

# MARTIN COUNTY LOCAL WATER PLAN 2017 – 2026



Martin County Water Planning  
C/O Martin SWCD  
923 North State Street, Suite 110  
Fairmont, Minnesota 56031  
507-235-6680

This page is intentionally left blank.

## Table of Contents

Executive Summary _____	4
Purpose_____	4
Priority Concerns _____	9
Summary of Goals, Actions and Costs _____	9
Statement of Consistency_____	12
Summary of Recommendations to Other Plans _____	12
Priority Concerns _____	13
Surface Water _____	13
Groundwater _____	16
Goals and Objectives_____	17
Implementation Program for Priority Concerns _____	19
Implementation for On-Going Activities _____	36
Appendix A: Priority Concerns Scoping Document _____	39
Appendix B: Martin County Impaired Waters List _____	43
Appendix C: Soils Map _____	45
Appendix D: HEL Map _____	47
Appendix E: Other Watercourses _____	48

# Executive Summary

## Purpose

Quality water resources are important to Martin County and the State of Minnesota. Martin County is blessed to have abundant water resources above what is typical for a southern Minnesota county. The County feels it is important, and has made it a priority, to protect those resources to maintain and enhance the quality of life, productivity of agriculture, recreation and business climate it now enjoys.

This is the fourth edition of the Martin County Water Plan. The first edition was adopted in 1989 and was revised in 1995 and 2006. This 2017 plan is aimed at continuing to protect and enhance the water resources in our county. Over the years we have experienced an extensive number of accomplishments driven by the Water Plan. Those accomplishments will be summarized in the “Martin County Water Plan Accomplishments” section of this plan.

This plan is intended to be shorter and more user friendly than previous plans. Priority concerns, goals, and objectives of previous plans are still relevant and will continue to be implemented under this plan. While this plan is focused on just two priority concerns, it will take a broad range of actions to fully address these concerns. The last plan focused on precision conservation. This plan will further the effort to identify and prioritize the areas and specific sites that are having the greatest impact on water and target financial resources as efficiently as possible to effectively correct the identified issues on these areas and sites.

The 2017 to 2026 Martin County Local Water Plan was developed in accordance with the Comprehensive Local Water Management Act: Minnesota Statute 103B.

The Martin County Local Water Plan Advisory Committee has remained active, holding quarterly meetings and recommending actions on issues as they arise. Educational programming, planning as well as review of past projects and accomplishments are important components of the committee’s efforts.

The Water Plan Committee has made a recommendation to the County Drainage Authority to require a reduction in peak flows when planning and implementing improvements to public drainage systems.

The Martin County Conservation Alliance has become a major source of water plan implementation support. The conservation organizations individually and as a group, “the alliance” have provided cash and in-kind match to numerous grant projects. With the recent decline in BWSR easement program funding, marginal land acquisition has played a role in setting land aside for habitat, water quality enhancement and water quantity management.

Conservation Alliance partners have completed several land acquisitions, have projects in the works and plan to continue to utilize LSOHC and LCCMR funds for targeted high priority projects. Alliance members have suggested that setting aside marginal land for habitat will help address all of the priority concerns identified in the Water Plan Scoping Document. Therefore a separate section of plan has been reserved to address Habitat, outlining priorities based on adding to existing habitat and maximizing habitat value when addressing surface and ground water goals. Although some species benefit from large blocks of habitat, other species can be accommodated on smaller tracts. In addressing water issues in local areas (minor watersheds) the habitat needs of the immediate area must be considered and addressed.

Terrestrial and Aquatic Invasive Species will continue to impact our natural resources and will continue to be major factors to be incorporated into all of our natural resources planning and implementation strategies. Preventing the introduction of new invasive species and targeting existing species/populations for control and/or eradication will continue to be important for us to address in the water plan. Maintaining healthy diverse native plant populations and restoring diverse native plant populations help resist invasion by unwanted species on the landscape. Education and vigilance continue to be top priority for keeping new invasive species, terrestrial and aquatic from being introduced or becoming established.

Partnerships organized by watershed continue to be extremely important as we work efficiently to address issues across jurisdictional boundaries.

The WRAPS process will continue to be used to identify priority funding needs and drive implementation activities.

This plan builds upon a strong background, past research and the ongoing research and monitoring that has been the basis of water plans and plan implementation in the past. Precision Conservation, which is installing highly effective conservation practices (BMPs) designed specifically for each of the most vulnerable, sensitive areas that are causing significant impacts to water quality/quantity, will continue to be important in implementing this plan. See the Addendum - 2011 Water plan update for a definition of precision conservation and how the BMPs are applied. BMPs must be planned in conjunction with any large developments or land use changes. LiDAR and other mapping tools including newly developed modeling software will improve the ability to target structural practices to the sites where they are most needed.

Climate change, in particular larger and more frequent rain events, will continue to be a driving force in developing drainage management strategies. The strategy must take drought periods into consideration if we are going to continue to develop high yielding production agriculture.

Keeping the raindrop where it falls is expected to be the highest priority strategy for the life of this water plan. With the tools available today, farmers can maintain high levels of residue on the soil surface to protect the soil without a negative impact to their bottom line. Some land

may require additional tile drainage in critical locations to make it work and each farmer will need to determine what they need to do to make a transition to a no-till annual cropping system that will work for them. Continued research and on farm trials will be key to the adoption of effective soil health techniques across the watershed.

“Continuous Living Cover” is a strategy in annual crop production where no-till or strip-till systems have been adopted by the producer. Keeping living roots in the ground year round is needed to hold vital nutrients in the soil to build more healthy soil and improve soil productivity. This strategy addresses both priority concerns and is needed on all annually cropped acres.

Water planning goals cannot be achieved while bare soil is left exposed for months at a time. Exposed soils are responsible for most of our wind erosion, water erosion, sedimentation and are the largest single contributor to higher peak flows during runoff events. Exposed soil releases carbon dioxide to the atmosphere at a much higher rate than soil covered with natural vegetation or crop residue. Everyone who is responsible for managing soil plays a huge role in mitigating the effects of climate change.

## **Accomplishments**

Some of the major accomplishments under previous Martin County Local Water Management Plans include:

- Securing competitive funding to do streambank restorations in the Elm Creek Watershed
- Partnering with local lake associations through a Clean Water Fund Accelerated Implementation grant
- Providing funding to plant trees in field windbreaks
- Implementation of conservation easements through the RIM program
- Receiving Surface Water Assessment Grant funding as part of the East Fork Des Moines River Watershed assessment
- Providing funding to seal abandoned wells, particularly wells in Drinking Water Source Management Areas

## **Plan Update**

On November 3, 2015 the Martin County Board of Commissioners adopted a resolution to update the Martin County Comprehensive Local Water Management Plan and delegated authority to Martin SWCD to coordinate, assemble, write, and implement the revised Plan. Martin SWCD convened the Martin County Water Plan Advisory Committee multiple times during the updating of the Plan. Committee members include:

- Gary Schaub – Planning Commission
- Guy Beemer – Well Drillers
- Bryan Gregor – Health Field
- Philip Bettin (Galena) – Township
- Leeann Steen – Education
- Bruce Moore – Conservation Club
- Wayne Sommer – Lake Association Member
- Darwin Roberts – Agriculture
- Duane Rosburg (Rosburg Construction) – Drainage/Conservation Contractor
- Jeff Ziemer (3M) – Large Business
- Clair Schmidt, Jr. – Small Business
- Max Longley – Small City
- Tonya Klunder (Valero) – Bio-fuels Industry
- Layne Ebeling – Agriculture

Other Participants:

- Linda Meschke – Martin SWCD Board
- Judy Beckman – Martin SWCD Board
- Kathy Smith – County Commissioner
- Steve Flohrs – County Commissioner
- Tyler Cowing – City of Fairmont
- Deb Mosloski – Ditch Administration
- Mike Forstner – Ditch Administration
- Pam Flitter – Planning and Zoning
- Wendy Chirpich – Planning and Zoning
- Billeye Rabbe – Solid Waste
- Tim Langer – Sanitarian
- Rich Perrine – SWCD Staff
- Ashley Brenke – SWCD Staff
- Jesse Walters – SWCD Staff
- Reggie Liddell – Natural Resources Conservation Service (NRCS)
- Mark Hiles – Board of Water and Soil Resources (BWSR)
- Bryan Spindler – Minnesota Pollution Control Agency (MPCA)
- Nate Hodgins – Minnesota Department of Natural Resources (DNR)
- Amanda Strommer – Minnesota Department of Health (MDH)
- Les Anderson – Red Rock Rural Water

