

# Watonwan River Watershed: Water Plans

The Watonwan River Watershed encompasses Blue Earth, Brown, Cottonwood, Jackson, Martin and Watonwan Counties. Each county has developed a 10-year rotating comprehensive local water management plan (LWMP) in order to improve water quality within Minnesota. The water plans are comprised of a set of concerns the counties have described as a priority, along with how they intend to effectively manage them.

This document contains two parts: (1) A comparison of management goals from each county (2) A summary of all county water plans in the watershed including priority concerns, goals and objectives, and actions related to nutrient management.

## Water Plans:

Blue Earth County LWMP 2008-2013

Brown County LWMP 2008-2013

Cottonwood County LWMP 2007-2017 amended 2012

Jackson County LWMP 2008-2017

Martin County LWMP 2006-2016 amended 2011

Watonwan County LWMP 2008-2018

# Water Plan Evaluation

Concern	Blue Earth	Brown	Cottonwood	Jackson	Martin	Watowan
Abandoned Wells						
Conservation BMPs						
Erosion Control						
Feedlot Compliance						
Groundwater						
Technical/Financial Assistance						
Wellhead Protection						
Wetlands						
Coordination/Partnership						
Monitoring						
Shoreland Management						
SSTS/ISTS						
Surface Water						
TMDL - Impaired Water						
Drainage Management						
Education						
Priority Pollutants						
Sediment						
Seek Funding						
Water Retention						
Development Concerns						
Manure Management Plan						
Municipal Wastewater						
Nutrient Management						
Stormwater Management						
Demonstrations						
New Technology						
Watershed-based Approach						



Concerns addressed in County Water Plan associated with nutrient issues

Strong ongoing activities implemented in programs outside of the County Water Plan

# Blue Earth County LWMP 2008-2013

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Priority Concern: Ground Water

**Goal: Protect groundwater resources from potential contaminants from residential, commercial and industrial land uses, well construction, abandoned wells and septic systems**

**Goal: Protect, enhance and restore groundwater recharge areas**

Objective: Continue the Well Program

Actions:

- Blue Earth County will permit and inspect construction of new domestic wells and sealing of unused and abandoned wells and sealing of unused and abandoned wells
- The County will continue to fund the well sealing cost share program with at least \$9,000 annually

Objective: Increase local government's awareness of the potential for groundwater contamination susceptibility in Blue Earth County

Actions:

- The County will work with Township officials providing data and information related to groundwater contamination susceptibility and groundwater protection methods, including zoning, with a special focus on Lime Township and Mankato Township because of their unique position having local zoning authority and their location in areas with high susceptibility to ground water contamination
- The County will provide data and information related to ground water contamination susceptibility and groundwater protection strategies to local government officials, including municipalities

Objective: The County will assist local government units with preparation of source water protection plans

Action:

- The County will assist all local government units and the MDH with preparing source water protection plans as requested by participating in planning teams and providing available data and information including maps and aerial photos and County well index data

Objective: The County will incorporate ground water protection measures in land use planning and regulations

Actions:

- The County will address ground water protection and land use in the update of the County Comprehensive Land Use Plan
- The County will address ground water protection measures in land use policy at the local level with special attention to business use and storage of potentially hazardous chemicals and materials and subsurface wastewater treatment and disposal

## Priority Concern: Surface Water

### **Goal: Reduce pollutants causing water quality impairments of surface water in watersheds within and affected by land in Blue Earth County**

Objective: Support development of TMDL Implementation Plans

Actions:

- Work cooperatively on a watershed basis to identify and prioritize implementation activities
- At the request of the MPCA of other TMDL sponsors and within the constraints of local staff time and resources, participate in preparation of TMDL studies and implementation plans

Objective: Implement soil and water conservation and other practices identified in TMDL implementation plans

Actions:

- Work with agricultural land owners/operators to establish best management practices to achieve TMDL implementation goals as practicable considering availability of local staff and project resources.
- Seek funding for a County-based staff person at the SWCD to work with land owners/operators in all impaired waters and TMDL Implementation Plan priority areas to establish soil and water conservation practices known to address multiple pollutants causing impairments.
- Work with nonpoint sources identified in TMDLs to increase awareness of water quality problems, change behavior and establish best management practices where appropriate and practicable considering availability of local staff and project resources.

Objective: Increase participation in the MPCA Citizen Stream Monitoring Program

Action:

- Promote Citizen Stream Monitoring in SWCD and County newsletters, website, and other information sources

**Goal: Protect and improve water quality with implementation of livestock management programs, policies and best practices to prevent and minimize pollution from livestock manure**

Objective: Work with all feedlot operators to improve manure management planning

Actions:

- The County will meet with 100 percent of feedlot operators and crop consultants to improve manure management planning
- The County Feedlot Officer will enhance review of manure management fields and field/site specific discussion of sensitive areas and requirements (ground water contamination maps, bedrock, slope, soils, floodplains, ditches, surface water features, two foot contour maps, property boundaries, aerial photos, and other information)
- The County will develop a program to provide County/SWCD web site access to local information about sensitive areas and requirements (ground water contamination maps, bedrock, slope, soils, floodplains, ditches, surface water feature, two foot contour maps, property boundaries, aerial photos and other information).
- The County and SWCD will enhance its general, feedlot education program by providing information about applying manure in sensitive areas such as surface water and shallow soil over bedrock for distribution and display at the SWCD/NRCS office.
- The SWCD, County and other organizations will participate in local demonstrations, field days and workshops as appropriate and report the results in newsletters and other communications.

Objective: Improve manure management in areas with high susceptibility to ground water contamination due to shallow depth of soil to bedrock.

Actions:

- Identify feedlots in areas with high susceptibility for ground water contamination and shallow depth to bedrock.
- Work with the Lime Township Board, feedlot operators and horse owners in Lime Township by providing information related to improving site management and manure management and identifying small sites with potential problems.
- Provide site specific information and other resources to feedlot operators in areas with shallow depth to bedrock.
- Provide technical assistance to horse and livestock owners to reduce the potential for ground water contamination from manure.
- Assess the need for and availability of financial assistance to horse owners to improve manure management.

Objective: Reduce runoff from agricultural fields

Action:

- Establish buffer strips, terraces and grass waterways to protect surface waters from runoff from agricultural fields

Objective: Reduce manure runoff problems from livestock feedlots and smaller sites

Actions:

- Provide technical assistance to operators of feedlots with open lot agreements to correct pollution problems by 2011, the State feedlot program compliance deadline.
- Provide technical assistance to feedlot operators and owners of small sites to address pollution problems.

**Goal: Reduce and prevent pollution from agricultural land by establishing conservation practices that minimize runoff, soil erosion and sedimentation and other pollutants.**

Objective: Reduce the amount of farmed, highly erodible land adjacent to public waters and ditches by establishing a buffer strip or a cover of perennial vegetation adjacent to all public waters in the County

Objective: Increase BMPs on farmed, highly erodible and potentially highly erodible land

Actions:

- The County, SWCD, and other local implementation partners will identify marginal, highly erodible farmland adjacent to public waters and drainage systems and highly erodible and potentially erodible farm land
- Identify and prioritize areas to work based on appropriate financial incentives, easements, and regulations, special projects, studies, TMDLs, and local plans related to objective
- Work with relevant implementation partners to promote conservation practices in priority areas
- Contact and work with landowners and land occupier to establish conservation practices to achieve objective
- Establish soil and water conservation practices to reduce runoff, soil erosion, and sedimentation

Objective: Bi-annually review and evaluate data and information available for targeting BMPs and other implantation efforts

Action:

- Regularly hold Water Management Plan meetings with local implementation partners to identify, assess, evaluate and prioritize current project needs, information and future implementation strategies.

Objective: Seek available funding for at least one SWCD staff position to work in all priority areas coordinating and promoting BMPs as described in the WMP 2008-2013, watershed and other relevant plans.

Actions:

- Develop description of project and staff needs based on annual SWCD plans and other plans.
- Add a full-time SWCD Technician/Coordinator to:
  - Work with land owners/operators in areas with high priority erosion problems coordinating and promoting proven soil and water conservation practices with targeted efforts such as personal contacts, tours and other activities.
  - Work with conservation partners promoting and coordinating the establishment of buffer and filter strips on County ditches, tile intakes and other waterways with an emphasis on County ditches. Increase the total miles of drainage ditch buffer strips on County ditches in Blue Earth County by 50 percent.
  - Work with land owners/operators in all impaired waters and TMDL Implementation Plan priority areas to establish soil and water conservation practices known to address multiple pollutants causing impairments.

Objective: Increase public awareness of soil and water conservation issues, problems with education and information

Actions:

- Develop posters and other informational pieces related to soil erosion and other factors used to prioritize local project implementation and funding for display at the County SWCD, NRCS and other related offices.
- Provide access to aerial photos, maps, topography, soils and other information on the County and SWCD web sites.
- Promote best management practices in newsletters, web sites, press releases and brochures distributed by the County and SWCD annually.

**Goal: Protect and improve water quality by promoting and establishing stormwater management practices that reduce the rate and volume of stormwater runoff, erosion and use of pesticides and fertilizers**

Objective: Encourage municipalities and Townships to review and revise stormwater zoning and subdivision ordinances to protect water resources

Actions:

- Work with City staff, engineers and consultants to provide each City with general information about urban stormwater runoff impacts.
- Work with the City staff, engineers, consultants, NEMO, DNR and others as appropriate to provide each City with model ordinances to address development and stormwater impacts.
- Assess the need and seek funding for consultant services to review and rewrite local ordinances, if needed.

- Work with Mankato Township and Lime Township to provide each with general information about urban stormwater runoff impacts and model ordinances to address stormwater impacts.

Objective: Reduce erosion at existing urban stormwater outlet structures

Actions:

- Work with City staff, engineers, SWCD and the County Ditch Manager to inventory and evaluate stormwater outlets to determine where erosion problems exist.
- Identify short-term and long-range solutions to stormwater runoff problems and construct structures, retention areas and other conservation practices where needed.
- Work with City staff and SWCD to seek funding for Action 2 if needed.

Objective: Reduce erosion from construction sites

Actions:

- Provide general information about MPCA NPDES permit rules to municipalities (not Mankato) and Mankato Township staff.
- Provide general information about MPCA NPDES permit rules along with construction permits issued by the County.
- Work with staff of municipalities, MPCA stormwater staff and others to assess compliance and educational needs related to State NPDES permit requirements.
- The City of Mankato will continue implementation of its Stormwater Pollution Prevention Plan, partnering with the County and local municipalities for education and other activities when appropriate.

Objective: City and County park systems will continue to develop and redevelop shoreland areas providing public access, reducing runoff, and protecting stream banks and shoreland.

Actions:

- The County Parks Department will continue to utilize and promote best management practices, such as rain gardens and use of native vegetation, in all County parks, as appropriate.
- The County will continue to work with lake associations, local conservation organizations, the DNR and other State agencies to stabilize shoreland areas in County Parks where needed and as funding is available.
- The City of Mankato will continue to redevelop waterfront areas, trails and parkways along the Minnesota River, Blue Earth River, Indian Creek, and Thompson Creek to improve water quality and provide education and access to the river for residents and visitors where appropriate and as funding is available.

