS, MPCA, NRCS, BWSR	2016-2020	5 projects \$20,000
			Total	\$310,000.00

Goals and Objectives				
Priority Concern 2. Protect and Enhance the County's Surface Water Resources				
Objective 2.b Promote Ag Best Management Practices (AgBMPs).				
	Action	Responsibility	Time Frame	Total Units/Cost
2.b.1	Promote buffer strips along ditches, streams and lakes within Pipestone County utilizing available conservation programs and incentives.	SWCD, ENVS, NRCS, BWSR	2016-2020	\$25,000

	<p>Technology – LiDAR, Stream Power Index, others</p> <p>Outreach - Direct mailings, news releases, personal contacts, provide technical assistance.</p> <p>Target Audience – 150 landowners/year; \$5,000/year</p>			
2.b.2	<p>Assist, seek funding and install acres into a buffer strip program along ditches, streams and lakes.</p> <p>Outreach – Direct mailings, news releases, personal contacts, provide technical assistance.</p> <p>Enrollment – Provide Incentive 20 acres/year; \$40,000/year</p>	SWCD, ENVS, NRCS, BWSR	2016-2020	<p>100 Acres</p> <p>\$160,000</p>
2.b.3	<p>Assist and seek funding to enroll riparian land into a perpetual buffer program.</p> <p>Outreach – Direct mailings, news releases, personal contacts, provide technical assistance.</p> <p>Enrollment – 15 acres/year; \$6,000/acre</p>	SWCD, NRCS, BWSR	2016-2020	<p>75 Acres</p> <p>\$450,000</p>
2.b.4	<p>Assist producers in applying for cost share opportunities for conservation practices</p> <p>Outreach – personal contacts, provide technical assistance.</p> <p>Target – 100 landowners/year; \$10,000/year</p>	SWCD, NRCS, ENVS, BWSR	2016-2020	\$50,000
2.b.5	<p>Promote the installation of BMP's within the Pipestone Creek Watershed, to improve and protect the water quality and partner with the Pipestone National Monument to ensure their water related concerns are also addressed.</p> <p>Outreach – personal contacts</p> <p>Target 50 landowners/\$20,000/year</p>	SWCD, Monument, ENVS, BWSR	2016-2020	100,000
2.b.6	<p>Promote, assist and seek funding to establish cover crops.</p> <p>Outreach-Direct mailings, news releases, personal contacts</p> <p>Enrollment – 500 acres/year; \$30/ac</p>	SWCD, NRCS, BWSR, Extension	2016-2020	\$75,000
2.b.7	<p>Provide incentives for pasture management within shoreland areas of the County, Priority pasture management areas include the Rock River and Pipestone Creek Watersheds.</p> <p>Outreach – Direct mailings, news releases, personal contacts, provide technical assistance.</p> <p>Enrollment – 500 acres/year; \$25/ac</p>	SWCD, NRCS, BWSR	2016-2020	\$62,500
2.b.8	<p>Promote Cost share programs and designate funds to other local units of government for cost-share programs</p> <p>Outreach – Direct mailings, news releases, personal contacts, provide technical assistance.</p> <p>Enrollment – \$75,000/year</p>	SWCD, Cities, Townships, ENVS	2016-2020	\$375,000