The following meetings and outreach events were held to provide public input:

November 3, 2015 – Martin County Commissioners pass a resolution to update the Martin County Comprehensive Local Water Management Plan

December 17, 2015 – Martin County Water Plan Advisory Committee meeting  
(Attendance 13)

January 15, 2016 – Notice of Decision to Revise and Update the Comprehensive Local  
Water Management Plan sent out

January 27, 2016 – Fairmont Photo Press newspaper ran article requesting public input

January 28, 29 & 30, 2016 – Open House

February 10, 2016 – Gave radio interview on KSUM requesting public input

February 24, 2016 – Gave radio interview on KSUM requesting public input

February 25, 2016 – Fairmont Photo Press newspaper and Truman Tribune newspaper  
ran ads requesting public input

February 25, 2016 – Martin County Water Plan Advisory Committee meeting  
(Attendance 12)

February 29, 2016 – Public Meeting (Attendance 4)

April 7, 2016 – BWSR Southern Regional Meeting to review Priority Concerns Scoping  
Document

June 23, 2016 – Martin County Water Plan Advisory Committee meeting

July 6, 2016 – Provided update information on the Water Plan to the Martin County  
Board of Commissioners

August 2, 2016 – Set Public Hearing date at Martin County Board of Commissioners  
meeting

August 16, 2016 – Reviewed draft Water Plan at Martin County Board of Commissioners  
meeting

August 17, 2016 – Public notice ran in the Truman Tribune newspaper (2016 Martin  
County Legal Newspaper)

August 24, 2016 – Public notice ran in the Truman Tribune newspaper (2016 Martin County Legal Newspaper)

August 25, 2016 – Martin County Water Plan Advisory Committee meeting

September 1, 2016 – Sent out updated Water Plan to Committee members and other interested individuals for review

September 6, 2016 – Public Hearing before the Martin County Board of Commissioners

### **Priority Concerns**

In March of 2016 The Martin County Local Water Management Committee developed the Priority Concern Scoping Document in accordance with the changes to the Comprehensive Local Water Management Act; Statutes 103B.304 – 103B.355. The scoping document identified two priority water resource concerns to be addressed in this Martin County Comprehensive Local Water Plan document. The two priority concerns are as follows:

**Priority Concern #1:** Surface Water (water quality and water quantity/drinking water supply).

**Priority Concern #2:** Groundwater (water quality and water quantity/drinking water supply).

A copy of the Priority Concerns Scoping Document is an appendix to this document.

### **Summary of Goals, Action and Costs**

This Martin County Water Plan is designed to address the water resource issues within the county. It is intended to be progressive and forward thinking in order to improve the quality of life for area residents. The County Commissioners have been supportive of the Water Plan and intend to continue their support. The implementation plan indicates an annual need of approximately twice what is currently being spent in the county for all water resource related work. The goals/ objectives outlined in this plan should be considered when shaping ordinances, programs and planning documents within the county. The need to address agricultural nonpoint source pollution in order to meet TMDL goals will be one of the biggest challenges during this ten year plan.

The goals, objectives and actions identified in this plan address ongoing cooperative efforts by a variety of county and city departments and they include new goals that will require the county and cities to stretch and grow their current programming. All activities identified are voluntary. Some activities will require the county to acquire incentive funds to encourage landowner participation. Martin SWCD and conservation partners have been successful in the past in securing a significant amount of incentive dollars and they need to continue to apply for

additional funds and work with multiple partners as opportunities arise. Implementation dollars and in-kind contributions from all partners will be needed to accomplish plan objectives, goals and action items. Grant writing has become a necessity, as grants continue to provide funding for a larger portion of the specific projects needed to implement conservation needs. This plan was developed to efficiently and effectively implement the programs and practices that will maximize the benefits from the conservation funding that is available.

Addressing agricultural nonpoint source pollution will be the biggest challenge facing the county during the next decade. Because the county has highly productive soils there is intense row crop and livestock farming with an extensive drainage infrastructure. Martin County has 98% of its tillable acres in annual row crops. The challenge is to adequately address the environmental concerns while retaining the integrity of production agriculture.

## Implementation Budget Overview:

Water planning partners will work to secure funding for water plan implementation from all traditional sources and seek funding from new sources where funders share the goals and objectives outlined in the local water plan. The following budget identifies the annual cost to implement this water plan and realize measurable results. This budget assumes adequate staffing and funding to implement all action items. This budget does not include special funding for accelerated implementation.

<b><u>Priority Concern</u></b>	<b><u>Annual Need</u></b>
<b>Surface Water (water quality and water quantity/drinking water supply)</b>	<b>\$ 945,000</b>
<b>Groundwater (water quality and water quantity/drinking water supply)</b>	<b>\$ 80,000</b>
<b>Ongoing Implementation</b>	<b>\$ 450,000</b>
<b><u>Total Annual Need</u></b>	<b><u>\$ 1,475,000</u></b>

## **Statement of Consistency**

The 2017 – 2026 Martin County Local Water Plan is consistent with local, state and federal rules and regulations.

## **Summary of Recommendations to Other Plans**

A significant amount of research and input have gone into the development of this local water plan. Please pay close attention to the recommendations within this plan when updating and/or developing plans for other purposes. Future needs, multiple use and the protection and enhancement of our natural resources for future generations have been carefully considered in the planning and writing of this plan.

## Priority Concerns

The following includes the Priority Concern as identified in the Priority Scoping Document (Appendix A); provides an assessment of that concern for the county; and lists goals and objectives to address that concern over the ten years of the plan.

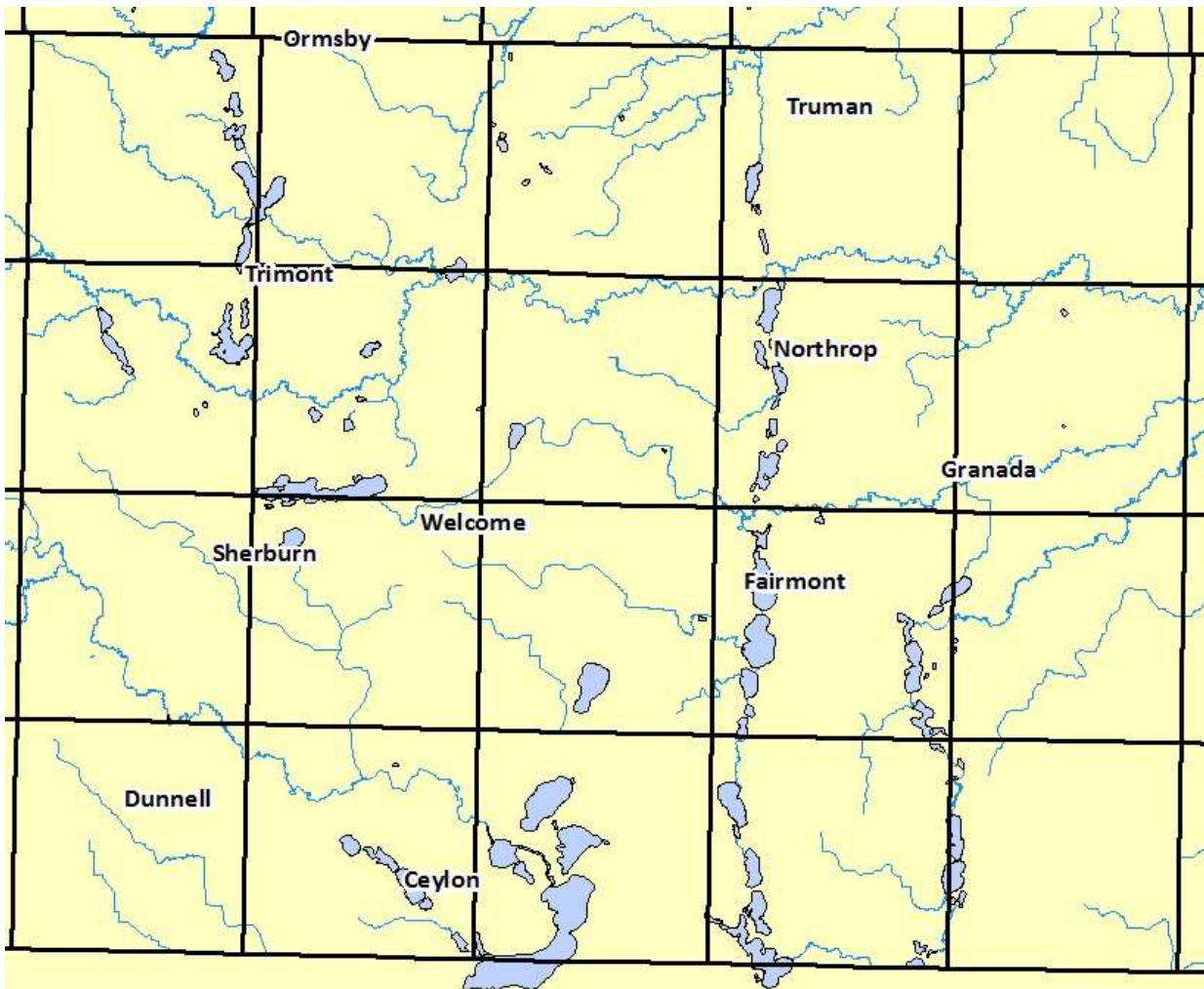
Following the goals and objectives is an implementation plan and schedule that identifies when each action item is planned to be addressed for the next ten years. Activities that are ongoing are identified in the Implementation Plan.