Objective: Protect sensitive lake shoreland areas from development



Actions:

- Assess the shoreland and riparian areas of all lakes, especially those with greatest likelihood of development such as Madison, Duck, Ballantyne, George, Eagle, Lura, Crystal, Loon, and Mills Lakes, to provide a baseline and general information for the County Planning Commission and the affected municipalities.
- Address shoreline protection in the County's Comprehensive Land Use Plan and amend County land use regulations to protect shoreland areas from development impacts.

Objective: Promote homeowner BMPs to reduce pesticides, fertilizer and other pollutants generated by lawn, garage and home care

Actions:

- Work with city staff to provide data and information and sample educational materials, flyers, posters, etc.
- Include BMP's in County and SWCD newsletters, web sites and other outreach activities.

## Priority Concern: County Drainage Ditches

**Goal: Improve water quality with implementation of mutually-beneficial actions addressing both environmental concerns and drainage of land**

**Goal: Improve water quality by establishing ditch buffer strips and water retention in areas where environmental concerns and drainage needs are both addressed**

Objective: Encourage voluntary establishment of ditch buffer strips on County ditches with education and information activities promoting the benefits of ditch buffers and the availability of financial incentives

Actions:

- The SWCD will provide a list of conservation funding opportunities to the Ditch Authority annually in order for the Ditch Authority to be fully aware of locally available incentives.
- The County and SWCD will increase communications providing information about water quality related benefits of ditch buffers and financial incentives available for establishing new ditch buffers.
- The County Ditch Authority and other County Departments will work together to provide information in general newsletters and the County website. The County Ditch Authority will develop written communications, such as letters and newsletters to ditch system owners when appropriate to special projects.

Objective: Increase the total miles of drainage ditch buffer strips on County ditches in Blue Earth County by 50 percent by December 31st, 2012. In order to achieve County goals for this objective, financial resources will be needed for additional staff, landowner incentives and acquisition costs.

Actions:

- Establish baseline data for this objective to consistently measure success over time, by using County data reported to BWSR to determine the total miles of ditch buffers in the County.
- Add a full-time SWCD Technician/BMP Coordinator from 2009-2012 to work at the SWCD working with conservation partners promoting and coordinating the establishment of buffer and filter strips on County ditches, tile intakes and other waterways with an emphasis on County ditches.
- Work with implementation partners to develop a reasonable, implementation goal and work plan annually for this objective assuming the addition of full time staff and financial incentives to coordinate bmp programs with a special emphasis on ditch buffers.
- Seek funding to provide financial incentives to establish ditch buffer strips on pre-identified County ditches.

Objective: Increase water retention and wetland restoration in County ditch drainage systems by 30 percent

Actions:

- Seek funding to expand the engineering and environmental review assessment for ditch improvement and repair projects to study flooding characteristics and downstream impacts during small, frequent storm events as well as 5,10, 25, 50 year flood events; water storage and retention practices; and water quality effects.
- Establish baseline data for this objective to consistently measure success over time.
- Seek funding to provide financial incentives to establish water retention areas.
- Work with local conservation groups and State and Federal agencies to seek funding and restore and enhance wildlife habitat in priority areas.
- Add a full-time SWCD Technician/BMP Coordinator from 2009-2013 at the SWCD working with conservation partners promoting and coordinating the establishment of water retention and wetlands.
- Work with implementation partners to develop a reasonable, implementation goal and work plan annually for this objective assuming the addition of full time staff and financial incentives to coordinate BMP programs with a special emphasis on ditch buffers and water retention

Objective: Identify, assess and prioritize County ditch systems and areas within County ditch systems for retention, wider ditch buffers and other strategies to improve surface and ground water quality and wildlife habitat

Actions:

- Work with local committees and workgroups with broad representatives of multiple interests similar to those formed for the Water Management Plan and Greenprint to develop criteria and methods for prioritizing program implementation. Representatives of ditch owners, wildlife conservation, rural residents, water quality and others will be involved. County GIS tools will be used to support the process.
- Priority areas will be assessed based on methods and criteria developed by committees and workgroups for program implementation as well as available resources, regulations and other requirements. The County and SWCD will work together to identify representatives and frequency of program planning and evaluation as needed.
- Identify and assess opportunities to reduce impacts from municipal storm water discharges with best management practices, including water retention, wetland restoration, buffer strips, grassed waterways, and other erosion control practices.
- Identify native plants best suited for ditch buffer plantings, assess and prioritize locations for native plants in conjunction with wildlife and other priority areas.

## Priority Concern: Wetlands & Wildlife

**Goal: Maximize opportunities to protect, enhance and restore wetlands and other natural areas to improve surface and ground water quality, fisheries, wildlife habitat, recreation and land conservation**

Objective: Continue to administer the Wetland Conservation Act (WCA)

Action:

- Continue to administer the WCA, including TEP and with the DNR on WCA enforcement
- Objective: Continue to identify, assess and prioritize high priority areas for protection, enhancement and restoration of wetlands and wildlife habitat. Action(s):
- Continue to work with DNR Fisheries, DNR Wildlife staff and US Fish and Wildlife Service to identify, assess and prioritize specific areas important for wetland habitat, lake shore habitat, and other conservation practices.
- Work with local wildlife conservation organizations to identify, assess and prioritize specific areas important for wetland habitat, lake shore habitat, and other conservation practices.
- Continue to work with representatives of broad interests and stakeholders to identify, assess and prioritize wetland, lake shore habitat and other conservation areas.
- Evaluate the need for a Comprehensive Wetland Management Plan and ordinance in all or parts of Blue Earth County.

Objective: Encourage wetland and wildlife protection and other conservation strategies in park, open space, transportation, stormwater and land use plans.

Actions:

- Work with municipalities and townships in conjunction with stormwater implementation objectives and other planning projects to identify areas for wetland protection and enhancement within, adjacent and near the city limits.
- Continue to work with the County Public Works and Parks in conjunction with other planning projects to incorporate natural resources in transportation and park and open space plans.

Objective: Identify and incorporate ground water recharge areas in wetland and other conservation plans

Action:

- As described in the Groundwater Section of the Water Management Plan, the County views protection of ground water a very high priority. Additional data is needed to identify, assess and prioritize ground water recharge areas to target wetland protection and restorations.

## Priority Concern: Ground and Surface Water

**Goal: Prevent and reduce ground and surface water pollution from wastewater with administration of local programs intended to improve subsurface wastewater treatment and reduce wastewater discharges to surface waters**

Objective: Continue to manage decentralized wastewater treatment with the County SSTS program

Actions:

- Maintain and update the County Ordinance consistent with State Statutes
- Issue permits, conduct inspections and maintain records for SSTS in Blue Earth County

Objective: Reduce the number of dwellings defined as imminent public health threats by 50 percent

Actions:

- Update and analyze all available data to reasonably estimate the number of imminent public health threats and determine a baseline to evaluate future results related to this goal.
- Assess the need for financial incentives, including low interest loans, to accelerate the percentage of compliant SSTS.
- Evaluate overall compliance levels every one to three years and adjust education and other program components accordingly to meet objective.

Objective: Evaluate septage management systems, including disposal, storage and land application

Actions:

- Identify the septage management systems of each contractor in the County.

- Work with pumpers, contractors, municipalities and other representatives to assess needs related to septage management in Blue Earth County.

Objective: Increase compliance with SSTS maintenance requirements

Actions:

- Determine the level of compliance with State regulated maintenance requirements.
- Work with haulers, property owner representatives and others to identify and address education, disposal and other needs related to septic system maintenance issues.

# Brown County LWMP 2008-2018

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## Priority Concern: Soil Erosion

### **Goal: Address impaired surface waters and their TMDL's**

Objective: Develop understanding of water quality issues.

#### Actions:

- Continue and expand water testing through Clean Water Partnerships (CWP's) and submit data to the MPCA
- Recruit volunteers for the MPCA's Citizen Stream Monitoring Program (CSMP) for impaired reaches
- Recruit CSMP volunteers in the rural community for water bodies that have no previous sampling record
- Develop baseline data information through coordination with MPCA, MDA, MDH staff that will meet listing and delisting requirements
- Follow approved sampling techniques and submit water quality data for analysis and review.

Objective: Reduce the impairments in surface waters.

#### Actions:

- Cooperate with SWCD and NRCS to market available conservation programs to landowners
- Develop strategies with the county drainage authority to address water quantity issues that explore alternatives to existing drainage management
- Utilize Counties Geographic Information Systems (GIS) data to inventory and target areas for best management practices
- Provide educational opportunities on the TMDL process to the public through articles, meetings and personal contacts
- Partner with Cities and Industries to define their role in the TMDL process and the practices they can utilize to reduce impacts.

Objective: Delisting of existing impaired waters.

#### Actions:

- Work with CWP's and MPCA in the development and implementation of Total Maximum Daily Load (TMDL) plans for impaired waters
- Provide County level assistance throughout study and implementation phases to coordinating agencies and organizations

- Work with individuals and businesses to help develop plans that will reduce their impacts to the developed implementation plan on impaired reaches
- Use developed priority areas as guide on progress and update implementation strategy based on successes and continued sampling.

**Goal: Reduce soil erosion and sedimentation on agricultural lands**

Objective: Identify areas that show potential for high erosion.

Actions:

- Use available GIS resources and soil survey information to identify areas of concern where soil and slope conditions exist that may cause highly erodible conditions
- Identify and map areas to be targeted for implementation projects
- Prioritize implementation projects based on impaired waters.

Objective: Cooperate with SWCD to promote and market conservation programs and practices.

Actions:

- Provide education to landowners in targeted areas on BMP's and conservation programs available through County, State and Federal programs
- Work with the Brown County SWCD to pursue additional cost-share and incentive funding for BMP's
- Work with County Board as the Ditch Authority to establish a long term or permanent buffer program
- Demonstrate conservation tillage, alternative drainage practices and BMP's through field days sponsored by the County, U of M, State Agencies and farm groups and businesses.

**Goal: Reduce streambank erosion and ditch bank erosion**

Objective: Identify problem areas within the County.

Actions:

- Utilize GIS data and ditch records to identify high priority areas prone to stream and ditch bank erosion
- Conduct air photo reviews of priority areas
- Conduct site visits and document erosion impacts
- Inventory and prioritize sites based on implementation potential.

Objective: Provide education and options to control stream and ditch bank erosion.

Actions:

- Target sites on the inventory list to educate and provide assistance to landowners on erosion control measures
- Pursue funding for the implementation of buffer strips and stream bank stabilization practices
- Develop and provide information on upland management practices including wetland restorations, water storage, and infiltration practices that help to store and meter water
- Provide education and information on grazing management practices that reduce bank erosion
- Seek and provide funding for demonstration projects for fencing or buffers that show benefits of bank stabilization
- Work with County Drainage Authority to develop a plan that considers water retention and storage as part of ditch repair and improvements
- Work with Ditch Authority on possible funding of buffer incentives through the County
- Research and provide information on cost effective conservation practices that provide ditch and stream bank stabilization and report to County Board
- Work with SWCD and NRCS to encourage the re-enrollment of expiring CRP contracts that promote stream and ditch buffers.