			Total	\$1,297,500.00
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Goals and Objectives				
Priority Concern 2. Protect and Enhance the County's Surface Water Resources				
Objective 2.c Promote feedlot and septic compliance.				
	Action	Responsibility	Time Frame	Total Units/Cost
2.c.1	Promote, assist and seek funding for livestock producers with feedlots containing 300-999 animal units to develop and maintain a compliant manure management plan. Outreach - Direct mailings, news releases, personal contacts Plans – 20 plans/year; \$12,000/year	SWCD, ENVS, NRCS	2016-2020	100 plans \$60,000
2.c.2	Inspect 7% of all registered feedlots per year to verify they are in compliance with MN Statute 7020. Outreach – Direct mailings and personal contacts Audience – Feedlot Owners and Operators 41 inspections/year; \$10,000/year	ENVS, MPCA	2016-2020	\$50,000
2.c.3	Provide technical assistance for feedlot improvements. Outreach –personal contacts, provide technical assistance. Enrollment – 10 projects/year; \$6,000/project	ENVS, TSA, SWCD, NRCS, MPCA, BWSR	2016-2020	\$30,000
2.c.4	Promote, assist and seek implementation funding through EQIP, CSP, State Cost-Share and Clean Water fund for livestock waste management BMPs. Outreach - Direct mailings, news releases, personal contacts Enrollment – 2 BMPs/year; \$200,000/year	SWCD, NRCS, ENVS, BWSR	2016-2020	10 BMPs \$1,000,000
2.c.5	Maintain a GIS layer of all registered feedlots and manure acres. Audience – Feedlot Owners and Operators Target – 125 feedlots/year \$5,000 year	SWCD, NRCS	2016-2020	\$25,000
2.c.6	Enter feedlot registration and inspection information in the MPCA TEMPO or other recording system. Outreach - Personal contacts Audience – Feedlot Owners and Operators	SWCD, ENVS, BWSR, MPCA	2016-2020	500 records \$20,000

	Target - 100 records/year; \$4000/year			
2.c.7	Provide manure sample kits to livestock producers. Outreach - Direct mailings, news releases, personal contacts Kits –50 kits/year; \$5,000/year	SWCD, ENVS, NRCS	2016-2020	250 kits \$25,000
2.c.8	Inventory all individual sewage systems locations in Pipestone County in a GIS-compatible database. Outreach – Direct mailings, news releases, personal contacts, provide technical assistance. Target – 3 townships/year; \$10,000/year	ENVS, MPCA	2016-2019	\$40,000
2.c.9	Provide cost-share assistance on the upgrade non-compliant septic systems. Outreach – Direct mailings, news releases, personal contacts, provide technical assistance. Enrollment – 5 upgraded systems/year; \$5,000/system	ENVS, MPCA	2016-2020	\$125,000
2.c.10	Seek additional funding from USDA and other sources for SSTS improvements within the City of Trosky. Outreach – Direct mailings, news releases, personal contacts, provide technical assistance.	ENVS, MPCA	2016-2020	In-Kind
2.c.11	Work with cities to assure appropriate sewage treatment is available. Outreach – personal contacts, provide technical assistance.	ENVS, MPCA	2016-2020	In-Kind
2.c.12	Proactively inspect SSTS and enforce compliance by complaint and zoning trigger such as property transfer. Outreach – Direct mailings, news releases, personal contacts, provide technical assistance. Target – 3 townships/year; \$20,000/year	ENVS, County Attorney, MPCA	2016-2019	80,000
2.c.13	Keep public informed on the Pipestone County SSTS Ordinance and Ordinance changes. Outreach - Direct mailings, news releases, personal contacts Audience – 100 county residents/year;	SWCD, ENVS, MPCA	2016-2020	In-Kind
			Total	\$1,455,000.00

Goals and Objectives

Priority Concern 2. Protect and Enhance the County's Surface Water Resources

Goal 1: Restore more natural flow in the drainage system, with a priority for Shoreland.