During year five, the Water Plan Advisory Committee will review the Implementation Plan and set priorities for the final five years of the plan. Actual accomplishments will vary depending on staffing and funding levels. It is expected that there will be an integrated working relationship between the various County Offices working on water related issues, Martin SWCD and project partners to provide seamless delivery of these programs. All actions are intended to be voluntary. The Martin SWCD has adopted the Water Plan as their comprehensive plan. Consistent with planning by watershed, planning and implementation activities will be coordinated with counties sharing the watershed.

## Surface Water

### Assessment:

Martin County has been blessed with an abundance of lakes and wetlands with miles of streams and creeks as well. Approximately 150 lakes are 10 acres or larger with over 50 of these being 100 acres or more. To add to these public waters we also have about 90 miles of open ditches and thousands of miles of underground tile, consisting of over 200 drainage systems. The DNR has 20 Wildlife Management Areas with a total of 4,412 acres and manages water levels on 11 basins (260 acres) plus Pierce Lake (455 acres). Below is a map illustration of the waterways in Martin County.



Due to the abundance of surface water, it is a high priority to protect the surface water quality and manage the quantity (peak flows). Peak flows of our ditches and creeks/streams have increased over the years in part due to continuous addition to the thousands of miles of underground tile feeding into the ditches, improvements to surface water drainage and increased annual precipitation. The increased flow in the creeks and streams is cause for concern. As a result of these high flow events, we have experienced increased sedimentation, streambank erosion, washouts and nutrient spikes (nitrates, phosphorous) identified in water quality sampling. The degradation of our surface water has caused a number of the water bodies to be listed as impaired on the Minnesota Pollution Control Agency Total Maximum daily Load (TMDL) list. TMDL is a regulatory term within the Federal Clean Water Act. It is used to set the maximum amount of a pollutant that a body of water can receive while remaining within water quality standards. A water body is “impaired” or polluted if it fails to meet one or more of the federal Clean Water Act’s water quality standards. Federal standards exist for basic pollutants such as sediment, bacteria, nutrients and mercury. The Clean Water Act requires the Minnesota Pollution Control Agency to identify and restore impaired waters. Included on page 43 is a list of the Pollution Control Agency’s TMDL Impaired waters in Martin County.

The bodies of water in our county are separated/classified into four watersheds. A watershed is a region or area bounded peripherally by a divide and draining ultimately to a particular watercourse or body of water. The surface water in our county flows into four different watersheds (Watowan River Watershed, Blue Earth River Watershed, East Fork Des Moines River Watershed, and West Fork Des Moines River Watershed). The map below shows the boundaries of the four watersheds, the label indicates which watershed each area drains to.



The Minnesota Board of Water and Soil Resources (BWSR) has developed a new strategy to implement water plans. It is called One Watershed, One Plan. The overview of the plan is as follows:

“Minnesota has a long history of water management by local government. One Watershed, One Plan is rooted in this history and in work initiated by the [Local Government Water Roundtable](#)

(Association of Minnesota Counties, Minnesota Association of Watershed Districts, and Minnesota Association of Soil and Water Conservation Districts) in 2011 which recommended that the local governments charged with water management responsibility should organize and develop focused implementation plans on a watershed scale. The recommendation was followed by [legislation](#) that permits BWSR to adopt methods to allow comprehensive plans, local water management plans, or watershed management plans to serve as substitutes for one another; or to be replaced with one comprehensive watershed management plan. This legislation is referred to as One Watershed, One Plan. Further Legislation was passed in 2015, defining purposes and outlining additional structure. BWSR’s vision for One Watershed, One Plan is to align local water planning on major watershed boundaries with state strategies towards prioritized, targeted and measurable implementation plans – the next logical step in the evolution of water planning in Minnesota” – BWSR Website

The detriment to water quality seems to be fairly consistent from one watershed to another within Martin County. This probably is reflective of the fact that land use is consistent across the County. Sediment and nutrients coming from both the agricultural and the urban setting have contributed to the degradation of our surface waters. There are specific issues and characteristics that are particular to a specific watershed. These issues will be identified first by watershed and in some cases by sub-watershed followed by goals, objectives and action items that generally apply across watershed lines. This plan considers the East Fork and the West Fork of the Des Moines River as the same watershed, as does BWSR in its proposed watershed planning boundaries.

## **Groundwater**

### **Assessment:**

Groundwater quantity issues are a higher priority in the western part of the county, primarily in the upper East Fork of the Des Moines River Watershed, the small West Fork watershed and in the upper Blue Earth River watershed. In the western tier townships, groundwater supplies are the most limited. Rural water supplies are rapidly being installed to address the supply issue. Moving across the county to the east quantity issues diminish but water quality issues may increase. Portions of the water supply on the eastern part of the County have unacceptable mineral/hardness issues and in some cases drinking water is not fit for human consumption and cannot be used by infants or young livestock.

## **Goals and Objectives to Address Priority Concerns**

### **Priority Concern 1: Surface Water**

Goal 1: Surface Water Quality - To improve the quality of all surface waters throughout Martin County with an emphasis on impaired TMDL listed waters to a level that allows them to be delisted.

Objective A: Continue and develop upon public outreach and education programming regarding impaired waters and their impact on public health and recreation.

Objective B: Address the implementation goals as stated for TMDL listed waters. Reduce nitrate, phosphorous, and sediment concentrations in all county waterbodies.

Objective C: Reduce impacts to surface water from urban areas and impervious surfaces.

Goal 2: Surface Water Quantity – Reduce peak flow events to help prevent erosion and maintain the integrity of crop fields.

Objective A: Decrease the amount of surface runoff entering waterbodies.

Objective B: Decrease the impact of peak flow events regarding erosion and flooding of nearby crop fields.

Goal 3: Surface water drinking water supply – Meet drinking water requirements on Budd Lake.

Objective A: Continue to improve the water quality on Budd Lake to a level that is acceptable for use as Fairmont's drinking water supply.

## **Priority Concern 2: Groundwater**

Goal 1: Groundwater Quality - Reduce contaminant pathways to the groundwater supply in order to maintain/improve the groundwater quality.

Objective A: Eliminate pathways for contaminants to easily reach groundwater. Protect and improve groundwater so it is fit for human consumption and other uses.

Goal 2: Groundwater Quantity – Increase the groundwater supply

Objective A: Improve conditions for infiltration and groundwater recharge.

Goal 3: Groundwater Drinking Supply – Maintain or Improve the quality of our drinking water and work to maintain an adequate supply for all recognized uses.

Objective A: Protect aquifers being used for drinking water and work to protect wellhead areas.