**Goal: Reduce urban runoff and storm water impacts to surface waters.**

Objective: Assess urban nonpoint source pollution in Brown County.

Actions:

- Consult with cities to review storm water system designs and current outlet systems
- Consult with cities to determine flows at different storm event levels
- Consult with industries to determine discharges to storm sewer systems and permitted discharges
- Sample to determine types and quantities of pollutants seen in the storm water system
- Work with State agencies to determine acceptable levels for storm water management
- Assess the nature, cause, and effect of urban runoff and storm water pollution on surface waters.

Objective: Provide education to cities and citizens on runoff and stormwater management.

Actions:

- Provide information and education opportunities to local officials on non-point source pollution, runoff and storm water issues
- Provide information to communities on the use of BMP's that reduce the effects of storm water runoff
- Provide education and training opportunities for implementation of storm water best management practices to city utility employees
- Assist in providing Phase II Storm water Program workshops for local officials and contractors



- Provide education opportunities to developers, and contractors on low impact development
- Provide education opportunities that highlight the role citizens play in nonpoint source pollution through press releases and community events
- Educate homeowners on the proper handling and disposal of household hazardous waste
- Offer incentives to residents to encourage redirecting runoff to pervious surfaces for on-lot infiltration.

Objective: Implement storm water and runoff practices with cooperating cities.

Actions:

- Assist communities to utilize existing and pursue additional funding for the implementation of urban best management practices
- Provide technical and financial assistance to communities to assist officials, developers, and contractors in fulfilling Phase II Storm water Program requirements
- Encourage and provide information on the utilization of storm water management practices including retention, infiltration and storm water wetlands
- Provide assistance on projects to follow erosion and sediment control regulations and techniques available from the MPCA and Minnesota Erosion Control Association (MECA)
- Encourage the development of Storm water Management Plans that consider practices that improve water quality including street sweeping, catch basin cleaning, leaf litter management, salt application, snow removal storage, ponds, filter strips, infiltration and plans for future improvements.

## Priority Concern: Groundwater

**Goal: Protect ground water sources from pesticide and fertilizer contamination from agricultural and urban contamination.**

Objective: Obtain groundwater information relating to potential impacts.

Actions:

- Compile and review monitoring data from MDA on pesticide application and groundwater contamination
- Review Brown County Groundwater Vulnerability Project information; Work with MDNR and MGS on well log survey
- Work with Brown Nicollet Community Health for well information from nitrate testing studies.

Objective: Provide education and information on proper agricultural and residential application rates.

Actions:

- Use MDA guidelines to promote pesticide water quality BMP's

- Concentrate education activities on priority areas that show greatest potential for groundwater impacts
- Work with and provide information to applicators and producers on following the University of Minnesota recommended application rates
- Provide field day education opportunities for ag suppliers, applicators and property owners on proper application practices
- Encourage soil sampling to gain a better understanding of soil needs before application
- Provide technical and financial assistance to assist producers in adopting BMP's to reduce the impacts of manure runoff
- Develop residential educational resources on chemical and fertilizer application
- Provide educational resources and technical assistance to community groups, schools and at community events on utilizing BMP's.

**Goal: Protect drinking water sources.**

Objective: Recognize and support needs of public water supply wellhead protection.

Actions:

- Encourage community and non-community public water suppliers to develop and implement wellhead protection plans
- Work with public water suppliers to reduce potential impacts to drinking water sources
- Assist public water suppliers with the development of maps outlining the location of wells and radius of concern
- Consider wellhead protection areas when making land use decisions
- Utilize information provided by Minnesota Department of Health in source water assessments.

Objective: Encourage private well protection from contamination sources.

Actions:

- Educate homeowners, realtors, and contractors on the importance of maintaining proper setbacks from private wells to potential contamination sources
- Educate homeowners and realtors on the importance of well disclosure; Encourage homeowners to get private wells tested on a regular basis.

Objective: Encourage proper sealing of unused or abandoned wells.

Actions:

- Inventory locations of abandoned or unused wells
- Prioritize the sealing of unused or abandoned wells based on potential for contamination
- Use existing and develop new cost-share programs to assist with well sealing costs

- Develop and distribute educational materials for homeowners, realtors, bankers and attorneys on the importance of disclosing and sealing wells.

**Goal: Minimize impacts to groundwater sources from industrial and rural development.**

Objective: Reduce impacts of rural and industrial development on groundwater resources.

Actions:

- Define and map areas that may have low availability of groundwater resources and high potential for contamination
- Obtain up to date information on water use practices involving rural development including feedlot needs and ethanol production
- Inform Planning and Zoning office on industrial uses that have high water use potential and develop plans that consider high water use impacts
- Work with DNR to consider planning for significant water use developments.

**Priority Concern: Drainage**

**Goal: Improve drainage management system based on water quality goals.**

Objective: Cooperate with Drainage Authorities to inventory current drainage system.

Actions:

- Utilize mapping and data management process from current GIS ditch layer for public drainage systems
- Field verify ditch systems to determine as built conditions
- Compile ditch information relating to previous repair and improvements
- Inventory conservation projects currently active on ditch network
- Consider new GIS based information system with archived ditch maps and compiled information.

Objective: Determine and map problem areas.

Actions:

- Identify areas with high potential for failure due to the amount of inputs to the system
- Identify areas with high maintenance costs and develop solutions that provide water storage, reduced erosion and reduced maintenance
- Prioritize drainage systems that currently impact an impaired water body.

Objective: Reduce water inputs and provide water storage to the system.

Actions:

- Utilize GIS data to create potential water retention sites
- Identify upstream practices that slow or reduce flow to receiving waters in problem areas
- Pursue funding opportunities for water storage or wetland restorations in high priority areas
- Explore funding mechanisms through the Ditch Authority that rewards landowners for their water retention efforts through incentives or reduced taxing
- Develop controlled drainage demonstration site.

Objective: Develop education and incentives programs to increase conservation practices.

Actions:

- Promote and seek funding for the installation of buffers on the drainage systems
- Pursue funding for alternatives to surface tile inlets;
- Provide information and educational resources on water retention and wetland restoration efforts to officials and landowners
- Provide information and educational resources on controlled drainage to officials and landowners
- Develop economic worksheet considering water storage benefits to the system in reduced maintenance costs
- Encourage the County Drainage Authority to partner with other agencies for project support and funding.

## Priority Concern: Wetlands/Water Retention

**Goal: Protect existing wetlands and increase wetland resources.**

Objective: Identify current wetlands and potential wetland restoration sites.

Actions:

- Create wetland inventory for existing wetlands covered under local, State and Federal jurisdictions
- Create drained wetlands inventory for water storage potential
- Create GIS map of wetlands currently managed through an easement or conservation program
- Identify wetland preservation areas according to the Wetland Conservation Act.

Objective: Educate citizens and officials on wetland functions and importance.

Actions:

- Collaborate with agency and conservation group partners to share information gathered through the inventory process Develop information to distribute to contractors, developers and realtors on wetland identification

- Provide wetland training opportunities to local officials who make planning, development and permitting decisions
- Work with DNR and Planning and Zoning on lakeshore development wetland impact issues
- Provide lakeshore owners information on needed permits for vegetation removal and beach development by the DNR.

Objective: Encourage wetland restoration and management.

Actions:

- Identify through the building permit process potential wetland impacts that may need consideration
- Protect existing wetland areas for their value to flood reduction, infiltration, sediment reduction, erosion control and nutrient reduction
- Administer the Wetland Conservation Act
- Work with DNR and USFWS to maintain existing wildlife and wetland areas; Educate landowners to the benefits of converting drained wetlands in the WRP and CRP programs
- Work with SWCD and other agencies to enroll individuals in wetland restoration programs.

Objective: Develop a Local Comprehensive Wetland Projection and Management Plan.

Actions:

- Form a stakeholder/advisor group of County Board members, BWSR, DNR, Brown County SWCD, Brown County NRCS and local citizens of the County
- Develop the plan according to Wetland Conservation Act 8420.0650.

## Priority Concern: Human Wastewater

**Goal: Eliminate Subsurface Sewage Treatment Systems (SSTS) contamination to surface and groundwater.**

Objective: Maintain onsite sewage treatment inspection program.

Actions:

- Provide site and soils investigations with contractors to verify design criteria
- Provide assistance, review and approval of system designs
- Complete site inspections at time of installation
- Maintain file system of compliant systems and design and installation records.

Objective: Provide education and seek funding for septic program.

Actions:

- Provide educational materials on system design and maintenance to new septic system owners
- Provide pumping notice to homeowners for maintenance to systems
- Develop information to be used at meetings, events and shows on the importance of SSTS upgrade and maintenance
- Provide financial and technical status reports to County Officials
- Inventory of systems considered Imminent Threat to Public Health or Safety
- Continue seeking funds for low interest loan programs sponsored by Clean Water Partnerships and County Septic fund.

**Goal: Assist with improvements and upgrades to municipal and industrial wastewater treatment systems.**

Objective: Inventory of existing processes in waste water treatment facilities.

Actions:

- Work with waste water operators and municipal officials to gain understanding of current systems
- Develop inventory of current treatment plant operations
- Obtain permit information pertaining to facility discharges and their potential impacts to impaired waters.

Objective: Inventory of needs and funding opportunities for improved technologies.

Actions:

- Provide technical assistance and support to communities with inadequate sewage collection and treatment
- Work with operators to determine needs to upgrade and improve treatment facilities
- Research technologies to update and improve water treatment facilities
- Seek funding to upgrade processes and facilities as requested.

# Cottonwood County LWMP 2007-2017 amended 2012

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Priority Concern: Improve Surface Water Quality

**Goal: Prevent further degradation of stream and lake water quality, with a priority for the Des Moines and Watonwan watersheds**

Objective: Protect soil from erosion and prevent agricultural runoff.

Actions:

- Review zoning ordinances to insure minimal development impacts on surface waters
- Assist coordination of a multi-county yearly water festival that educates 850 children on environmental stewardship
- Help fund a multi-county yearly water festival that educates 850 children on environmental stewardship
- Help fund an annual environmental fair and conservation day which educates 500 children from southwest Minnesota
- Educate landowners on proper lakeshore and stream-bank stabilization practices
- Promote use of buffer strips along ditches and streams within the Des Moines and Watonwan watersheds
- Assist producers in applying for cost share opportunities for conservation practices; Promote conservation tillage, EQIP, and AgBMPs by contacting all County landowners through an informational bulletin sent by the SWCD
- Conduct conservation tillage transect survey for the County, and analyze data to determine residue cover
- Provide incentives for sign up of 80 acres of buffer strips along ditches and streams within the Des Moines, Heron Lake and Watonwan watersheds
- Enroll 500 acres of marginal land into CREP buffer strip program
- Reduce the amount of wind erosion by planting 12,500 feet of field windbreaks and living snow fences; also plant 25 acres of farmstead shelterbelts.

Objective: Address impacts of Drainage Management.