Objective 2.d: Improve Shoreland and Impervious surface areas

	Action	Responsibility	Time Frame	Total Units/Cost
2.d.1	Promote, assist and seek funding for the installation of streambank stabilization projects and educate landowners on streambank BMP's. In overgrazed pasture areas the establishment of deep rooted perennial vegetation should be promoted along with incentives for limited cattle access to streams. Priority streambank protection projects are those which have potential impacts to public and private infrastructure. Outreach-Direct mailings, news releases, personal contacts, provide technical assistance. Audience- 50 landowners/year Enrollment- 5 projects/year; \$50,000/year	SWCD, ENVs, DNR, USFW, BWSR	2016-2020	\$250,000
2.d.2	Provide educational material on the proper application of lawn fertilizer, and installation of rain gardens. Outreach-Direct mailings, news releases, personal contacts, provide technical assistance. Audience – 5000 city residents/year; \$3,000.00/year	SWCD, Pipestone	2016-2020	\$15,000
2.d.3	Promote development and implement of a Storm Water Pollution Prevention Plan for the City of Pipestone. Outreach-Direct mailings, news releases, personal contacts, provide technical assistance. Audience – 5000 city residents/year; \$10,000.00/year	SWCD, Pipestone	2016-2020	\$50,000
2.d.4	Promote the development and implementation of a Storm Water Prevention Plan for all Cities in Pipestone County. Outreach-Direct mailings, new releases, personal contacts Audience – 500 city residents/1,000/year	SWCD, Cities	2016-2020	5,000
2.d.5	Consider adopting provisions for conservation design and low impact development in local plans and zoning ordinances. Outreach- Personal contacts, public meetings Audience – City and County officials and staff	County, Cities	2016-2020	In-Kind
2.d.6	Promotion and enforcement of construction site erosion control rules within the County. Outreach-Direct mailings, news releases, personal contacts, provide on-site assistance.	MPCA, ENVs, Cities	2016-2020	\$5,000 + In-Kind

	Audience – Watershed Residents; \$1,000/year			
2.d.7	Consider County ordinance provisions encouraging soil erosion mitigation during construction. Outreach- Personal contacts, public meetings Audience - County officials and staff	ENVS, SWCD	2016-2020	In-Kind
			Total	\$325,000.00

Goals and Objectives				
Priority Concern 2. Protect and Enhance the County's Surface water Resources				
Objective 2.e: Improve Flood Control, drainage systems and storm water retention.				
	Action	Responsibility	Time Frame	Total Units/Cost
2.e.1	Administer the Floodplain Ordinance to protect public health, safety and welfare. Outreach-Direct mailings and personal contacts Audience-100/year; Floodplain landowners	ENVS, Pipestone	2016-2020	In-Kind
2.e.2	Inform the public on dangers of flooding and benefits of floodplain preservation. Outreach-Newsletters, news releases, personal contacts Audience- 100/year; Floodplain landowners	EMS	2016-2020	In-Kind
2.e.3	Review plans and zoning ordinances against updated floodplain maps to limit development in areas prone to flooding. Outreach-personal contacts Audience- 500/year; Floodplain landowners	ENVS, Pipestone	2016-2020	In-Kind
2.e.4	Assist Cities in the development of plans to address stormwater management. Outreach- Personal contacts, City Officials, public meetings Enrollment - 9 plans	ENVS, SWCD, Pipestone, Jasper, Edgerton, Holland, Woodstock, Trosky, Hatfield, Ihlen, Ruthton.	2016-2020	In-Kind
2.e.5	Implement flood control measures within the City of Pipestone. Outreach-Direct mailings, news releases, personal contacts, provide technical assistance. Audience- 50 landowners	County, ENVS, SWCD, Pipestone, Engineer	2016-2020	\$300,000