## Implementation Program for Priority Concerns

### Implementation across the Greater Blue Earth River (Blue Earth and Watonwan River Watersheds) and Des Moines River Watersheds

*\*Watershed specific action items are listed after the list of action items.*

#### Priority Concern 1: Surface Water

**Goal 1: To improve the quality of all surface waters throughout Martin County with an emphasis on impaired waters to a level that allows them to be delisted.**

**Objective A: Continue and develop upon public outreach and education regarding impaired waters and their impact on public health and recreation.**

#### Action Items:

	Action	Watershed	Responsibility	Time Frame	Resources	Results
1.1.A.i	Develop one impaired waters fact sheet and host one impaired waters tour each year.	Countywide	SWCD, MPCA	2017-2026	\$15,000	10 fact sheets, 10 water quality tours
1.1.A.ii	Disseminate information related to impaired waters through radio, meetings, mailings, news articles, County Fair, and the Conservation Update. Reach 500 people/year with mailings, 2,000 people/year with the Conservation Update.	Countywide	SWCD, MPCA, BWSR, DNR, MDA	2017-2026	\$280,000	Reach 2,500 people each year for 10 years (25,000 total contacts)
1.1.A.iii	Have four Water Plan Advisory Committee meetings/year.	Countywide	SWCD, MPCA, BWSR, DNR, MDA	2017-2026	\$40,000	Have 40 meetings
1.1.A.iv	Collaborate with stakeholders; local, state and federal agencies; and other partners on monitoring and assessment and implementation efforts, especially with MPCA's Watershed Approach.	Countywide	SWCD, MPCA, BWSR, DNR, MDA, Drainage Administration, Planning & Zoning	2017-2026	\$10,000	Host 10 Watershed specific meetings

1.1.A.iv	Continue to work with the University of Minnesota and others to research, design and adapt BMPs to local conditions (ex. Roberts bioreactor/treatment wetland research site).	Blue Earth River	SWCD, University of Minnesota, Minnesota State University, Mankato	2017-2026	\$100,000	Installation of 5 innovative practices
1.1.A.v	Support legislation to provide additional funding, including to the local level, to implement practices that improve impaired waters.	Countywide	SWCD, MASWCD	2017-2026	\$10,000	Involvement with MASWCD
1.1.A.vi	Provide education and assistance with terrestrial invasive species removal at one event per year.	Countywide	SWCD, DNR	2017-2026	\$30,000	10 invasive species events
1.1.A.vii	Work with new models and Implement Precision Conservation Practices across all watersheds.	Countywide	SWCD, BWSR, GBERBA	2017-2026	\$100,000	4 targeted maps, 1 for each Watershed
1.1.A.viii	Host Environmental Awareness Day for every 5th grader in Martin County and implement the 1st Grade Tree Program in every Martin County Elementary School	Countywide	SWCD, MPCA, DNR, Martin County Schools and Programs (ex: FFA)	2017-2026	\$15,000	Reach 1,500 students
1.1.A.iv	Establish citizen stream and citizen lake monitors.	Countywide	SWCD, MPCA	2017-2026	\$50,000	15 stream monitors; 10 lake monitors
1.1.A.x	Establish comprehensive water quality monitoring.	Blue Earth River	SWCD, MPCA, MDA	2017-2026	\$240,000	Establish 4 more long term monitoring sites

**Priority Concern 1: Surface Water**

**Goal 1: To improve the quality of all surface waters throughout Martin County with an emphasis on impaired waters to a level that allows them to be delisted.**

**Objective B: Address the implementation goals as stated for TMDL listed waters. Reduce nitrate, phosphorous, and sediment concentrations in all county waterbodies.**

**Action Items:**

	<b>Action</b>	<b>Watershed</b>	<b>Responsibility</b>	<b>Time Frame</b>	<b>Resources</b>	<b>Results</b>
1.1.B.i	Implement practices under TMDL plans as they are approved.	Countywide	SWCD, MPCA	2017-2026	\$100,000	4 implemented TMDL plans
1.1.B.ii	Increase the number of farms using cover crops and strip till/no till practices by using EQIP.	Countywide	SWCD, NRCS	2017-2026	\$1,250,000	50% of acres in cover crops or strip till/no till
1.1.B.iii	Install structural BMP's, specifically on areas adjacent to waterbodies.	Blue Earth River	SWCD, NRCS	2017-2026	\$600,000	20 waterways, 20 WASCObS
		Watowan River	SWCD, NRCS	2017-2026	\$150,000	10 waterways
		Des Moines River	SWCD, NRCS	2017-2026	\$210,000	6 waterways, 8 WASCObS
1.1.B.iv	Use buffers and grassed waterways in areas subject to overland flow, frequent flooding.	Countywide	SWCD, Drainage Administration, Planning & Zoning	2017-2026	\$500,000	Compliance with the Buffer Law
1.1.B.v	Install wetland restorations and catch basins to slow/stop runoff to allow for denitrification and sediment settling prior to entering the waterbody.	Blue Earth River	SWCD, BWSR	2017-2026	\$100,000	5 treatment wetlands
		Watowan River	SWCD, BWSR	2017-2026	\$20,000	1 treatment wetland

		Des Moines River	SWCD, BWSR	2017-2026	\$40,000	2 treatment wetlands
1.1.B.vi	Catch/retain tile water before entering a waterbody, providing pretreatment with woodchip bioreactors, saturated buffers, wetland treatment or other methods that can be adapted to the site.	Dutch Creek (part of Blue Earth River)	SWCD, Drainage Administration	2017-2026	\$250,000	5 practices
		Elm Creek (part of Blue Earth River)	SWCD, Drainage Administration	2017-2026	\$300,000	10 practices
		Cedar Creek (part of the Blue Earth River)	SWCD, Drainage Administration	2017-2026	\$50,000	2 practices
		Des Moines River	SWCD, Drainage Administration	2017-2026	\$100,000	4 practices
1.1.B.vii	Identify open tile intakes.	Countywide	SWCD, Drainage Administration	2017-2020	\$15,000	Completed inventory
1.1.B.viii	Work with landowners to alter open tile intakes per year by utilizing alternative intakes, vegetative buffers or removal techniques.	Dutch Creek (part of Blue Earth River)	SWCD, NRCS, Drainage Administration	2017-2026	\$40,000	20 practices
		Elm Creek (part of Blue Earth River)	SWCD, NRCS, Drainage Administration	2017-2026	\$50,000	25 practices
		Cedar Creek (part of the Blue Earth River)	SWCD, NRCS, Drainage Administration	2017-2026	\$20,000	10 practices
		Des Moines River	SWCD, NRCS, Drainage Administration	2017-2026	\$10,000	5 practices
		Watowwan River	SWCD, NRCS, Drainage Administration	2017-2026	\$10,000	5 practices

1.1.B.ix	Install field windbreaks to reduce wind erosion.	Blue Earth River	SWCD, Martin County Conservation Alliance	2017-2026	\$20,000	20 field windbreaks
		Watonwan River	SWCD, Martin County Conservation Alliance	2017-2026	\$15,000	15 field windbreaks
		Des Moines River	SWCD, Martin County Conservation Alliance	2017-2026	\$10,000	10 field windbreaks

**Priority Concern 1: Surface Water**

**Goal 1: To improve the quality of all surface waters throughout Martin County with an emphasis on impaired waters to a level that allows them to be delisted.**

**Objective C: Reduce impacts to surface water from urban areas and impervious surfaces.**

**Action Items:**

	<b>Action</b>	<b>Watershed</b>	<b>Responsibility</b>	<b>Time Frame</b>	<b>Resources</b>	<b>Results</b>
1.1.C.i	Convert unneeded impervious areas to natural habitat utilizing local ecotype native plant materials at one site/year.	Blue Earth River	SWCD, City Staff	2017-2026	\$10,000	10 urban native planting sites
1.1.C.ii	Plan and install storm water treatment practices (ex: SAFL baffle) within urban areas to reduce direct impacts from untreated runoff reaching surface water bodies, 1 practice/year.	Blue Earth River	SWCD, City Staff	2017-2026	\$500,000	10 stormwater practices
1.1.C.iii	Encourage and provide incentives for the use of urban BMPs, 15 BMPs/year	Blue Earth River	SWCD, City Staff, Fairmont Lakes Foundation	2017-2026	\$225,000	150 urban BMPs
1.1.C.iv	Protect soil on construction sites using all available BMPs to prevent soil delivery to storm sewers or surface waters by informing local contractors.	Blue Earth River	SWCD, City Staff	2017-2026	\$15,000	Reach 25 contractors through annual contractor meeting