Actions:

- Administer the Floodplain Ordinance to assure adherence to water plan; Investigate developing a GIS layer of all public drainage systems

- Develop a GIS layer of all public drainage systems and include: system name, watershed size, outlets, date established, system type, repair history, improvement history, and other relevant data
- Assist with and install 25 grassed waterways
- Assist with and install 30 sediment control structures
- Work with Area II Representatives to identify areas in the Minnesota River basin watersheds for water retention structures
- Seek additional funding for water retention structures within the Des Moines River and Watonwan headwaters watersheds.

Objective: Wetland restoration and management.

Actions:

- Provide technical assistance to the Wetland Technical Evaluation Panel (TEP) to minimize the amount of wetland conversions
- Work with DNR and US Fish and Wildlife Service to maintain wetlands in existing wildlife areas
- Work with the Heron Lake Watershed District to educate landowners on the benefits of converting drained wetlands back to a vegetated state, using Wetland Reserve Program, Conservation Reserve Program and Continuous CRP
- Enroll 100 acres of marginal land into CREP/WRP wetland restoration program.

Objective: Address TMDL Impaired Waters.

Actions:

- Provide public information on water quality through a booth at the County Fair
- Provide public information on water quality through a booth at Windom Ag day
- Coordinate preparation of the Des Moines River TMDL study and plan
- Provide technical assistance for preparation of Greater Blue Earth Basin TMDL plans
- Provide technical assistance for preparation of the Little Cottonwood River TMDL plans
- Provide technical assistance for preparation of the Redwood/Cottonwood Rivers TMDL plans
- Coordinate implementation of the Des Moines River TMDL study and plans, through funding from Clean Water Legacy and other sources.

## Priority Concern: Protect Ground Water

**Goal: Assure long-term quality and quantity of groundwater supplies, with a priority for Drinking Water Supply Management Areas (DWSMA) and surficial aquifer areas.**

Objective: Support Well Head Protection planning and implementation.



Actions:

- Educate cities on importance of Wellhead Protection
- Assist cities with completing a Wellhead Protection Plan
- Educate landowners in DWSMAs on measures to protect groundwater
- Protect DWSMA and surficial aquifer areas from agricultural and industrial contamination through conditional use hearings
- Maintain a GIS layer of wellhead protection areas throughout the County
- Assess effectiveness of existing ordinances to ensure that they protect and do not negatively impact Well Head Protection Areas
- Continue to cooperate with Red Rock Rural Water on the expansion of the rural water systems and advise the public about County programs that will help manage potential contamination sources
- Promote use of CREP in Well Head Protection Areas.

Objective: Prevent nitrate and pesticide infiltration of shallow groundwater.

Actions:

- Promote proper application of fertilizers and pesticides
- Promote use of grassed waterways and buffer strips along ditches and streams in surficial aquifer areas
- Conduct bi-yearly free clinics for testing nitrate levels in well water
- Seek additional funding for nitrate and pesticide education and outreach
- Assist 3 producers a year with nutrient management plans.

Objective: Prevent groundwater contamination from unused wells.

Actions:

- Work with well contractors to promote proper well protection and sealing
- Provide information to rural water system members about proper well protection and sealing programs
- Prevent contamination of groundwater aquifers through the sealing of 30 unused wells per year.

Objective: Protect long-term water supply.

Actions:

- Assist public water suppliers with water exploration within the County
- Promote water conservation by using existing materials and resources
- Protect long-term water supply through conditional use hearings for municipal, industrial, irrigation, or public water supply wells.

## Priority Concern: Feedlots & ISTS

**Goal: Protect public waters and assist residents in meeting feedlot and septic standards, focusing on immediate health and safety situations.**

Objective: Assist feedlot owners to maintain compliance with MN Statute 7020 standards.

Actions:

- Conduct yearly meetings with township officials and promote Ag BMP's
- Inspect 10% of all registered feedlots per year to verify they are in compliance with MN Statute 7020
- Provide technical assistance for feedlot improvements to 150 projects over 5 years;
- Provide implementation funding through EQIP and state cost-share to 75 projects over 5 years
- Maintain a GIS layer of all registered feedlots compatible with E-link
- Provide manure sample kits to 12 producers a year
- Assist 10 producers a year with registered feedlots over 300 animal units to develop and maintain a manure management plan for proper manure application
- Assist 3 producers a year with nutrient management plans.

Objective: Continue to bring nonconforming ISTS into compliance with state standards.

Actions:

- Work through GBERBA to develop a basin-wide (Greater Blue Earth watershed) plan to accelerate upgrades to septic systems
- Upgrade 40 non-compliant septic systems per year
- Seek additional funding from USDA and other sources for ISTS construction
- Update County ISTS ordinance to achieve compliance with State rules
- Provide an informational packet regarding septic system maintenance to every landowner who installs a new ISTS
- Maintain a GIS layer of all septic system installations throughout the County
- Work with Cities to hook households and businesses with non-compliant ISTS onto municipal services
- Provide public information on state sewer rules and educate property owners about the imminent public health threats and environmental harm posed by non-complying systems.

# Jackson County LWMP 2008-2017

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## Priority Concern: Improve Surface Water Quality

**Goal: Prevent further degradation of stream and lake water quality, with a priority for highly-erodible land and shoreland areas, and TMDL-listed waters.**

Objective: Address TMDL Impaired Waters.

Actions:

- Review plans and zoning ordinances to insure minimal development impacts on surface waters
- Provide public information on protecting stream and lake water quality
- Monitor streams and lakes for baseline water quality data
- Work with MPCA to improve quality of water entering Heron lake
- Provide technical assistance for the Des Moines River TMDL study and plan
- Provide technical assistance for the Little Spirit TMDL study
- Provide technical assistance for preparation of other TMDL plans as necessary
- Participate in implementation of the Des Moines River TMDL study and plans, through funding from Clean Water Legacy and other sources.

Objective: Prevent Soil Erosion.

Actions:

- Provide Support for Prairie Ecology Bus Center to enhance programs in local schools
- Provide technical assistance for environmental education and conservation days that educate children on environmental stewardship; provide support for environmental education and conservation days
- Complete LIDAR 2' contour GIS coverage for county
- Promote use of buffer strips along ditches and streams within the Des Moines watersheds and areas with high priority erosion problem
- Assist with and install 30 grassed waterways with EQIP, Continuous CRP and State cost-share
- Assist with and install 15 sediment control structures.

Objective: Encourage perennial cover, buffers and conservation tillage.

Actions:

- Assist producers in applying for cost share opportunities for conservation practices; promote conservation tillage, EQIP, and AgBMPs by contacting all County landowners through an informational bulletin sent by the SWCD

- Conduct conservation tillage transect survey for the County, and analyze data to determine residue cover
- Provide incentives for sign up of 100 acres of buffer strips along ditches and streams within the Des Moines watersheds
- Enroll 500 acres or marginal land into RIM easement and other appropriate programs.

Objective: Improve stream bank and lakeshore development practices.

Actions:

- Administer Shoreland and Floodplain regulations
- Meet with 250 landowners and provide best practices information on proper lakeshore and streambank stabilization
- Provide educational material on the proper application of fertilizer, minimizing impervious surfaces, fire pit placement, and rain gardens
- Consider adopting provisions for Conservation Design in local plans and zoning ordinances
- Develop ordinances which encourage soil erosion mitigation during construction.

## Priority Concern: Feedlots & ISTS

**Goal: Protect public waters and assist residents in meeting feedlot and septic standards, focusing on shoreland areas and un-sewered communities**

Objective: Encourage best practices in nutrient management.

Actions:

- Conduct yearly meetings with township officials to discuss nutrient management
- Assist 3 producers a year with nutrient management plans; provide manure sample kits as requested
- Assist 10 producers a year with registered feedlots over 300 animal units to develop and maintain a manure management plan for proper manure application
- Review current and ongoing water quality sample results and promote BMPs appropriate for specific conditions in Jackson County.

Objective: Assist feedlot owners to maintain compliance with MN Statute 7020 standards.

Actions:

- Conduct yearly meetings with township officials to promote AgBMP's
- Inspect 10% of all registered feedlots per year to verify they are in compliance with MN Statute 7020
- Provide technical assistance for feedlot improvements to 15 projects
- Provide implementation funding through EQIP and state cost-share to 10 projects

- Maintain GIS layer of all registered feedlots and manured acres compatible with E-link
- Conduct a Level Three Feedlot Inventory.

Objective: Encourage appropriate technology for SSTS and community sewer systems.

Actions:

- Provide an informational packet regarding septic system maintenance to every landowner who installs a new SSTS
- Inventory all individual sewage systems in Jackson County in a GIS-compatible database
- Work with cities to hook households and businesses with SSTS onto municipal services
- Provide technical assistance with sewer needs on lakes with development pressure
- Implement appropriate sewer infrastructure at Loon Lake and Fish Lake.

Objective: Continue to bring nonconforming SSTS into compliance with state standards.

Actions:

- Work through GBERBA to develop a basin-wide (Greater Blue Earth watershed) plan to accelerate upgrades to septic systems
- Upgrade 50 non-compliant septic systems per year
- Seek additional funding from USDA and other sources for SSTS construction
- Maintain a GIS layer of all septic system installations throughout the County
- Update County SSTS ordinance to achieve compliance with State rules
- Consider ordinance changes to accelerate requirements for SSTS updates
- Provide public information on state sewer rules and educate property owners about the imminent public health threats and environmental harm posed by non-complying systems.

## Priority Concern: Drainage Management

**Goal: Restore more natural flow in the drainage system, with a priority for the Heron Lake watershed and Des Moines River above Jackson Dam.**

Objective: Restore natural hydrograph flows.

Actions:

- Investigate modernizing information systems for public drainage system management
- Develop a GIS later of all public drainage systems and include: system name, watershed size, outlets, data established, system type, repair history, improvement history, and other relevant data
- Develop management information systems for public drainage systems, including hardware & software for remote access to geographic information
- Inventory status of all ditch buffers

- Contract for a systematic cost-benefit analysis of high-maintenance county ditches
- Enforce filter strips according to Minnesota Statutes; Facilitate a controlled drainage demonstration project
- Promote installation of ponds, traps and proper upland conservation practices
- Seek additional funding for water retention structures within the Des Moines River watersheds
- Cooperate with DNR and HLWD to implement and monitor the Heron Lake Dam Management Plan
- Cooperate with DNR and City of Jackson on Jackson Dam project.

Objective: Encourage wetland restoration and management.

Actions:

- Administer the Wetland Conservation Act
- Work with DNR and U.S. Fish and Wildlife Service to maintain wetlands in existing wildlife areas
- Educate landowners on the benefits of converting drained wetlands back to a vegetated state, using Wetland Reserve Program, Conservation Reserve Program and Continuous CRP
- Enroll 100 acres of marginal land into wetland restoration programs.

Objective: Reduce impacts of flooding.

Actions:

- Administer the Floodplain Ordinance to protect public health, safety and welfare
- Work with FEMA to update floodplain maps
- Review plans and zoning ordinances against updated floodplain maps to limit development in areas prone to flooding
- Inform the public on dangers of flooding and benefits of floodplain preservation
- Promote installation of on-site stormwater retention and rain gardens to reduce peak storm-event flows.