	Enrollment- 3 projects; \$300,000			
2.e.6	Conduct an Inventory of all public drainage systems, incorporate data into gis, inventory should include all intakes, outlets and other drainage system infrastructure. Technology – GIS Target Audience – Pipestone County Drainage Authority and County Residents	ENVS, SWCD, Hwy Engineer, BWSR	2016-2020	\$50,000
2.e.7	Promote, assist and seek funding for the installation of storm water retention projects such as rain gardens to reduce peak storm event flows. Outreach - Direct mailings, news releases, personal contacts. Target Audience – 2 landowners/year Enrollment-1 structures/year; \$5,000/year	Cities, SWCD, ENVS, BWSR	2016-2020	\$25,000
2.e.8	Promote conservation drainage practices in Pipestone County. Seek incentive funds and cost-share to assist producers with the installation of conservation drainage practices; these practices include alternative tile intakes, structures to control tile drainage and bioreactors. High priority areas would include impaired water bodies and reaches of impaired water bodies. Outreach - Direct mailings, news releases, personal contacts. Enrollment - 2 practices/year; \$50,000/year	ENVS, SWCD, NRCS, MPCA, BWSR, Highway Department	2016-2020	\$250,000
2.e.9	Seek funding for water retention structures. Enrollment - 2 practices/year; \$40,000/year	SWCD, ENVS, BWSR	2016-2020	\$200,000 + In-Kind
2.e.10	Promote, assist and seek funding for the installation of Urban BMPs, to individuals and the communities of Pipestone, Jasper, Edgerton, Holland, Woodstock, Trosky, Hatfield, Ihlen, Ruthton. Outreach – Direct mailings, news releases, personal contacts. Enrollment – 5 BMPs/year; \$5,000	SWCD, Cities, Landowners	2016-2020	25 BMPs \$25,000
2.e.11	Promote, assist and seek funding for the installation of grass waterways. Outreach – Direct mailings, news releases, personal contacts. Enrollment – 7000 ft./year; \$28,000/year	SWCD, NRCS, BWSR	2016-2020	35,000 feet \$140,000
2.e.12	Promote, assist and seek funding for the installation of water and sediment control structures. Outreach – Direct mailings, news releases, personal contacts.	SWCD, NRCS, BWSR	2016-2020	25 structures \$250,000

	Enrollment – 5 Systems/year; \$50,000/year			
			Total	\$1,240,000.00

Goals and Objectives				
Priority Concern 3. Protect and Enhance the County's Ground Water Resources				
Goal 1: Ensure areas of perpetual ground water recharge				
Objective 3.a Encourage Wetland Restoration and Protection of natural habitat				
	Action	Responsibility	Time Frame	Total Units/Cost
3.a.1	Promote the reclamation and enhancement of abandoned gravel pits. Outreach – Direct mailings, personal contacts, pit inventory, technical assistance. Target - 1 pit per year/\$20,000/per pit	SWCD, ENVS, Hwy, County	2016-2020	\$100,000
3.a.2	Work with DNR and USF&WS to expand or enhance wetlands. Educate landowners on the benefits of converting drained wetlands back to a permanent native vegetated state, using RIM/WRP and CRP or other long term conservation program. Outreach – Direct mailings, news releases, personal contacts. Audience – 1000 landowners and operators/year	SWCD, ENVS, NRCS, BWSR, USFWS	2016-2020	In-kind
3.a.3	Promote, assist and seek funding to enroll marginal land into available wetland restoration programs including RIM/WRP and CRP or other long term conservation program. Outreach – Direct mailings, news releases, personal contacts. Audience – 1000 landowners and operators/year Enrollment – 1 contract /year; 20 acres/year; \$100,000/year	SWCD, ENVS, NRCS, BWSR, USFWS	2016-2020	5 contracts \$500,000
3.a.4	Provide information to landowners on benefits of appropriate natural cover on habitat for threatened and endangered species. Outreach – Direct mailings, news releases, personal contacts. Audience – 2000 landowners and operators/year; \$2000/year	SWCD, ENVS	2016-2020	\$10,000

3.a.5	Consider benefits of wildlife habitat in project prioritization. Outreach- Personal contacts, public meetings Audience – SWCD, County and Watershed officials and staff	SWCD, ENVS	2016-2020	In-Kind
			Total	\$610,000.00