**Priority Concern 1: Surface Water**

**Goal 2: Surface Water Quantity – Reduce peak flow events to help prevent erosion and maintain the integrity of crop fields throughout the entire watershed.**

**Objective A: Decrease the amount of surface runoff entering waterbodies.**

**Action Items:**

	<b>Action</b>	<b>Watershed</b>	<b>Responsibility</b>	<b>Time Frame</b>	<b>Resources</b>	<b>Results</b>
1.2.A.i	Identify priority water storage areas throughout the watershed using GIS.	Countywide	SWCD, South Central TSA	2017-2020	\$50,000	50 targeted sites mapped
1.2.A.ii	Implement Martin County's Multipurpose Drainage Management Plan	Judicial Ditch 51, Joint County Ditch 350 ( Blue Earth River); County Ditch 29 (Des Moines River); Judicial Ditch 2 (Watonwan River)	SWCD, Drainage Administration	2017-2020	\$750,000	Reduce peak flow
1.2.A.iii	Utilize catch basins to hold surface runoff and allow some of it to percolate thus reducing the amount of runoff entering the waterbody.	Countywide	SWCD, Drainage Administration	2017-2026	\$100,000	Install 4 catch basins
1.2.A.iv	Increase the number of wetland restorations, specifically upstream of or near waterbodies with historically high peak flow events, to reduce the volume of water entering the waterbody.	Blue Earth River	SWCD, Drainage Administration, BWSR	2017-2026	\$622,000	6 wetland restorations
		Watonwan River	SWCD, Drainage Administration, BWSR	2017-2026	\$100,000	1 wetland restoration

		Des Moines River	SWCD, Drainage Administration, BWSR	2017-2026	\$200,000	2 wetland restorations
1.2.A.v	Integrate the use of cover crops and strip till/ no till practices. *See Action 1.1.B.ii	Countywide	SWCD, NRCS	2017-2026	\$200,000	50% of acres in cover crops or strip till/no till
1.2.A.v	Provide incentives and cost-share assistance for farmers to adopt Continuous Living Cover practices on their row crop acres.	Countywide	SWCD, NRCS, University of Minnesota	2017-2026	\$100,000	5 sites
1.2.A.vi	Utilize local ecotype native plants on non-row crop acres to reduce erosion and runoff and facilitate infiltration.	Countywide	SWCD	2017-2026	\$50,000	5 sites

**Priority Concern 1: Surface Water**

**Goal 2: Surface Water Quantity – Reduce peak flow events to help prevent erosion and maintain the integrity of crop fields.**

**Objective B: Decrease the impact of peak flow events regarding erosion and flooding of nearby crop fields.**

**Action Items:**

	Action	Watershed	Responsibility	Time Frame	Resources	Results
1.2.B.i	Utilize the work of Presnail and others who have designed models to help identify and prioritize sites where implementation work is needed.	Countywide	SWCD, University of Minnesota	2017-2021	\$15,000	Identify 40 streambank restorations
1.2.B.ii	Stabilize streambanks and floodplains by using native plantings.	Blue Earth River	SWCD	2017-2021	\$24,000	12 critical area plantings
		Watowan River	SWCD	2017-2021	\$16,000	8 critical area plantings
		Des Moines River	SWCD	2017-2021	\$8,000	4 critical area plantings
1.2.B.iii	Manage woody debris within the stream/ditch channel to reduce bank erosion and direct flow away from eroding banks.	Elm Creek (part of Blue Earth)	SWCD, NRCS	2017-2021	\$240,000	8 streambank restorations
		Center Creek (part of Blue Earth River)	SWCD, NRCS	2017-2021	\$50,000	2 streambank restorations
		Watowan River	SWCD, NRCS	2017-2021	\$150,000	6 streambank restorations
		Des Moines River	SWCD, NRCS	2017-2021	\$40,000	2 streambank restorations

1.2.B.iv	Utilize programs to obtain funding to install riparian buffers within the watersheds experiencing numerous high flow events.	Blue Earth River	SWCD, BWSR	2017-2021	\$160,000	8 RIM riparian buffer easements
		Watonwan River	SWCD, BWSR	2017-2021	\$80,000	4 RIM riparian buffer easements
		Des Moines River	SWCD, BWSR	2017-2021	\$80,000	4 RIM riparian buffer easements

**Priority Concern 1: Surface Water**

**Goal 3: Surface water drinking water supply – Meet drinking water requirements on Budd Lake.**

**Objective A: Continue to improve the water quality on Budd Lake to a level that is acceptable for use as Fairmont's drinking water supply.**

**Action Items:**

	Action	Watershed	Responsibility	Time Frame	Resources	Results
1.3.A.i	Develop a monitoring system for the surface waterways within the Chain of Lakes watershed feeding into Budd Lake.	Fairmont Source Water Management Area (Blue Earth)	SWCD, MDA, MDH, City of Fairmont	2017-2019	\$50,000	Established monitoring sites
1.3.A.ii	Locate point-source pollution areas within the watershed and remedy the situations as needed by utilizing programs to obtain funding.	Fairmont Source Water Management Area (Blue Earth)	SWCD, City of Fairmont	2017-2019	\$15,000	Inventory of pollution sources
1.3.A.iii	Develop community outreach activities to educate the public regarding practices to protect the Fairmont Chain of Lakes. Present to Fairmont schools once/year.	Fairmont Source Water Management Area (Blue Earth)	SWCD, City of Fairmont	2017-2026	\$20,000	10 outreach events; Partnerships with Fairmont Schools
1.3.A.iv	Utilize the results of monitoring, watershed analysis, and site visits to develop a Source Water Protection Plan/comprehensive plan for the Fairmont Chain of Lakes Watershed. Collaborate with stakeholders and project partners.	Fairmont Source Water Management Area (Blue Earth)	SWCD, City of Fairmont, DNR, MDH	2019-2020	\$80,000	Source Water Protection Plan

1.3.A.v	Apply for funding to implement the Chain of Lakes Comprehensive Watershed Plan, including special projects and accelerated implementation activities.	Fairmont Source Water Management Area (Blue Earth)	SWCD, City of Fairmont	2017-2021	\$20,000	Submitted grant applications
1.3.A.vi	Develop outreach materials to educate private landowners within the watershed (rural and urban) on better management practices (BMP) to protect the surface waters in the watershed.	Fairmont Source Water Management Area (Blue Earth)	SWCD, City of Fairmont	2017-2021	\$80,000	Reach 6,000 people
1.3.A.vii	Increase buffers on any water bodies within the watershed.	Fairmont Source Water Management Area (Blue Earth)	SWCD, City of Fairmont	2017-2021	\$200,000	20 acres of riparian buffers
1.3.A.viii	Add catch basins onto the creeks and streams within the watershed to allow sediments to settle out before entering the lakes.	Fairmont Source Water Management Area (Blue Earth)	SWCD, City of Fairmont	2017-2021	\$450,000	3 catch basins

**Goal 1: Groundwater Quality - Reduce contaminant pathways to the groundwater supply in order to maintain/improve the groundwater quality.**

**Objective A: Eliminate pathways for contaminants to easily reach groundwater. Protect and improve groundwater so it is fit for human consumption and other uses.**

**Action Items:**

	<b>Action</b>	<b>Watershed</b>	<b>Responsibility</b>	<b>Time Frame</b>	<b>Resources</b>	<b>Results</b>
2.1.A.i	Seal 20 abandoned wells/year. Continue to seek cost-share funds and grant funds as needed.	Countywide	SWCD, MDH, BWSR	2017-2026	\$300,000	200 sealed wells
2.1.A.ii	Assist with the implementation of Wellhead Protection Plans for all public water supplies in the county.	Countywide	SWCD, City Staff in Martin County, MDH	2017-2026	\$90,000	8 implemented Wellhead Protection Plans
2.1.A.iii	Integrate the use of cover crops and strip till/ no till practices. *See Action 1.1.B.ii	Countywide	SWCD, NRCS	2017-2026	\$200,000	50% of acres in cover crops or strip till/no till
2.1.A.iv	Set and encourage the use of guidelines for appropriate use of chemicals on cropland, urban lawns, and across the landscape to decrease the amount of contaminants entering the groundwater supply.	Countywide	SWCD	2017-2026	\$20,000	Reach 2,000 people