## Priority Concern: Protect Ground Water

**Goal: Assure long-term quality and quantity of groundwater supplies, with a priority for wellhead protection areas and areas not currently served by public/community systems.**

Objective: Support Well Head Protection planning and implementation.

Actions:

- Educate cities on importance of wellhead protection
- Assist cities with completing a Wellhead Protection Plan as MDH established local priority areas; Work with cities and to educate landowners near public supply wells on measures to protect groundwater

- Conduct testing of nitrate levels in well water, as requested
- Protect public supply well aquifer areas from agricultural and industrial contamination through conditional use hearings
- Maintain GIS layer of public supply wells throughout the County
- Assess effectiveness of existing ordinances to protect wellhead areas
- Review monitoring data and information regarding pesticides in groundwater and promotion of pesticide water quality BMPs, such as use of grassed waterways and buffers strips along ditches and streams near public supply wells
- Promote use of RIM near public supply wells.

Objective: Prevent groundwater contamination from unused wells.

Actions:

- Work with well contractors to promote proper well protection and sealing
- Provide information to rural water system members about proper well protection and sealing programs
- Utilize Count Fair exhibits and semi-annual newspaper advertisements to promote the proper well protection/abandonment
- Prevent contamination of groundwater aquifers through the sealing of 30 unused wells per year.

Objective: Protect long-term water supply.

Actions:

- Support efforts of public water suppliers to secure additional sources of water
- Promote water conservation.

# Martin County LWMP 2006-2016 amended 2011

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## Priority Concern: Impaired Waters and TMDLs

**Goal: To improve the quality of TMDL listed waters in Martin County to a level that allows them to be delisted**

Objective: Provide annually at least six efforts for education and outreach to county residents about impaired waters and TMDL's and their potential impact to Martin County.

### Actions:

- Develop outreach materials and disseminate information related to impaired waters
- Utilize a variety of methods for delivery that includes radio, meetings, mailings, news articles, fair display, field days, tours, and the Conservation Update
- Integrate these issues into other outreach efforts as appropriate
- Collaborate with stakeholders, local, state, and federal agencies, and other partners on monitoring, assessment and implementation efforts
- Develop an aggressive strategy to address the impaired waters for delisting
- Support legislation to provide additional funding, including to the local level, to implement practices that improve impaired waters
- Work with PCA and other to have improved waters delisted

Objective: From the TMDL listed waters annually prioritize them for water quality improvement efforts and funding.

### Actions:

- Monitor selected watersheds for water quality contaminants
- Involve landowners, local stakeholders, agency staff and interested others in the process
- Secure incentives to assist landowners in making any required changes
- Continue monitoring efforts on Dutch Creek, Elm Creek and Center Creek through Clean Water Partnership and County Water Plan

Objective: To identify areas that could be used as temporary water storage areas to slow down the surface water as it moves off the landscape.

### Actions:

- Educate landowners on the need for temporary water storage and the associated problems caused by accelerating the movement of water off the landscape
- Establish at least one demonstration area showing the impact to water quality by stabilizing the hydrograph of the stream



- Secure incentive money for landowners to establish water storage areas on their land. These do not have to be wetland restorations, but can be areas that hold water for 12 hours or more
- Retain the integrity of agricultural drainage in the design
- Provide one-on-one technical assistance to 25 landowners annually on this topic
- Utilize the RIM/WRP, RIM Riparian, Native Buffer Cost-Share and other programs to implement effective practices

Objective: Recognize open ditch and tile lines as being an integral part of the hydrologic system with natural streams, lakes and wetlands.

Actions:

- Educate residents annually regarding the impact surface water in open drainage ditches has on downstream water quality and quantity
- Examine the pros and cons of having these waters, and other surface waters currently not on the protected waters list, regulated similar to protected waters
- Establish a demonstration area to show potential impacts
- If it shows to be a public benefit, adapt across the county as a local ordinance

Objective: Partner with the City of Fairmont to implement their Storm Water Pollution Protection Plan and Source Water Protection Plan.

Actions:

- Assist the City of Fairmont to secure funding to implement watershed, lake and lakeshore conservation practices, including the Dutch Creek water storage and sediment reduction project
- Educate landowners within that area of the impacts to drinking water their actions may have
- Identify potential water quality problems within the watershed
- Work with the landowners to mitigate the problem when feasible

Objective: Continue to upgrade, repair and replace septic systems through property transfers, new housing construction and complaints. Focus on disconnecting systems found to be an imminent threat to public health or safety. On average it is anticipated that 25 per year will be upgraded on site, or connected to a Wastewater Treatment Facility.

Actions:

- Enforce the Minnesota Rules 7080, 7081, 7082 and 7083
- Continue to provide education to homeowners and contractors on the impact to water quality and to human health from septic systems hooked to tile lines and outlet into surface water
- As per 7083, ensure all work on septic systems is performed by a contractor that is licensed by the MPCA and that the contractor keeps up with continuing education required by the MPCA

- Should a septic system be identified as an immediate threat to public health or safety, the owner of the system must contact a licensed contractor to disconnect the system and a compliant system must be installed within 10 months

Objective: To prevent open tile intakes from being a path of contaminants to enter surface water (Support research to develop additional intake replacement designs).

Actions:

- Educate landowners about the potential impact to water quality from open tile intakes
- Work with landowners to alter at least 25 open tile intakes per year by utilizing alternative intakes, vegetative buffers or removal techniques
- Educate landowners about viable, cost-effective alternatives
- Encourage landowners to install vegetative buffers around them to filter sediment, nutrients and chemicals
- Encourage landowners to remove them and add additional tile below ground or use another effective alternative
- Secure financial incentives, possibly cost-share, to encourage buffers
- Establish demonstration areas to show the benefits to water quality

Objective: Address the implementation goals as stated for TMDL listed waters. Develop and utilize partnerships to address TMDLs by watershed.

Actions:

- Implement practices under TMDL plans as they are approved: a. Blue Earth River Turbidity TMDL, b. Blue Earth River Fecal Coliform TMDL, c. Lake Okamanpeedan Algae and Turbidity TMDL
- Develop TMDL plans for listed waters
- As TMDL plans are approved for Martin County waters, they shall be attached to the Martin County Water Plan and become a part of the Implementation Plan

## Priority Concern: Drainage System Management

**Goal: To manage public and private drainage systems within the county in a way that provides responsible maintenance, environmental integrity and urban and agricultural reliability.**

Objective: To continue to fund and staff the Martin County Drainage Administration office.

Actions:

- To provide administrative continuity to public drainage projects in the county
- To assist the Ditch Authorities [County Commissioners] on public drainage activities

- Martin SWCD provides technical assistance to the Drainage Administrator and County Commissioners on ditch issues as requested

Objective: Encourage landowners to use a qualified contractor to install or maintain their drainage system to ensure that agricultural drainage systems are properly installed and maintained.

Actions:

- Provide education to landowners about the impact to water quality from poor or improper construction
- Ensure all regulations are followed
- Encourage use of NRCS' standards for design and construction
- Encourage the adoption of new drainage technologies
- Support partners in demonstration and adoption of alternative drainage ditch design (examples, 2 stage ditch and re-establishment of sinuosity.)

Objective: Encourage landowners to have a perennial vegetative strip along all open drainage ditches.

Actions:

- Provide education annually to landowners about the benefits to water quality, wildlife, life and safety
- Provide information at least two times a year on buffer designs appropriate for water quality protection
- Encourage the use of local ecotype native plant species with extensive root systems for bank stabilization
- Increase buffers along open drainage ditches by at least 10 miles [both sides] per year
- Allow the Conserving Acres program to apply to these strips
- Encourage species that will reduce the amount of sediment being moved by wind erosion
- Require the one rod vegetative strip on all open ditches that are new, improved or have had benefits re-determined since May, 1977
- Ditch Authorities enforce the requirement in their area

Objective: To continue enhancement of and sharing Martin County's drainage leadership activities and initiatives with the rest of the state.

Actions:

- Participate in at least three information sharing events per year; Inventory public drainage systems for condition and potential problem areas
- Continue to be progressive at re-determining benefits
- Promote the establishment of vegetative buffers along all open ditch channels
- Demonstrate innovative drainage concepts including a controlled drainage site
- Demonstrate water storage concepts, within existing drainage systems, to improve drainage

- When reviewing drainage systems for maintenance, improvement or re-determining benefits consider opportunities for innovative solutions that provide a positive cost/benefit ratio such as water storage, wetland restoration or alternative crops
- Develop a water management strategy to reduce the impacts of flooding

Objective: Develop one demonstration site to illustrate water storage principles and how areas may be incorporated into an existing drainage system watershed to assist in reducing some of the water flow problems associated with deteriorating infrastructure.

Actions:

- Identify potential system[s] to study. Involve the landowners
- Work with GBERBA and other partners to secure funding
- Examine the watershed for potential sites for water storage areas or wetland restoration. The idea would be to reduce the load on the system immediately following a storm event.

## Priority Concern: Promote the Use of BMPs

**Goal: At least ninety five percent of the agricultural producers, rural residents and urban dwellers in Martin County are practicing appropriate BMP's for their circumstances. Establish "Agricultural Management Areas" (AMA) at the 8-digit hydrological unit scale and partner across county boundaries to implement urban and agricultural BMPs by AMA watershed. Utilize a multifunctional approach, recognizing the mitigation role agriculture can have in managing greenhouse gas emissions, while providing flexibility with the installation of climate friendly BMPs.**

Objective: To preserve the surface water quality of Martin County by reducing soil erosion to at least T [Tolerable Soil Loss] utilizing appropriate resource and/or land management systems.

Actions:

- Encourage all agricultural producers to utilize a cropping system that promotes healthy soils, higher quality produce, and less environmental impact at least six times per year
- Promote the use of a three to five crop rotation to improve soil health on lands currently in annual tillage at least six times per year
- Incorporate perennials into the cropping system to build soil health
- On a monthly basis, promote the use of agricultural and urban BMP's
- Promote these lands as 'working lands' [versus land retirement]

Objective: Agricultural best management practices [BMP's] should be applied to all agricultural land in the county. Examples include residue management, conservation tillage, nutrient management, conservation crop rotations and vegetated buffers. These BMP's should be adequate on < 2% slope lands and 2% to 6% slope lands that are greater than 200 feet from surface water. Landowners should

adopt appropriate BMP's to control sheet, rill and ephemeral erosion. In addition, areas with seasonal and intermittent streams, that are directly impacting a water body, need to be vegetated with perennial plants.

Action:

- Promote to agricultural landowners at least 12 times per year

Objective: Achieve voluntary adoption of precision conservation on 100% of the environmentally sensitive acres in the county. Encourage practices that provide Ecosystem Services resulting in multiple benefits when selecting practices to treat sensitive area issues.

Actions:

- When determining environmentally sensitive areas consider the following landscape characteristics: steeper slopes, droughty soils, areas with concentrated overland flow, close proximity to surface waters, size of contributing watershed area, seasonal and intermittent streams, cropping system, floodplain areas, within 30 feet of an open tile intake, poorly drained soils.