Goals and Objectives				
Priority Concern 3. Protect and Enhance the County's Ground Water Resources				
Goal 2: Assure long-term quality and quantity of public water supplies, with a priority for DWSMAs				
Objective 3.b Support Well Head Protection planning and implementation				
	Action	Responsibility	Time Frame	Total Cost/Units
3.b.1	Coordinate with DNR and conduct irrigation well reading for producers as part of the surface ground water interaction study. Task - obtain and report water level data. Audience – 8 irrigation wells and 4 surface monitoring sites.	SWCD, RW, Cities, BWSR	2016-2020	In-Kind
3.b.2	Assist producers in irrigation planning. Outreach – Direct mailings and personal contacts. Audience – Irrigators	SWCD	2016-2020	In-Kind
3.b.3	Assist water suppliers with completing and implementing their Wellhead Protection Plans, and contamination source inventories. Outreach – Direct mailings and personal contacts. Audience – Public Water Suppliers	SWCD, MN Health, Public water suppliers.	2016-2020	In-Kind
3.b.4	Seek funding to implement BMP's identified within Wellhead Protection Plans priority will be within the Highly Vulnerable areas. Outreach – Direct mailings and personal contacts. Enrollment – 1 projects per year/\$30,000/project	SWCD, ENVS, MN RW, Public water suppliers, Dept. Ag.	2016-2020	\$150,000
3.b.5	Protect DWSMA and surficial aquifer areas from agricultural and industrial contamination through zoning ordinances. Manure management plans to be completed and followed in DWSMA and surficial aquifers. Outreach – Direct mailings and personal contacts.	ENVS, SWCD	2016-2020	In-Kind

	Audience – 10 landowners/year			
3.b.7	Continue to cooperate with Rural Water Systems on the expansion of the rural water systems and advise the public about County programs that will help manage potential contamination sources. Outreach – Direct mailings, news releases, personal contacts. Audience –25 landowners-residents/year	ENVS, County, Cities	2016-2020	In-Kind
3.b.8	Promote, assist and seek funding to enroll eligible acres (highly vulnerable wellhead areas) into the RIM Wellhead Protection Program and Continuous Conservation Reserve Program. Outreach – Direct mailings, news releases, personal contacts. Enroll – 20 acres/year; \$120,000/year	SWCD, ENVS, RW, BWSR, Cities	2016-2020	\$600,000
			Total	\$750,000.00

Goals and Objectives				
Priority Concern 3. Protect and Enhance the County's Ground Water Resources				
Objective 3.c Prevent groundwater contamination from unused wells, gravel pits and fertilizer application				
	Action	Responsibility	Time Frame	Total Units/Cost
3.c.1	Inventory unused wells in GIS layer Technology – GIS, \$10,000/year Target Audience – County Officials and Staff as well as County Residents	ENVS, SWCD, MNDH	2016-2020	\$50,000
3.c.2	Promote, assist and seek funding to prevent contamination of groundwater by providing cost-share for the sealing of unused wells. Outreach – Direct mailings, news releases, personal contacts. Enrollment – 20 wells/year; \$4,000/year	ENVS, SWCD, BWSR, MDH	2016-2020	\$20,000
3.c.3	Provide free water testing kits to landowners. Outreach – Direct mailings, news releases, personal contacts. Audience – 1,000 county residents/year; \$800/year	MHA, MDH	2016-2020	\$4,000
3.c.4	Promote proper application of fertilizers and pesticides by assisting and partnering with local crop consultants. Outreach –Producer Workshop, Direct mailings, news releases, personal contacts.	Crop Consultants, SWCD, NRCS	2016-2020	125 contacts \$12,500

	Audience – 25 landowners/year			
			Total	\$86,500.00

Goals and Objectives				
Priority Concern 3. Protect and Enhance the County's Ground Water Resources				
Objective 3.d Support rural water systems and long-term water supply.				
	Action	Responsibility	Time Frame	Total Units/Cost
3.d.1	Support efforts of public water suppliers to secure additional sources of water. Outreach – Direct mailings and personal contacts. Audience – County Residents/public and private environmental organizations	Counties, Cities	2016-2020	In-Kind
3.d.2	Support funding for Lewis & Clark Regional Water System. Outreach – Direct mailings, Press Releases and personal contacts. Audience – State and Federal Officials, water suppliers	County, Cities	2016-2020	In-Kind
3.d.3	Promote water conservation. Outreach – County Fair, Direct mailings, news releases, personal contacts. Audience – 2,000 county residents/year; \$800/year	ENVS, Cities, Water Suppliers	2016-2020	\$4,000
3.d.4	Monitor groundwater and review all available monitoring data and information.	ENVS, MPCA, Cities, MDH	2016-2020	In-Kind
			Total	\$4,000.00