**Goal 2: Groundwater Quantity – Increase the groundwater supply**

**Objective A: Improve conditions for infiltration and groundwater recharge.**

**Action Items:**

	<b>Action</b>	<b>Watershed</b>	<b>Responsibility</b>	<b>Time Frame</b>	<b>Resources</b>	<b>Results</b>
2.2.A.i	Establish local ecotype native vegetation in wetlands, on buffers and in upland areas across the landscape to provide deep root systems and help build soil structure to efficiently move surface water through the topsoil, subsoil and into surficial aquifers.	Countywide	SWCD	2017-2026	\$20,000	Provide education on local ecotype seed to 500 people
2.2.A.ii	Increase the amount of crop residue covering the surface of annually cropped land and leave root systems in the ground over winter to help hold the residue in place.	Countywide	SWCD, NRCS, BWSR	2017-2021	\$40,000	Perform tillage transect surveys
2.2.A.iii	Integrate the use of cover crops and strip till/ no till practices. *See Action 1.1.B.ii	Countywide	SWCD, NRCS	2017-2026	\$66,000	50% of acres in cover crops or strip till/no till
2.2.A.iv	Encourage the use of continuous living cover as part of no-till cropping systems to keep living roots in the ground, increase residue on the surface and to help keep the residue anchored.	Countywide	SWCD, NRCS	2017-2026	\$10,000	Develop a Soil Health Team
2.2.A.v	Monitor 5 DNR observation wells 8 times/year.	Countywide	SWCD, DNR	2017-2026	\$20,000	Make 400 well observations

**Goal 3: Groundwater Drinking Supply – Maintain or Improve the quality of our drinking water and work to maintain an adequate supply for all recognized uses.**

**Objective A: Protect aquifers being used for drinking water and work to protect wellhead areas.**

**Action Items:**

	<b>Action</b>	<b>Watershed</b>	<b>Responsibility</b>	<b>Time Frame</b>	<b>Resources</b>	<b>Results</b>
2.3.A.i	Utilize all action items listed under Groundwater Quality and Groundwater Quantity Goals to maintain or improve the quality of drinking and maintain an adequate supply.	Countywide	SWCD, MDH	2017-2026		Maintained & improved water quality and quantity
2.3.A.ii	Promote the use of deep rooted perennial cover within wellhead protection areas. Encourage the use of perpetual easements and other programs to expand the protection area and develop an adequate buffer. Finalize 2 conservation easements in wellhead protection areas.	Countywide	SWCD, BWSR	2017-2026	\$20,000	2 RIM wellhead easements
2.3.A.iii	Encourage private well owners to test their drinking water regularly to detect any type of contamination. Have brochures at the County Fair and at the office.	Countywide	SWCD	2017-2026	\$4,000	Distribute 200 brochures
2.3.A.iv	Educate landowners on the importance of establishing a wellhead protection area around their private well and encourage the use of local ecotype native plants within that area. Host one public event focused on groundwater.	Countywide	SWCD, MDH	2017-2026	\$5,000	2 public meetings
2.3.A.v	Encourage landowners to avoid activities within their wellhead protection area and maintain setbacks from potential pollution sources such as septic systems, fuel tanks, and chemical storage.	Countywide	SWCD, MDH, City Staff in Martin County	2017-2026	\$5,000	Reach 1,000 people

**Total 10 year Budget: \$10,250,000**

## **Watershed Specific Information**

### **Blue Earth River Watershed**

The Fairmont Chain of Lakes, in particular Budd Lake and the Dutch Creek watershed, were identified as priority bodies of water for improvement, in large part due to Budd Lake being a drinking water source. Prioritizing this watershed aligns with the State's Nonpoint Priority Funding Plan.

Elm Creek was also identified as a priority watershed for improvement. The western part of this watershed, by Big Twin Lake, is also a high priority area as it is part of the National Water Quality Initiative. Long term water quality monitoring will continue on Elm Creek and Dutch Creek to document measurable water quality results.

Elm Creek has one flow through lake (Creek Lake) that acts as a sediment trap. Creek Lake should be considered for cleanout or dredging at some point in the near future. It is degraded and nearly filled with sediment. As land practices are implemented upstream from Creek Lake, the lake will need to be cleaned out in order to function in a way that is consistent with the needs of fisheries, wildlife and the ecology of the local part of the watershed. The mouth of Cedar Run is Creek Lake. Cedar Run also flows through Cedar Lake just northwest of Trimont. Both lakes give Cedar Run a chance to drop sediment before flowing into Elm Creek. Cedar Lake is another lake that would benefit from some sediment removal.

The Fox Lake watershed is the headwaters of Lily Creek which drains across the center of the county from just north of Sherburn to just north of Fairmont at its confluence with Center Creek. Center Creek, which drains what is considered the center chain of lakes, begins at the George Lake Dam and drains east through Granada and just into Faribault County where it drains into the Blue Earth River.

South Creek begins on the Minnesota side of Iowa Lake flowing east and just dipping into Iowa as it flows east through Swag Lake, another Iowa border lake. South Creek continues north through wetlands, East Chain Lake, Sager Lake and Rose Lake then turns east and northeast and joins the Blue Earth River in Faribault County. Elm Creek, Center Creek and South Creek all three drain through Center Creek Township, leaving Martin County within five miles of each other, as they flow east to the Blue Earth River in Faribault County. With the documentation of a population of Blanding's Turtles in Fairmont Township, Fairmont and Rutland Townships have been added to the Blanding's Turtle Priority Area.

### **Des Moines River Watershed**

Lake Okamanpeedan has been the focus of a joint effort between Emmet County in Iowa and

Martin County and Jackson County in Minnesota to develop an East Fork Alliance Joint Powers Agreement that would include several additional Iowa counties. This effort will continue. Lake Okamanpeedan is rather unique with the amount of settling basins upstream from the lake. The relatively newly formed Judicial Ditch 367 is a drainage system resulting from the merger of County ditch 57 and Judicial Ditch 36. It drains an extremely flat landscape and outlets through wetlands, Bright Lake and Clayton Lake before emptying into Lake Okamanpeedan. The East Fork of the Des Moines River drains through Tuttle Lake, often called Little Tuttle by those who refer to Okamanpeedan as Tuttle Lake. The dam on the south end of Lake Okamanpeedan holds water a couple of feet higher than the original outlet which was twice as wide as the dam. This creates a brackish channel over 2 miles long in addition to the flow through length in Little Tuttle. Even the smaller drainages into Okamanpeedan have wetland treatment. There are very few acres with direct surface and/or tile drainage to the lake and even these are buffered to some extent. Although there is still a lot of room for watershed treatment, Lake Okamanpeedan is ready for a dredging project. Sediment in Lake Okamanpeedan has accumulated over hundreds of years. The current sedimentation rate is very low. Emmet County Soil and Water and the Natural Resources Conservation Service out of the Estherville Field Office have installed several conservation practices on the Iowa side of the Lake Okamanpeedan Watershed. The Soldier Creek Watershed bypasses Okamanpeedan dumping into the East Fork in Iowa downstream from the dam. The JD 10 watershed makes up most of the West Fork of the Des Moines River Watershed. Pierce Lake was also identified as a priority watershed during the priority concerns process.

### **Watowan River Watershed**

The South Fork of the Watowan River just dips into Martin County in Sections 2, 3, and 4 of Cedar Township. Willow Creek, Mink Creek, Perch Creek and several drainage ditches carry surface water from a good share of Galena, Waverly and Westford Townships to the South Fork of the Watowan River. The North Fork joins the South Fork near Madelia and the Watowan River continues east dumping into the Blue Earth River near Garden City.

A Blanding's Turtle Priority Area was established in Waverly and Westford Townships. The Minnesota DNR has studied the turtle population in the Perch Creek Watershed for several years. The turtle population extends into Watowan County within the Perch Creek Watershed and nearby wetlands. Perch Creek was also identified as a priority watershed during the priority concerns process.

### **Additional Priorities**

The maps included as appendices in this Plan identify priority project areas within the Martin SWCD.