Objective: Establish the use of conservation tillage, residue management and conservation crop rotations on 95% of the land in annual tillage to reduce the amount of sediment and nutrients delivered to surface water. Achieve at least 50% residue following corn and 30% residue following soybeans, after planting, on these acres.

Actions:

- Provide quarterly educational opportunities to producers on the advantages to soil health and water quality from higher residue levels
- Establish one demonstration site showing various percentages of residues
- Provide financial incentive to farmers, through a grant or a loan, to purchase equipment that leaves more residues or provides less soil disturbance. Examples of successful programs include the Ag BMP Loan Program with the MN Department of Agriculture [offered through Martin SWCD] and the Environmental Quality Incentives Program [EQIP] with NRCS.

Objective: Encourage the use of vegetative buffer areas between fields in annual tillage and surface water.

Actions:

- Provide education six times per year on the benefits to water quality, wildlife, life and safety with the use of a buffer area
- Establish one demonstration area in the county to show a variety of types of buffers that are suitable for this area. Include both vegetative and woody species and a variety of widths in cooperation with the University of Minnesota

- Provide financial assistance to get buffers established in areas needing precision conservation
- Have available to landowners a no-till drill, broadcast seeder and cultipacker so buffers can be planted properly
- Annually promote the use of a cultipacker to firm the seedbed
- Encourage the use of local ecotype native species when practical
- Annually promote the Martin SWCD Seeding Program for use in areas that will help to improve the water quality in Martin County. This equipment may be rented by county residents or residents of surrounding counties (if there is a timing conflict priority will be given to county residents) for a nominal fee or residents may request the District to do the seeding for them on a custom rate basis and also acquire the seed for them through local suppliers
- Use the Elm Creek Bio-Engineering demonstration site, the University of Minnesota research site and the training received as a way to promote environmentally friendly streambank stabilization
- Identify all AMA floodplain areas and work to enroll floodplain riparian areas in RIM Riparian or RIM/WRP conservation easements and other programs that utilize long term perennial vegetation in those areas to provide multiple benefits including flood mitigation

Objective: Encourage the use of shelter belts, living snow fences and field windbreaks to reduce soil erosion from wind.

Actions:

- Provide monthly education to landowners about the impact to water quality; Provide financial incentive to establish shelter belts, living snow fences and field windbreaks in critical areas
- Encourage landowners with critical areas to enroll in RIM, CRP, CREP or other long term easement programs
- Maintain a demonstration area to show innovative methods and alternative plant species
- Encourage landowners who remove a grove, to replace it within one year
- Promote and implement permanent wildlife habitat using conservation easements and promote the preservation of native habitats and assist land users with the management and restoration of native prairie wetland and woodland habitat at least monthly. Encourage the use of native species with an emphasis on local ecotypes
- Coordinate annually with Martin County Highway Department and MNDOT to determine sites and work with landowners to develop plans for the Living Snow fence Program
- Promote enrollment in the Conserving Acres Program.

Objective: Expand the Martin County Conserving Acres program to include buffer zones in the riparian area. Consider the application of the program to other practices; including wetland restorations and perpetual conservation easements that provide water quality/quantity mitigation and/or provide other public values.

Actions:

- Define what additional conservation practices would be eligible for the program. Include open drainage ditch buffers and riparian buffers established along lakes, rivers and streams
- Define a minimum and maximum width that is eligible
- Estimate the number of acres that potentially would be enrolled
- Discuss the potential impact to the tax base with the Assessor
- Have the County Board adopt the policy and begin to implement it

Objective: Provide technical assistance to landowners desiring to put conservation practice on the land. Apply Ag BMPs on all agricultural land in the county by AMA

Actions:

- Provide conservation planning, layout and design assistance through the SWCD, NRCS, South Central Technician Area, Technical Service Providers and others
- Assist NRCS in promotion and implementation of the conservation provisions of the Federal Farm Program. This will be accomplished through: the SWCD Board and staff support as needed, assist in informing land users of scheduled application of conservation compliance plans
- Assist with application in conservation compliance plan, CSP, and CRP, and review EQIP and WHIP plans

Objective: Throughout the entire year, provide opportunities for financial assistance to landowners desiring to implement conservation programs. Consider multiple uses when planning practices and develop project plans that result in multiple benefits.

Actions:

- Participate in the following programs and seek additional funds for conservation projects:
  - State Cost-Share funds from BWSR
  - State Revolving Loan Funds
  - Various Programs through USDA, including CSP, EQIP, WRP
  - RIM Program
  - BWSR Natural Resources Block Grant and Challenge Grants
  - Clean Water Partnership and Section 319 Programs
  - DNR Conservation Programs, including DNR Partners
  - Private Foundations
  - USFWS Easement Programs
  - Clean Water Legacy
  - LCCMR
  - GBERBA
  - 13 GBE CWMA
  - Others

Objective: To retain at least 75% of the lands in CRP or Limited Duration RIM in perennial cropping systems when current contracts expire.

Actions:

- Promote re-enrollment at least three times per year for CRP expiring contracts
- Promote utilizing these areas as working lands or third crops to prevent being plowed up at least three times per year

Objective: Educate homeowners with lakeshore at least annually on BMPs to minimize lakeshore erosion.

Actions:

- Hold an annual informational meeting to discuss with homeowners, contractors and developers shoreland erosion problems and potential solutions, materials and plants that reduce lake bank erosion, regulations that apply when working in the shoreland area and examples of projects that have worked
- Have an annual tour to show rain gardens and lakeshore BMP's; Establish a demonstration area to show practical ways to reduce shoreland erosion
- Provide technical assistance when possible
- Develop and offer an incentive program for the most critical areas
- Support groups of homeowners working together to address shoreline issues
- Educate annually on riparian [top of the bank, to the water edge and into shallow water] vegetation management
- Utilize the DNR Shoreland Grant Program to install demonstration examples of riparian plantings

Objective: Provide a variety of education programs each year promoting conservation practices and environmental topics.

Actions:

- Hold annual information meetings promoting BMP's or new programs; write articles for the local newspapers at least ten times per year; continue the annual publication 'Conservation Update'; host a field day showing conservation practices, projects opportunities available in the county
- Have a weekly radio show promoting conservation activities
- Participate in programs for youth in the county including SWCD Environmental Awareness Day, Envirothon, Poster Contest, Tree Day, Girl Scout Day Camp, CER, Ecology Bus, DNR Programs WET & WILD, Green Wing Event, Boy Scouts, MC Conservation Club Habitat Day, Ag in the Classroom, MC West High School Ecology Class and-H activities



**Goal: To prevent degradation of surface and groundwater from pesticides and fertilizers**

Objective: Ensure the fertilizers and pesticides are properly stored, handled and applied so that surface and groundwater are not adversely affected.

Actions:

- Provide annual education to landowners through meetings, workshops, press releases and radio shows about the proper use and handling of pesticides and fertilizer
- Ensure farmers, commercial applicators and others are properly licensed for pesticide application
- Do demonstrations bi-annually for homeowners on calibration, application and storage of pesticides and fertilizer

Objective: To ensure that the disposal of pesticide containers is done in a manner that does not pollute.

Actions:

- Provide annual education to all who use pesticides on how to properly dispose of pesticide containers
- Hold an annual container collection for residents and retailers

Objective: To ensure waste pesticide is properly disposed of.

Actions:

- Provide annual education on the proper handling and disposal of waste pesticide
- Continue to hold a regular Hazardous Waste Collection for household products -- May through September each year
- Continue to collect agricultural waste pesticide, on an ongoing basis, in collaboration with the MN Department of Agriculture. Appointment must be made with the Martin County Solid Waste Department for collection.

**Goal: To prevent the degradation of surface waters from feedlots and manure application storage and/or handling**

Objective: Continue to ensure all feedlots are properly permitted.

Actions:

- Continue to identify feedlots without a permit [if any]
- Work with feedlot owner to permit and inspect those feedlots without permits including the development of a manure management plan
- Continue to provide education to landowners of the permit requirements and other regulations that apply to feedlots

- Refer farmers to NRCS/SWCD for technical assistance and potential cost-share funding to bring feedlots into compliance and follow through to see that they do
- If the landowner fails to comply then prosecute
- Utilize Martin County's mature feedlot program to inspect each feedlot every four years

Objective: Continue to enforce Minnesota Rules Chapter 7020.

Actions:

- Continue to inspect all feedlots in Martin County every 4 years to identify feedlots that have pollution concerns and work with the landowners to resolve the pollution issues
- Continue the requirement of up-to-date Manure Management Plans for all permitted sites
- Continue to digitize acres designated on Manure Management Plans; Continue to evaluate manure application rates

Objective: Continue to offer regular education opportunities to livestock producers regarding proper management of their manure and manure handling.

Actions:

- Cooperate with local agricultural organizations to host meetings, news releases, radio spots and special seminars to educate on proper management practices at least 4 times per year
- Support the Pork Producers Environmental Assurance program
- Provide a demonstration day or tour to show BMP's bi-annually
- Provide educational programs for manure management, handling and application
- Continue to have staff utilize educational opportunities

Objective: To ensure that manure is properly stored, handled and/or applied in a manner that is not detrimental to the environment.

Actions:

- Provide regular educational opportunities to producers on the impact to water quality if manure is mismanaged
- Provide regular educational opportunities to producers about proper techniques for manure handling, storage, and application
- Continue to inspect each feedlot before permitting to identify if there are proper facilities to handle manure in all stages
- Continue to require producers to have one year of storage for liquid manure
- Teach producers how to calibrate the amount of manure being applied by having two training sessions over the next ten years
- Help producers to consider their soil test results, crop history, yield goals, nutrient content of manure and crop being grown when calculating amounts to apply on an annual basis; Encourage all producers to develop nutrient management plans

- Utilize local agronomists, Technical Service Providers, MN Extension, NRCS, GBERBA and SWCD programs to accomplish these educational opportunities

Objective: To provide technical and financial assistance to producers to address feedlot pollution issues.

Actions:

- Provide daily technical resources through the County Feedlot Officer, SWCD, NRCS, Technical Service Providers and U of M Extension regarding the construction, operation and maintenance of feedlots
- Continue to seek funds through the Natural Resource Block Grant, State Cost-Share, State Revolving Loan Fund and other special sources of funds for addressing feedlot issues
- Assist with the promotion, prior to signups, of participation in the CSP and EQIP program through NRCS

Objective: To explore alternative uses for manure and seek new technology.

Actions:

- Research other uses of manure besides use as a farm fertilizer
- Encourage farmers to explore alternative uses
- Possible uses could be methane or a bio-digester
- Apply for funds to assist those interested in doing this type of project or for the county to be the lead
- Disseminate this information annually in conjunction with other educational efforts

Objective: To examine the impact application of manure by phosphorous levels rather than by nitrogen needs.

Actions:

- Provide annual education on the impact excess phosphorous [P] has on water quality
- Explore alternatives for landowners with high or very high levels of P
- Provide education annually on the proper management of P
- Annually promote the utilization of cropping systems that require high levels of phosphorous to assist in bringing down very high phosphorous soil levels

Objective: Continue to ensure that any manure waste storage area that is no longer in use, is properly abandoned to prevent degradation to ground and surface waters.