Goals and Objectives				
Priority Concern 4. Reduce Priority Pollutants				
Objective 4.a Waste Management				
	Action	Responsibility	Time Frame	Total Units/Cost
4.a.1	Maintain a County Household Hazardous Waste collection program Outreach - Newspaper, mailings, radio ads.	ENVS, SWCD	2016-2020	\$15,000

	Audience 300 County Residents/year;\$3,000/year			
4.a.2	Provide assistance in the cleanup of old dumps within DWSMA's of the County Outreach - Personal Contact, Newspaper, mailings. Target - 5 dumps per year/\$8,000 per dump	ENVS, SWCD	2016-2020	\$200,000
4.a.3	Promote waste reduction, reuse and recycling of materials Outreach - Personal Contact, Newspaper, mailings. Target - 500 residents/year/\$8,000 per year	ENVS, SWCD	2016-2020	\$40,000
4.a.4	Promote rural collection of garbage by providing an incentive payment towards rural collection costs. Outreach - Newspaper, mailings, radio ads. Target - 200 residents/year/\$100 per resident	ENVS, Waste Hauler	2016-2020	\$100,000
4.a.5	Promote, assist and seek funding to assist landowners and operators with nutrient management plans. Outreach – Crop Consultants, Direct mailings, news releases, personal contacts. Plans – 10 plans/year; \$3,000/year	SWCD, Crop Consultants	2016-2020	50 plans \$15,000
			Total	\$370,000.00

Goals and Objectives				
Priority Concern 5. Raise Public Awareness on the County's Key Environmental Issues				
Objective 5.a Provide information to Educate the general public on environmental issue and concerns				
	Action	Responsibility	Time Frame	Total Units/Cost
5.a.1	Keep public informed on the Pipestone County SSTS Ordinance and Ordinance changes. Outreach - Direct mailings, news releases, personal contacts Audience – 2500 county residents/year; \$500.00/year	SWCD, ENVS, MPCA	2014-2018	12,500 contacts \$2,500
5.a.2	Inform the public on dangers of flooding and benefits of floodplain preservation. Outreach-Newsletters, news releases, personal contacts Audience- 500/year; Floodplain landowners; \$500/year	ENVS, Pipestone	2014-2018	\$2,500

5.a.3	Educate landowners and residents on DWSMAs and measures to protect the groundwater with emphasis on those area which are highly vulnerable Outreach – Direct mailings, news releases, personal contacts. Audience – 100 landowners-residents/year	ENVS, SWCD, RW, Cities	2014-2018	In-Kind
5.a.4	Attend meetings with township officials to discuss water quality and quantity issues. Also inform them of various program opportunities and explain and promote BMP's. Outreach – Direct mailings and personal contacts Audience – 100 township officials/year	ENVS	2014-2018	In-Kind
5.a.5	Provide an informational packet regarding septic system maintenance to every landowner who installs a new SSTS. Outreach-Personal Contacts Target-30 New and Replacement SSTS Homeowners; \$250/year	ENVS, UMN, MPCA	2014-2018	\$1,250
5.a.6	Educate landowners and residents on DWSMAs and measures to protect the groundwater. Outreach – Direct mailings, news releases, personal contacts. Audience – 100 landowners-residents/year	ENVS, SWCD, Cities	2016-2020	In-Kind
5.a.7	Support water conservation by using existing educational materials. Outreach – Direct mailings, news releases, personal contacts, farm and home show, and county fair Audience – 2,000 county residents/year; \$500/year	SWCD, ENVS, Cities	2016-2020	\$2,500
5.a.8	Provide information to County residents concerning proper well protection and sealing programs. Outreach – Direct mailings, news releases, personal contacts. Audience – Well Contractors \$500/year	ENVS, SWCD,	2016-2020	\$2,500
			Total	\$11,250.00