## Implementation for Ongoing Activities

### Priority Concern 1: Surface Water

- Administer the County Water Plan
- Administer the Wetland Conservation Act
- Provide technical assistance for conservation programs
- Promote Farm Bill Programs (ex: CRP)
- Administer, inspect, and enforce noxious weed regulations
- Inspect and assist producers in maintaining compliance with County and State feedlot rules
- Administer regulations, permit, and inspect individual sewage treatment systems
- Assist landowners with setback permits and zoning regulations
- Implement the Martin County Aquatic Invasive Species Prevention Plan
- Support the redetermination of benefits process for public ditches
- Administer, inspect, and enforce shoreland regulations and buffer law regulations
- Participate in the Watershed Restoration and Protection Strategies process for the Watonwan River Watershed, Blue Earth River Watershed, and the Des Moines River Watersheds
- Partner with the Greater Blue Earth River Alliance (GBERBA) for planning and implementation within the Blue Earth and Watonwan River Watersheds.
- Partner with GBERBA for Cooperative Weed Management Area administration, planning and implementation activities, countywide in all participating counties.

### Priority Concern 2: Groundwater

- Support the Comprehensive Solid Waste Management Plan

**Total Annual Budget: \$450,000**

## **Additional Areas of Interest**

### **Habitat**

**Objective:** To provide maximum benefit for wildlife.

**Action Items:**

- A. The Conservation Alliance, joined by agency partners, state and national organizations will continue to strategically target acquisitions in areas adjacent to existing habitat.
- B. The Alliance will continue to prioritize and plan future acquisitions where quality habitat can be added most efficiently and where it is most needed
- C. The protection of native habitat will remain high priority as well as adding a buffer to these areas when acquired or protected by perpetual easement.

**Objective:** Utilize habitat to protect and improve water quality and manage water quantity.

**Action Items:**

- A. Scatter water storage, infiltration areas, wetlands and other practices throughout the watershed as needed, where they will maximize water management goals.
- B. Address local habitat needs to the degree possible utilizing local source native plant materials as much as possible.

### **Protect and Manage Wetlands**

**Objective:** Develop a comprehensive wetland protection and management plan that addresses both surface water and groundwater priority concerns. Adopt the plan and add it to the Water Plan.

**Action Items:**

- A. Utilize the comprehensive wetland protection and management plan that was developed for Martin County by Dahlgren, Shardlow, & Uban, Inc. and dated August 2002 as a starting point.
- B. Review and amend the plan according to State Statutes and established procedures.
- C. Address surface water quality and quantity issues. Prioritize implementation strategies.
- D. Address ground water quality and quantity issues. Prioritize implementation strategies.
- E. Address issues associated with public and private drinking water supplies.
- F. Prioritize/target areas for wildlife habitat enhancement and development.
- G. Prioritize water storage and wetland restoration across the watershed.
- H. Establish 40 acres of wetland banking sites throughout the county.

## **Other Watercourses:**

This plan requests a voluntary 200 foot buffer be maintained adjacent to all surface waters of the county regardless of land use. This request is based on research from previous water planning groups and reflects multiple use advantages of maintaining a sufficient buffer to help mitigate impacts from current land use and future land use change. This Water Plan will be amended to show a map of other watercourses, per Minnesota Statutes §103F.48, Subd. 4, once the DNR Buffer Protection Map is finished for Martin County.

This request considers the use of an approved conservation plan to be included to allow the reduction of the permanent vegetation width needed to protect the water body. The conservation plan may include supplemental Precision Conservation practices to effectively address site specific critical areas and concentrated flow issues.

# Appendix A: Priority Concerns Scoping Document

## Martin County Water Plan Priority Concerns Scoping Document

### Introduction

Martin County is located in South Central Minnesota. The County is located approximately 100 miles southwest of the Minneapolis – St. Paul metropolitan area and borders the State of Iowa.



During the 2010 Census, Martin County had a population of 20,840. The largest city in the County, Fairmont, had a population of 10,666 in 2010. The population of the County has been decreasing over the last 35 years and that trend is expected to continue. It is currently declining at a rate of about 5% every 10 years.

Martin County covers 730 square miles (467,200 acres), of which 712 square miles (455,680 acres) are cropland. The predominant land use is grain crops. In 2015, there were 158,500 acres of soybeans planted and 225,500 acres of corn planted. Grain crops are expected to continue being the predominant land use. There is also a thriving hog production industry in Martin County.

Martin Soil and Water Conservation District (SWCD) has a service agreement with Martin County for the SWCD to administer the Martin County Water Plan Program. The Martin County Board of Commissioners delegated the SWCD the responsibility of coordinating, assembling, writing and implementing the revised Comprehensive Local Water Management Plan pursuant to Minnesota Statutes, §103B.301.

Martin County first adopted a Comprehensive Local Water Management Plan in 1989 and revised it in 1995. That plan expired on December 31, 2005. The current plan, adopted in 2006, expires on December 31, 2016.

### **Priority Concerns Address by the Plan**

Dozens of priority concerns were received from the public, organizations and agencies. Most of these concerns were related to implementation strategies and best management practices needed to address two major priority concerns. Surface water and groundwater were mentioned most often as priority concerns. Water quality and water quantity issues were repeated under both surface and groundwater. Drinking water supply was mentioned multiple times as a groundwater concern as well as a surface water concern.

Adoption of a comprehensive wetland protection and management plan is a priority for this plan update.

Martin County and Martin SWCD will work to implement current programs and ordinances and will stay informed and up to date on emerging issues, such as climate change and changes in land use.

**Priority Concern #1: Surface Water (water quality and water quantity/drinking water supply)** Surface water quality was the priority concern mentioned most often. Buffers were mentioned as a priority in many different ways. All surface waters need to be buffered. Private ditches should be buffered with permanent vegetation or in combination with alternative practice to provide protection to the ditch.

Habitat was identified many times in public comments. By maximizing the quality of the restored upland, riparian and wetland/water habitat with local source native plant materials, greater improvements in water quality can be attained. By targeting and restoring diverse habitat in key locations using local ecotype plant materials, water quality and water quantity benefits can be maximized. Getting multiple benefits/uses out of the practices used to manage surface water will provide efficiency and measurable results. The Martin County Conservation Alliance has been meeting along with multiple agency representatives, working to prioritize and target projects. Five focus areas include Round Lake, Budd Lake, Pierce Lake, Perch Creek and Elm Creek.

Drainage system management, wetland restoration, water storage, soil health – cover crops – permanent living cover, storm water management, lawns – fertilizer – chemical – grass clippings, aerial spraying, fish habitat, no-till/reduced tillage, nutrient management, crop rotations, CRP – CREP and programs to allow the entire floodplain to be enrolled in conservation programs, habitat acquisition, managing altered – unstable hydrology, aquatic and terrestrial invasive species, BMPs – specifically precision conservation – targeting the most effective practices to the most sensitive/vulnerable areas on the landscape are among the issues identified as problems and strategies to address the problems.

The City of Fairmont was targeted for the need to comply with surface water use statutes and to follow and enforce shoreline/shoreland rules. The Fairmont Chain of Lakes, in particular Budd Lake and the Dutch Creek watershed, were identified as priority bodies of water for improvement, in large part due to Budd Lake being a drinking water source.

Protection of existing high quality riparian/aquatic/lakeshore habitats and wetland habitats was stressed as a priority. Surface water quality improvement focusing BMPs in impaired waters and contributing watersheds is also on the list of priorities.

Currently there are no Watershed Restoration and Protection Strategies (WRAPS) completed in watersheds in Martin County. The Watonwan and Des Moines River Watersheds have started the process and the Blue Earth River Watershed will start in 2017. Martin County will be involved in the WRAPS process and use the information for targeting and prioritization on a watershed basis as the reports are completed. The information from these reports will also allow for One Watershed, One Plans in the future.

**Priority Concern #2: Groundwater (water quality and water quantity/drinking water supply)**

Groundwater quantity issues are a higher priority in the western part of the county, primarily in the upper East Fork of the Des Moines River Watershed, the small West Fork watershed and in the upper Blue Earth River watershed. In the western tier townships, groundwater supplies are the most limited. Rural water supplies are rapidly being installed to address the supply issue. Moving across the county to the east quantity issues diminish but water quality issues increase. Portions of the water supply on the eastern part of the County have unacceptable mineral/hardness issues and in many cases drinking water is not fit for human consumption and cannot be used by infants or livestock.

Many comments were received regarding drinking water quality and drinking water quantity concerns. Groundwater sustainability and exceedances in allowable use were identified concerns. Groundwater protection is important to citizens.

Restoring native habitat and installing permanent perennial cover were suggested as ways to help protect groundwater quality and help recharge aquifers.