Actions:

- Identify manure storage areas that are no longer used and discuss with the landowner the need for proper abandonment

- Provide education annually, via presentation or demonstration, of proper abandonment techniques as defined by the NRCS
- Provide awareness of potential cost share opportunities for manure storage area abandonment cost share through EQIP

**Goal: To bring all the septic systems in the county into compliance with Minnesota Chapter Rules 7080 -7083**

Objective: Continue to implement the county’s strategy to accomplish this goal.

Actions:

- Continue to gather input from homeowners, contractors, regulators, and policy makers on how to accomplish the task
- The County Zoning Official is to be the lead
- The strategy should be feasible to accomplish based on number of staff and contractors available
- Continue to require compliance inspections at the time of property transfer, new home construction, bedroom additions and upon complaints
- Continue to host an annual licensed septic contractors meeting; Utilize the 2010 inventory and keep it up to date

Objective: Provide continued education on proper septic system maintenance.

Actions:

- Provide homeowners with knowledge of proper maintenance need for pumping, and usage through the “Septic System Owner’s Guide” from the University of Minnesota Extension Service
- Engage local contractors in educating the homeowners

Objective: Continue to work with and provide information to residents who do not have a permit on file.

Actions:

- Continue to educate residence owners that do not have a permit on file that they are out of compliance
- Inform them that current policy requires systems that are an imminent threat to public health or safety to be corrected within 10 months and systems that fail to protect groundwater to be corrected within a year
- Continue to track and provide follow-up on letters that are sent when owners are issued a permit for a new system

Objective: Provide education to landowners on a regular basis about the degradation to water quality and the health risk associated with non-complying septic.

Actions:

- Conduct annual licensed contractor meetings to discuss the risks of non-complying septic systems
- Specifically clarify the difference between a septic system that works and one that works properly
- Continue to require that contractors be licensed by the state

Objective: Continue to provide loan assistance to homeowners with failing septic.

Actions:

- Continue to explore opportunities for funding for septic and determine if they fit the needs of Martin County residents
- Identify critical areas, develop projects and apply for funds
- Support legislation to provide cost-share to upgrade septic that influence drinking water sources or that impact recreational waters
- Continue to offer the County Septic Loan Program, Clean Water Partnership Loan funding and the Ag BMP Loan Program to county residents

Objective: Ensure that the disposal of sludge from the storage areas of the wastewater treatment plants is handled in a way as to pose no threat to the water supply.

Actions:

- Ensure that sludge disposal is carried out per PCA guidelines
- Request PCA to monitor fields that the sludge is spread on to ensure correct application rates and to prevent possible contamination of the soil and/ or water

## Priority Concern: Wetland protection and restoration

**Goal: To protect existing wetlands and support restoration of additional wetlands resulting in a net gain in quality wetland acres in Martin County.**

Objective: To provide education six times per year as to the value and functions of wetlands.

Actions:

- Conduct meetings for the public illustrating the benefits of wetlands and available programs to provide assistance to landowners
- Have news releases, radio shows, or displays to illustrate wetland information
- Visit restored and potential restoration sites with landowners to have one on one education
- Biennially organize a tour for county residents that supports local wetland restoration efforts
- Promote the use of local ecotype native plants and the control or elimination of invasive species to provide multiple restoration benefits

Objective: To designate high priority wetland areas in the county.

Actions:

- The entire county is designated a high priority wetland area because it has lost over 50 percent (WCA designation) of its original wetlands and gaining any is important to surface and groundwater quality and quantity in the county. Within this high priority area we have the following two basic zones where wetlands should be a priority as follows:
  - The shoreland zone, the area within 1000 feet of a lake or 300 feet of a water course. This area is where most of the remaining wetlands are.
  - The upland zone, the area away from surface water where virtually every wetland has been drained. We need wetlands restored in this area to assist in storing water and slow down the movement of the water across the landscape.
- Identify potential wetland restoration sites in the county and evaluate them for potential value and function. Rank them by their score and try to secure funding to restore the highest ranking ones
- Develop an incentive program to encourage landowners to set aside and enhance farmed wetlands and adjoining upland and then convert at least 30 acres annually
- Utilize wetland restoration projects for water quality and quantity management and to mitigate the impacts of flooding. Incorporate flood storage in the design of future wetland restoration projects to the extent that is practical
- The Townships of Waverly, Westford, Rutland and Center Creek are designated as a Blanding's Turtle Priority Area. Projects within this area should be coordinated with the DNR Non-Game Wildlife Program to help support turtle habitat needs.

Objective: To offer a variety of incentive packages for wetland restoration.

Actions:

- Support efforts by the state and others to make available and to leverage funds for wetland restoration such as CRP, CREP, RIM/WRP and wetland mitigation monies
- Educate the residents on the many programs available for wetland Restoration
- Work with agencies such as SWCD, Local LGU's, BWSR, NRCS, FSA, DNR, USFWS, COE, PCA, Ducks Unlimited and Pheasants Forever to learn about their programs and to have them assist in identifying priority wetland sites
- Promote the opportunities under the wetland banking program
- Have continued support for all restoration programs. There are many out there but the demand is still several times greater than the money that is available
- Work with the Drainage Authority to develop a program to compensate landowners for their contribution of land set aside permanently for restored wetlands and water storage that benefit public drainage systems

Objective: Provide technical assistance to partners for wetland certified determinations in the county as requested.

Actions:

- Continue to have SWCD maintain a certified wetland delineator on staff and provide training to maintain certification. Encourage the county to train a staff person to serve on the Technical Evaluation Panel
- Provide technical assistance for wetland impacts in the county
- Martin SWCD will provide lead coordination of local and State wetland regulatory programs in Martin County in collaboration with the City of Fairmont, BWSR, DNR, NRCS, FSA, USFWS and COE

## Priority Concern: Water Quality in Area Lakes

**Goal: To improve the water quality in Martin County lakes to a level that supports fisheries and aquatic life, recreation, and drinking water uses.**

Objective: Develop a mindset of “keep the raindrop where it falls” in residents of the county to reduce stormwater impacts from sediment, nutrient, and other surface water pollutants.

Actions:

- Work with agricultural producers, residents, businesses, contractors, cities, the county and others to develop methods and practices that support healthy soils which will allow rainfall to infiltrate and that holds nutrients and pesticides for plant utilization resulting in high quality crops and ecological benefit to society
- Provide educational opportunities for this at least four times per year
- Survey Martin County citizens to identify impacts and concerns and work to address the issues

Objective: All communities learn and follow the new stormwater policies being implemented in the state.

Actions:

- Have staff attend educational opportunities to better understand the new stormwater rules annually
- Annually provide education and information regarding stormwater rules
- Promote the establishment of Lake Associations and support Lake Association efforts including development of Lake Management Plans, Lake Vegetation Management Plans and implementing BMPs
- Refer all lakeshore questions and projects to Planning and Zoning to acquire proper permits

Objective: Continue to have the DNR permit water appropriations for surface water withdrawals.

Actions:

- Refer residents to the DNR when requesting information about pumping from surface water
- Assist DNR by reporting any problems identified as a result of surface water withdrawals.

Objective: Assist the DNR with the implementation of their programs in Martin County as requested.

Actions:

- Examine sites and offer comments on all permits for the DNR Water Permit Program; cooperate with the Department of Natural Resources - Division of Waters on the observation well monitoring program. The SWCD will do monthly monitoring of 6 wells for ground water level information. (March – December)
- Promote DNR programs in SWCD newsletters, website and radio programs and other available venues
- Work with Lake Associations and encourage the establishment of new Lake Associations to work with DNR to develop Lake Management Plans and Vegetation Management Plans
- Establish “no wake zones” in critical areas and work to develop plans to implement re-vegetation and install other environmentally friendly BMPs to reduce the impacts of wave action

Objective: Continue administering the precipitation monitoring network.

Actions:

- Presently there are 25 rain gauge monitors reporting to the SWCD
- Compile monthly reporting and submit to the State Climatologist
- Hold a volunteer recognition event and invite the State Climatologist to speak
- Promote the Rain Gauge Program through the SWCD website, media releases, newsletters and radio programs
- Publish the reports

Objective: Encourage participation in citizen water quality monitoring programs.

Actions:

- Increase awareness and encourage citizens to volunteer in citizen monitoring programs such as Citizen Stream Monitoring Program or Citizen Lake Monitoring Program. These programs are administered by MPCA with additional information available at <http://www.pca.state.mn.us/water/volunteer-monitoring.html>.

## Priority Concern: Promote Low Impact Development

**Goal: Develop Low Impact Development policies and adopt them into city and county ordinances**



Actions:

- Continue to integrate Low Impact Development Principles into Local County and City Ordinances
- Work with Planning and Zoning to establish a “No Impact Zone” within a minimum of 200 feet of surface waters regardless of land use
- Require the establishment or maintenance of native vegetation within the 200 foot riparian buffer and work toward expanding beyond the 200 foot minimum in more sensitive areas [concentrated flow areas with high potential of delivering sediment and other pollutants to the adjoining water body].

**Goal: Develop three demonstration areas to promote Low Impact Development practices within the watersheds of listed impaired waters in order to increase adoption.**

Objective: Elevate the knowledge level on Low Impact Development and it’s applications in the county.

Actions:

- Encourage staff to attend training sessions annually that incorporate Low Impact Development so they can provide leadership to the county in this area
- Provide annual educational opportunities for community leaders, residents, contractors, shoreland owners and others on how Low Impact Development can benefit the county and be incorporated into our activities
- Establish three demonstration sites
- Restrict development on bluffs and slopes adjoining surface waters
- Martin County Planning & Zoning works with the DNR and home owners to eliminate clear cutting and establish good vegetation management in these critical areas of the county
- Develop a Shoreland Use Management Plan to provide guidance for shoreland owners
- Maintain the existing wetland riparian zones
- Establish vegetative plantings, using local ecotype native plant materials, in the riparian area
- Control invasive species that threaten the health of riparian habitats

Objective: Ensure that development around lakes, rivers and streams in the county is done in a manner that doesn’t have an adverse effect on water quality.

Actions:

- Ensure current zoning laws are complied with and enforced, including obtaining DNR and county permits for any alteration to the shoreline by conducting regular observations of shoreland areas
- Continue to implement the existing Shoreland Ordinance and ensure septic systems continue to be brought up to state code
- Establish three demonstration sites to show BMP's for shoreland areas. This should include river/stream sites along with lake sites; Provide technical assistance to landowners whenever possible

- Work with individual landowners to find solutions to their problems and potential resources to do it
- Promote education and hold classes focused on the importance of maintaining aquatic vegetation and the need to control invasive species and reduce the risk of their spread

**Goal: To provide opportunity for demolition materials to be properly disposed of in the area.**

Objective: Identify suitable sites for demolition landfill and encourage private industry to own and operate it.

Actions:

- Educate contractors annually that demolition permits may be required before dumping debris
- Using GIS, identify areas with suitable soils
- Support private industry to develop a site[s]
- When possible, demolition materials should be recycled

## Priority Concern: Groundwater

**Goal: To ensure residents of the county have an adequate groundwater supply for drinking, industrial, livestock and irrigation use.**

Objective: Support efforts to establish or utilize rural water systems within the county, especially in the northwest portion of the county where groundwater yield appears to be limited.