Funding Sources for Goals and Objectives			
Priority Concerns 1-5			
Estimated Funding Amounts and Possible Funding Sources			
Water Plan Activities	Possible Funding Sources/Responsibility	Estimated Funding	Total Estimated Funding
Planning and Inventories	ENVS, SWCD, County	\$130,000	\$130,000
Buffers, Easements and Land Retirement	State Easement Programs (RIM, DNR), Federal Easement Programs (CRP, WRP, USFW), Conservation Reserve Programs, Wildlife Organizations (Pheasants Forever, Ducks Unlimited)	\$920,000 \$795,000 \$20,000	\$1,735,000
Project and Practice Implementation Funds	State of Minnesota Clean Water Funds Federal (NRCS) EQIP Funds SWCD State Cost-share Other Funding Sources (USFW, EPA, MPCA)	\$1,062,500 \$1,520,000 \$200,000 \$50,000	\$2,832,500
Technical Assistance and Administration	SWCD, ENVS, NRCS, TSA	\$300,000	\$300,000
Outreach and Education	SWCD, ENVS, NRCS	\$61,750	\$61,750
Development of Soil Loss Ordinance	State of Minnesota Clean Water Funds Other Funding Sources (EPA, MPCA) Local Sources (SWCD, ENVS, Watershed Districts)	\$20,000	\$20,000
Development of Comprehensive Drainage Management Plan	State of Minnesota Clean Water Funds Other Funding Sources (EPA, MPCA) Local Sources (SWCD, ENVS, Watershed Districts)	\$925,000	\$925,000
Waste Reduction and Cleanup	County, MPCA, MN Rural Water, Local Landowners	\$355,000	\$355,000
SSTS	MPCA, County, ENVS	\$245,000	\$245,000
Water Retention and Storm water Management	State of Minnesota Clean Water Funds, MPCA, USFW, Municipalities	\$205,000	\$205,000
		Total	\$6,809,250

D. Implementation Schedule of Ongoing Activities

This section identifies other local activities and programs of the County, SWCD, and cooperators that make up the local water management program, which may not be reflected in the priority concerns above. There are also many other public and private efforts at the regional, state and federal levels which serve to promote the goals of sound

water management. These particular ongoing activities typically encompass all watersheds in the county, reaching a broad cross-section of local residents and businesses.

- Educate the public and promote water quality and conservation.
- Administer Wetland Conservation Act
- Administer National Flood Insurance Program
- Administer Shoreland management program.
- Provide technical assistance for conservation programs.
- Administer and provide assistance for the State Revolving Fund for Ag BMP's.
- Promote and help facilitate the RIM, CRP and similar conservation programs.
- Promote and help facilitate stormwater retention.
- Assist with testing and providing services for commercial pesticide applicators.
- Administer the feedlot program by being a delegated County in the MPCA Feedlot Program.
- Inspect and assist producers in maintaining compliance with County and State rules.
- Administer regulations, permit, and inspect individual SSTS.
- Assist the County Board of Commissioners with drainage management.
- Provide Household Hazardous Waste Program for proper disposal.
- Provide a collection program for waste pesticides and empty containers.
- Promote recycling and solid waste management.
- Provide electronics and appliance disposal.
- Serve as technical rep on wellhead protection planning committees
- Serve on National Monument Technical committee
- Achieve wildlife habitat and recreation benefits through land retirement.

D.1 State Cost-Share Needs Projection

The SWCD currently is allocated approximately \$20,000 per year for the state cost-share program. Of this amount, 20% will be used for administration and technical assistance and the remaining 80% for high priority BMP's. Assuming continued support of the locally funded share programs, and barring unforeseen natural disasters, funding at this level should be sufficient for the five years remaining in this plan.