### **Description of Priority Concern Identification Process**

Meetings held:

November 3, 2015 – Martin County Commissioners pass a resolution to update the Martin County Comprehensive Local Water Management Plan

December 17, 2015 – Martin County Water Plan Advisory Committee meeting  
Attendees: Tyler Cowing – City of Fairmont, Judy Beckman – SWCD, Layne Ebeling – Citizen, Les Anderson – Rural Water Association, Duane Rosburg – Citizen, Steve Flohrs – County Commissioner, Wendy Chirpich – Martin County Planning and Zoning, Nate Hodgins – DNR, Bruce Moore – Citizen, Reggie Liddell – NRCS, Rich Perrine – Water Planner, Ashley Brenke – SWCD, Dustin Benes – SWCD

January 15, 2016 – Notice of Decision to Revise and Update the Comprehensive Local Water Management Plan sent out to required local government units, adjacent counties, state review agencies, Advisory Committee, and other stakeholders. The Notice was also posted on the Martin SWCD website.

January 27, 2016 – Fairmont Photo Press newspaper ran article requesting public input.

January 28, 29 & 30, 2016 – Open House

February 10, 2016 – Gave radio interview on KSUM requesting public input.

February 24, 2016 – Gave radio interview on KSUM requesting public input.

February 25, 2016 – Fairmont Photo Press newspaper and Truman Tribune newspaper ran ads requesting public input.

February 25, 2016 – Martin County Water Plan Advisory Committee meeting

Attendees: Les Anderson – Rural Water Association, Kathy Smith – County Commissioner, Wendy Chirpich – Martin County Planning and Zoning, Nate Hodgins – DNR, Bryan Gregor – Citizen, Reggie Liddell – NRCS, Rich Perrine – Water Planner, Ashley Brenke – SWCD, Dustin Benes – SWCD, Mike Forstner – Martin County Drainage Administration, Bryan Spindler – MPCA, Jeff Ziemer – Citizen

February 29, 2016 – Public Meeting

Attendees: Ashley Brenke – SWCD, Dustin Benes – SWCD, Ray, Dylan Benes – Citizen

### **Description of Priority Concern Identification Process**

A list of all the priority concerns identified through comments and meetings was made. Where appropriate, priority concerns were grouped together. There are no large differences between the priority concerns identified and other state, local, and regional concerns.

### **Priority Concerns Not Addressed by the Plan**

All of the priority concerns received will be addressed in the Plan in some respect, although the implementation strategies will delegate some of the items to appropriate partners.

## Appendix B: Martin County Impaired Waters List (2014 Proposed)

Reach Name	Reach Description	Affected Use	Pollutant or Stressor
Cedar Creek	T104 R33W S6 west line to Cedar Lake	Aquatic Life Aquatic Recreation	Dissolved Oxygen Fecal Coliform
Cedar Creek	Cedar Lake to Elm Creek	Aquatic Life Aquatic Recreation	Turbidity Fecal Coliform
Center Creek	George Lake to Lily Creek	Aquatic Recreation	Fecal Coliform
Center Creek	Lily Cr to Blue Earth R	Aquatic Life Aquatic Recreation	Fecal Coliform Ammonia (Un-ionized) Fishes Bioassessments Turbidity
Elm Creek	Cedar Cr to Blue Earth R	Aquatic Life Aquatic Recreation	Fishes Bioassessments Turbidity Fecal Coliform
Elm Creek	Headwaters to S Fk Elm Cr	Aquatic Life	Turbidity
Elm Creek	S Fk Elm Cr to Cedar Cr	Aquatic Life Aquatic Recreation	Turbidity Fecal Coliform
Judicial Ditch 3	Headwaters to Elm Cr	Aquatic Life Aquatic Recreation	Dissolved Oxygen Fecal Coliform
Dutch Creek	Headwaters to Hall Lk	Aquatic Life Aquatic Recreation	Turbidity Fecal Coliform
Lily Creek	Headwaters to Center Cr	Aquatic Life Aquatic Recreation	Turbidity Fecal Coliform
Des Moines River, East Branch	Headwaters to Okamanpeedan Lk	Aquatic Life	Dissolved Oxygen, Turbidity
Perch Creek	Headwaters to Spring Creek	Aquatic Life	Turbidity
Willow Creek	Headwaters to S Fk Watonwan R	Aquatic Life	Fishes Bioassessments
George	Lake	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators
Sisseton	Lake	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators
Budd	Lake	Aquatic Consumption Aquatic Recreation	PCB in fish tissue Nutrient/Eutrophication Biological Indicators
Hall	Lake	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators
Amber	Lake	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators

Fox	Lake	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators
Big Twin	Lake	Aquatic Consumption Aquatic Recreation	Mercury in fish tissue Nutrient/Eutrophication Biological Indicators
Okamanpeedan	Lake	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators

## Appendix C: Soils Map

The General Soils Map that follows shows the soil associations within Martin County. Each association has a distinctive pattern of soils, relief, and drainage. Each is a unique natural landscape. Typically, an association consists of one or more major soils and some minor soils. It is named for the major soils. The soils making up one association can occur in another but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one association differ from place to place in slope, depth, drainage, and other characteristics that affect management. Soil associations found in Martin County include:

1. Canisteo-Clarion Association: Nearly level to rolling, poorly drained and well drained, loamy soils on till plains.
2. Canisteo-Glencoe Association: Nearly level, poorly drained and very poorly drained, loamy soils on till plains and moraines.
3. Clarion-Delft-Storden Association: Nearly level to steep, well drained and poorly drained, loamy soils on till plains and moraines.
4. Spicer-Truman-Kingston Association: Nearly level to moderately steep, poorly drained to well drained, silty soils on lake plains and moraines.
5. Waldorf-Fostoria-Ocheyedan Association: Nearly level and gently sloping, poorly drained, somewhat poorly drained, and well drained, silty and loamy soils on lake plains, till plains, and uplands.
6. Lemond-Litchfield-Estherville Association: Nearly level to moderately steep, poorly drained to somewhat excessively drained, loamy soils on outwash plains, terraces, and moraines.
7. Coland-Clarion-Delft Association: Nearly level to steep, poorly drained and well drained, loamy soils on flood plains and till plains.

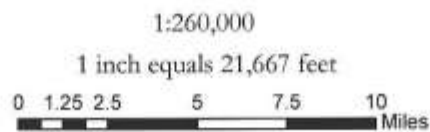


# Appendix D: HEL Map

## Martin County Highly Erodible Land



- HEL
- PHEL
- Townships
- Sections



Prepared by Martin SWCD  
2015 Imagery

*Maps are for graphical purposes only. They do not represent a legal survey.*

## Appendix E: Other Watercourses

R-#28/'18

RESOLUTION TO INCORPORATE THE  
SUMMARY OF WATERCOURSES INTO THE  
MARTIN 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, Martin SWCD has adopted a Map inventory of other watercourses and provided it to Martin County on June 30, 2017 and June 5, 2018.

WHEREAS, Martin 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.

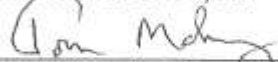
WHEREAS, Minnesota Statutes Chapter 103F.48 does not require a plan amendment as long as a copy of the included information is distributed to all agencies, organizations, and individuals required to receive a copy of the plan changes.

THEREFORE BE IT RESOLVED THAT, The summary of watercourses or "other waters" for Martin County shall be incorporated as an addendum in its current local water management plan.

BE IT FURTHER RESOLVED THAT, Martin 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.

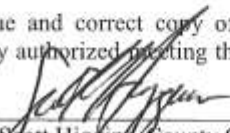
Motion by Commissioner Smith, seconded by Commissioner FLohrs, said resolution duly passed and adopted this 5<sup>th</sup> day of June, 2018.

BOARD OF COMMISSIONERS  
MARTIN COUNTY, MN

  
\_\_\_\_\_  
Tom Mahoney, Board Chair

ATTEST:   
\_\_\_\_\_  
Scott Higgins, County Coordinator

I do hereby certify that the foregoing resolution is a true and correct copy of a resolution presented to and adopted by the County of Martin at a duly authorized meeting thereof held on the 5<sup>th</sup> day of June, 2018.

  
\_\_\_\_\_  
Scott Higgins, County Coordinator

## Map of Martin County Other Waters



Created by Martin SWCD  
2017 Imagery