Actions:

- Provide education to residents on rural water systems
- Support efforts to establish a new rural water system within the county
- When feasible, support existing rural water systems who wish to provide service within the county
- When requested, provide technical assistance to parties wishing to establish rural water systems within the county

Objective: Support private business by providing water quantity information when requested and to the degree the county has it available.

Actions:

- Provide information about the geology, water yield, regulations, permitting and other information as requested for businesses looking to locate within the county. [Limited to what information the county has]
- Consider the cumulative impacts on water withdrawals for industrial uses to ensure adequate supply for residential use

**Goal: To protect the groundwater reserves serving the County from degradation**

Objective: To ensure residents and industry construct all wells to Minnesota State Code.

Actions:

- Provide education to residents that there is a well code and its importance for protecting our drinking water supplies
- Provide education to landowners on contamination sources to their well and what precautions should be taken

Objective: To assist municipalities, and others with the preparation of wellhead protection plans.

Actions:

- Provide technical assistance for the preparation of wellhead protection plans
- Supply GIS information about the geology, soils, land use, water courses, etc. as is available to the county
- Provide information, from the county's inventory list, regarding inventoried wells, both abandoned and active. When wellhead protection areas are identified they are a priority for locating CRP tracts within them
- Work with the City of Fairmont to identify issues and develop and implement a protection plan for their drinking water source, Budd Lake
- Encourage communities to apply for grant funding for wellhead protection and assist with their efforts

Objective: To continue to collect inventory information about wells in the county.

Action:

- Maintain and update the county's well inventory as information becomes available to the county in areas where the county's well data is limited, have an expanded effort to gather the information

Objective: Identify poorly constructed wells and develop a project to get them brought up to code.

Actions:

- Provide education to residents as to the risks involved if they have a well that is poorly constructed
- Utilize the well database to identify wells of poor construction that pose a health risk to the families using them
- Pursue project funding to assist with the improvement of wells that are a health risk

Objective: Provide education to residents on the importance of protecting their wellhead.

Actions:

- Teach residents about the potential contaminant sources for their well[s] and how to identify them in their yards
- Encourage residents to sample their well for coliform bacteria and nitrate - nitrogen every one to two years
- If there is a local contamination source, assist the homeowner in getting a solution to the problem

Objective: Encourage residents to identify and seal inactive or abandoned wells.

Actions:

- Provide education on the problems associated with an inactive well
- Where feasible secure financial incentive to offer landowners for sealing wells
- Support other agencies efforts to provide funds for well sealing such as FSA, MDA, MVAC and DEED; Continue to add inactive wells to the county's database
- Identify high priority inactive wells

Objective: Identify wells with a history of poor water quality.

Actions:

- Inform homeowners of possible risks associated with using contaminated water
- Assist homeowners with finding the source of the contamination, if possible
- Assist homeowners with trying to find a solution to the problem

Objective: Educate residents about water quality issues that are a health risk versus aesthetics issues.

Actions:

- Educate homeowners on various water contaminants and the risks associated with them
- Educate homeowners on the correct treatment methods available for their situation
- Encourage regular testing of drinking water for coliform bacteria and nitrates

Objective: Identify businesses that may impact groundwater. Ensure that they don't.

Actions:

- Provide education to businesses about groundwater contamination sources
- Inform businesses of susceptible wells in their area
- Encourage the use of environmentally friendly products
- Encourage the proper disposal of business wastes
- Provide education to encourage the proper disposal of solid waste

Objective: Identify and seal any agricultural drainage wells.

Actions:

- Identify any agricultural drainage wells, if any
- Secure funding, if necessary, to assist landowners in having the well-sealed
- Assist the landowner, if possible, to find alternate drainage

# Watonwan County LWMP 2008-2018

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## Priority Concern: Surface Water Quality Protection & Improvement

### **Goal: Prevention of further impairment of stream and lake water quality in the waters of Watonwan County**

Objective: Agricultural Runoff

Actions:

- Make landowners aware of minimum tillage, ridge till, strip till and no till options through correspondence, news articles and personal contact
- Provide financial support for alternative tillage through EQIP
- AgBMP low interest loan funding for minimum tillage and no till equipment
- Inform landowners regarding the availability of easement programs: CRP, RIM, WRP & WHIP through the SWCD website
- Cost share funds for water retention and erosion control, terraces, waterways, sediment basins, retention ponds
- 3rd crop programs
- Annual Environmental Day for all county 6th graders.
- Assist county drainage officials in determining compliance with buffer requirements on drainage ditches
- Provide information to the public on water quality and conservation through a booth and display at the county fair
- Bring the Prairie Ecology Bus annual display to the county fair

Objective: TMDL Assessment

Actions:

- Participate in GBERBA TMDL planning efforts
- Address TMDL's through selling of BMP's and provision of technical assistance in BMP implementation

Objective: Shoreland Management

Actions:

- Review and assess adequacy of Watonwan County Shoreland Ordinances and procedures
- Administer and enforce when necessary compliance with county ordinances and state recommendations, in cooperation with DNR staff

- Provide educational opportunities for shoreland residents and landowners on proper shoreland use and management

#### Objective: Feedlots & Nutrient Management

##### Actions:

- Manure management plans developed and maintained as required by county ordinances
- Continue county delegation agreement with MPCA for inspections and registrations of feedlots
- Coordinate efforts with the Madelia Project for potential use of livestock waste in bio-fuels production
- Administer permitting of new and expanded feedlot sites to fit local and state standards. Forward all applications that exceed minimums for animal unit thresholds to MPCA for processing as National Pollutant Discharge Elimination System permits
- Provide information to feedlot owners and operations on a frequent basis of setback requirements for manure application by letter annually
- Distribute, collect and file upon receipt manure application acreage and volume records as required in the county ordinance
- Ag BMP loan program funds offered for manure handling equipment

#### Objective: Wastewater Treatment

##### Actions:

- Bring about ISTS replacements and upgrades through the provisions of the Watonwan County Zoning Ordinance
- Installation and replacement of 150 septic systems over 5 years
- Seek sources of low interest loan funds for ISTS
- Completion of efforts to have all incorporated communities in Watonwan County served by wastewater treatment facilities
- Communicate through correspondence with permit holding homeowners on maintenance of septic systems. Send bi-annual letter of reminder to pump septic tanks regularly
- Review and update the wastewater treatment section of the Watonwan County Zoning Ordinance

#### Objective: Wetland Restoration

##### Actions:

- Provide opportunities for the utilization of CRP, RIM, WRP, WHIP and wetland banking in Watonwan County
- Use newsletters, news articles, meeting and personal contacts and SWCD website to inform landowners and producers on the value of wetland restoration and protection
- Administer and enforce the Watonwan County Flood Plain Ordinance

- Act as county authority for purposes of administration of Wetland Conservation Act

## Priority Concern: Groundwater Protection

**Goal: Assure protection of the quality and safety of drinking water supply that is drawn from aquifers that serve the county and its inhabitants and assure a vigilant approach is taken and maintained in assuring the sustainability of groundwater.**

Objective: Rural water

Action:

- Secure an inventory of rural water services in Watonwan County from Red Rock Rural Water

Objective: Well head protection

Actions:

- Coordinate activities and requests for permits in WHP's and DWSMA's with the unit of government that administers the protection plans
- Participate in the development of future DWSMA and WHP plans

Objective: Landuse

Actions:

- Review and update of the Watonwan County Zoning Ordinance as it addresses Mining and Extraction
- Target application acres in manure plans located in sensitive areas and DWSMA's for review
- Provide producers with information regarding availability of assistance with the closure of abandoned manure storage facilities through EQIP
- Continue county water screen services
- Monitor eight DNR observation wells in the county
- Direct potential users to DNR for necessary appropriation permits
- Make irrigation operators aware of assistance in conversion to low pressure irrigation through EQIP

Objective: Pesticide Application

Actions:

- Administer MDA pesticide application testing. Direct custom manure applicators to appropriate county sites for testing
- Use newsletters and news articles to remind producers on the importance of following label requirements for ag pesticide application



- Provide an opportunity to enroll in NRCS comprehensive nutrient and pest management planning through EQIP

Objective: Well Sealing

Action:

- Provide financial assistance for the sealing of unused and abandoned wells in the county

## Priority Concern: Groundwater Protection

**Goal: Assure protection of the quality and safety of drinking water supply that is drawn from aquifers that serve the county and its inhabitants and assure a vigilant approach is taken and maintained in assuring the sustainability of groundwater.**

Objective: Rural water

Action:

- Secure an inventory of rural water services in Watonwan County from Red Rock Rural Water

Objective: Well head protection

Actions:

- Coordinate activities and requests for permits in WHP's and DWSMA's with the unit of government that administers the protection plans
- Participate in the development of future DWSMA and WHP plans

Objective: Land use

Actions:

- Review and update of the Watonwan County Zoning Ordinance as it addresses Mining and Extraction
- Target application acres in manure plans located in sensitive areas and DWSMA's for review
- Provide producers with information regarding availability of assistance with the closure of abandoned manure storage facilities through EQIP
- Continue county water screen services
- Monitor eight DNR observation wells in the county
- Direct potential users to DNR for necessary appropriation permits
- Make irrigation operators aware of assistance in conversion to low pressure irrigation through EQIP

Objective: Pesticide Application

Actions:

- Administer MDA pesticide application testing. Direct custom manure applicators to appropriate county sites for testing
- Use newsletters and news articles to remind producers on the importance of following label requirements for ag pesticide application
- Provide an opportunity to enroll in NRCS comprehensive nutrient and pest management planning through EQIP

Objective: Well Sealing

Action:

- Provide financial assistance for the sealing of unused and abandoned wells in the county

## Priority Concern: Sediment Control & Stream Protection

**Goal: To reduce sedimentation to streams and lakes and reduction of the effects that sediment has on habitats, stream courses, transfer of pollutants and impaired downstream conditions.**

Objective: TMDL's

Actions:

- Utilize pictography technology to assist in identification of potential sediment sources.
- Provide technical assistance for implementation of BMP's as determined for local and regional TMDL's for aquatic life as affected by turbidity, sediment, and Fish Index of Biological Integrity.

Objective: Watersheds

Action:

- Provide technical assistance to watershed organizations and agencies in development of basin TMDL's and plans.

Objective: Streambank repair and protection

Actions:

- Cooperate with DNR on conditional use and other permits for shoreland development to assure compliance with local and state standards.
- Provide cost share opportunities for the installation of buffer strips along streams, lakeshores and ditches and monitor buffer requirement compliance along drainage ditches.
- Assist landowners in seeking cost share funds for sediment control BMP's.
- Provide technical assistance for evaluation and design of BMP's

- Direct developers and contractors to obtain NPDES construction stormwater permits for projects that meet minimum affected area requirements.
- Provide financial support to townships in continuation of self-determined projects for reduction of sedimentation. Provide technical assistance and financial support for culvert end, bridge abutments, ditch bank erosion and other sediment delivery sources within the townships.