State cost-share money will be used to install BMP's as follows:

Water Quality Protection Practices	\$ 10,000.00	(10%)
Water Erosion and Sediment Control Practices	\$ 70,000.00	(70%)
Administration and Technical Assistance	<u>\$ 20,000.00</u>	(20%)
	\$ 100,000.00	

The definition of high-priority water quality problems is to be found in the introduction to the assessment of high priority concerns (B.2). The definition of high-priority erosion problems is to be found in the assessment of Priority Concern 1, with the discussion of soil erosion. Approved practices are found throughout the assessment of high priority concerns and implementation actions to address priority concerns and ongoing actions, in this plan.

Resolution 1-17

**Pipestone Soil and Water Conservation District
Resolution to Adopt Summary of Watercourses
for Inclusion in Local Water Management Plan**

Whereas; Minnesota statues 103F.48 requires SWCDs in consultation with local water management authorities, to develop, adopt, and submit to each local water management authority within its boundary a summary of watercourses for inclusion in the local water management plan.

Whereas; The Board of Water and Soil Resources has adopted the Local Water Resources Riparian Protection (“Other Watercourses”) Policy August 25, 2016 which identifies steps SWCDs are required to take in developing said inventory.

Whereas; Pipestone SWCD has met with local water management authorities within its jurisdiction.

Whereas; Pipestone SWCD and the water management authorities within its jurisdiction discussed watershed data, water quality data and land use information as criteria in development of this list.

Whereas; Pipestone SWCD has assessed the water quality benefits that the implementation of Best Management Practices (BMP’s) could provide to water quality, and supports the voluntary implementation of BMP’s on “other waters”.

Therefore be it resolved that; The summary of watercourses or “other waters” for Pipestone SWCD shall be in ‘Descriptive’ format instead of in ‘Map’ format.

Therefore be it further resolved that; The description of watercourses to be included in the summary of watercourses or “other waters” shall be; all watercourses in Pipestone SWCD that have running water, of surface origin, present over half of the time during a wet/dry cycle with duration of at least a ten year period. Excluded would be those watercourses depicted on the DNR Buffer Protection Map.

Passed by the Pipestone SWCD Board of Supervisors, this 8th day of June, 2017.



Bill Folger

Chairman

ATTEST:



Kyle Krier

SWCD Administrator

**Resolution to Incorporate the Summary of Watercourses
into the Pipestone County
Comprehensive Local Water Management Plan**

Whereas; Minnesota Statutes Chapter 103F.48 requires soil and water conservation districts (SWCDs) in consultation with local water management authorities, to develop, adopt, and submit to each local water management authority within its boundary a summary of watercourses.

Whereas; The Board of Water and Soil Resources has adopted Buffer Law Implementation Policy #6 'Local Water Resources Riparian Protection ("Other Watercourses")' which identifies steps SWCDs are required to take in developing said inventory.

Whereas; Pipestone SWCD has adopted a descriptive inventory of other watercourses and provided it to Pipestone County on June 13, 2017.

Whereas; Pipestone County recommends that implementation of buffers or other practices on these waters be voluntary in nature through the Comprehensive Local Water Management Plan.

Whereas; Minnesota Statutes Chapter 103F.48 requires a local water management authority that receives a summary of watercourses identified under this subdivision must incorporate an addendum to its comprehensive local water management plan or comprehensive watershed management plan to include the SWCD recommendations by July 1, 2018.

Whereas; Minnesota Statutes Chapter 103F.48 does not require a plan amendment as long as a copy of the included information is distributed to all agencies, organizations, and individuals required to receive a copy of the plan changes.

Therefore, be it resolved that; The summary of watercourses or "other waters" for Pipestone County shall be incorporated as an addendum in its current local water management plan.

Be it further resolved that; Pipestone County authorizes staff to provide a copy of the addendum and any supporting information to be distributed to all agencies, organizations, and individuals required to receive a copy of the plan changes.

Adopted: May 8, 2018

Attest: Steve Ewing
Steve Ewing, County Administrator

Dan Wildermuth
Dan Wildermuth, Chairman of County Board