

Cannon River Watershed: Water Plans

The Cannon River Watershed encompasses Blue Earth, Dodge, Freeborn, Goodhue, Le Sueur, Rice Steele, and Waseca Counties. Within these counties watershed districts (WDs) and Watershed Management Organizations (WMOs) have been organized. Each county, WMO, and WD 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, WMOs and WDs 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, WMO and WD, and (2) A summary of each water plan in the watershed including priority concerns, goals and objectives, and actions related to nutrient management.

Water Plans:

Blue Earth LWMP 2008-2013

Dodge LWMP 2006-2015 amended 2011

Freeborn LWMP 2006-2015 amended 2011

Goodhue LWMP 2010-2020

Le Sueur LWMP 2006-2015 amended 2011

North Cannon River Watershed Management Plan 2013

Rice County LWMP 2004-2014 amended 2010

Steele County LWMP 2007-2016 amended 2011

Waseca County LWMP 2009-2018

Water Plan Evaluation

Concern	Blue Earth	Dodge	Freeborn	Goodhue	Le Sueur
Education					
Groundwater					
Shoreland Management					
SSTS/ISTS					
Technical/Financial Assistance					
Wetlands					
Conservation BMPs					
Feedlot Compliance					
Monitoring					
Priority Pollutants					
Stormwater Management					
Surface Water					
Erosion Control					
Sediment					
Seek Funding					
Watershed-based Approach					
Coordination/Partnership					
Municipal Wastewater					
TMDL - Impaired Water					
Abandoned Wells					
Development Concerns					
Drainage Management					
Nutrient Management					
Wellhead Protection					
Water Retention					
Manure Management Plan					
Demonstrations					
Lake Management Plan					
New Technology					
Nonpoint Source Pollution					





Concerns addressed in County Water Plan associated with nutrient issues

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

Water Plan Evaluation (contin.)

Concern	North Cannon River	Rice	Steele	Waseca
Education				
Groundwater				
Shoreland Management				
SSTS/ISTS				
Technical/Financial Assistance				
Wetlands				
Conservation BMPs				
Feedlot Compliance				
Monitoring				
Priority Pollutants				
Stormwater Management				
Surface Water				
Erosion Control				
Sediment				
Seek Funding				
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TMDL - Impaired Water				
Abandoned Wells				
Development Concerns				
Drainage Management				
Nutrient Management				
Wellhead Protection				
Water Retention				
Manure Management Plan				
Demonstrations				
Lake Management Plan				
New Technology				
Nonpoint Source Pollution				

 Concerns addressed in County Water Plan associated with nutrient-related issues
 Strong ongoing activities implemented in programs outside of the County Water Plan

Blue Earth County LWMP 2008-2013

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.

Dodge County LWMP 2006-2015 amended 2011

Priority Concern: Fertilizers and herbicides from agricultural fields seeping into drinking water

Priority Concern: Nutrients and chemicals from animal feedlots flowing into rivers and streams

Priority Concern: Nutrients and chemicals animal feedlots seeping into drinking water

Priority Concern: Soil, fertilizers and herbicides from agricultural fields flowing into rivers and streams

Priority Concern: Loss of natural vegetation and habitat due to urban and rural development

Priority Concern: Flash flooding or the quick rise and fall of water and stormwater management

Priority Concern: Inadequate individual septic systems, municipal sewers, and community systems that drain to field tile, wetlands, and streams or rivers

Goal: Safe drinking water in all aquifers and pollutants loads in protected waters below state and federal standards including TMDLs

Objective: Inventory mapping

Actions:

- Annually update data and maps in County's Environmental Atlas. Distribute atlas to elected officials, policy makers, and staff. Within 5 years make atlas available on the County's Web Page.
- Regularly update County Well Index by field locating newly drilled wells and wells with construction and water quality information.

Objective: Groundwater monitoring

Actions:

- Provide well water testing service to public. Assign lab results to well record in County Well Index.
- Coordinate a network of citizen volunteers to sample their wells over a long period of time to determine trends.

Objective: Surface water monitoring

Actions:

- Maintain network of volunteer stream monitors to collect turbidity tube measurements and macroinvertebrate samples.
- Maintain existing automatic sampling station.
- Seek out and actively participate in Total Maximum Daily Load (TMDL) studies and grant opportunities which seek to clarify information relating to surface water conditions, health risk, and pollutant transport. Pursue partnerships with government agencies and other groups to aid in this effort.

Objective: Education and Technical Assistance

Actions:

- Annually summarize drinking water quality conditions per aquifer and report to local elected officials, state agencies, and public.
- Annually summarize surface water quality conditions per watershed and report to local elected officials, state agencies, and public.
- Distribute at least 6 “news releases” per year to all local newspapers.
- Support SWCD’s long-standing annual “conservation lesson” for middle school students.
- Annually advertise in local newspaper or through direct mailings, a summary of regulations related to water and waste management.
- Annually advertise in local newspaper or through direct mailings, a summary of local services related to water management including technical and financial assistance.
- Provide technical assistance upon request for information related to existing regulation and incentive programs.
- Create, update, and make available to public; brochures and publications related to water management. Seek opportunities that promote citizen engagement among county residents in programs dealing with ground water and surface water protection/restoration.
- Include information on the County’s Web Page.
- Support and encourage enrollment in all land set-aside programs that help implement the objectives of the Water Management Plan including, but not limited to, CRP, CREP, RIM, WRP, CSP, WREP, etc. Focus attention on “Special Project Areas” in the county where greater

attention is directed to the protection and restoration of highly-valued resource areas, and the encouragement of practices that retain water on the land. See Appendix C for the location of special project areas, including sensitive ground water areas, flood-prone regions, and watersheds, such as the Cedar River, Milliken Creek, and the Middle Fork Zumbro River, with specific environmental concerns.

- Inform all landowners and contractors of the important functions of wetlands. Also provide information and technical assistance that helps landowners recognize wetlands, how to protect them and how to restore them.
- Evaluate options to encourage and/or require vegetative buffers along the shoreland of wetlands and streams not identified as public waters.

Objective: Financial Assistance

Actions:

- Provide opportunity for landowners to obtain an AgBMP Loan.
- Provide opportunity for landowners to obtain a grant from the County's Environmental Trust Fund for actions that are consistent with the objectives of the Water Management Plan.
- Provide opportunity for well owners to receive a free water testing kit if the well is shallow (< 60' deep), the resident of the home is expecting a child or has an infant less than 1 year old, or if the well has never before been tested.
- Seek funding through the Citizen and Community Participation Program in order to aid community partners in the implementation of practices designed to reduce stormwater runoff and retain water on the land.

Objective: Regulation, Ordinance, Planning

Actions:

- Implement the County's Water Management Plan, Comprehensive Land Use Plan, and Solid Waste Management Plan and enforce related ordinance. Existing regulations include: individual sewage treatment systems, wetlands, shoreland, floodplains, storm water, waste disposal, recycling, feedlots, contaminated soil, and land use (zoning).
- Regularly update plans and ordinances.
- Propose a county-wide policy that defines the county's position and responsibility for stormwater flow management in the context of an entire watershed. In other words, define what the county's role is in reducing impacts of flash floods and sedimentation affecting downstream neighbors.
- As time allows, assist local governments implement similar regulations.
- Review public drainage regulation and determine how implementation would help meet objectives of the water management plan.
- The County will work with the Cedar River Watershed District (CRWD) in the implementation of their existing rules as they pertain to the Water Plan.

- Develop strategies to protect higher quality ground water and surface water systems and address concerns of lower quality systems. Consider related zoning amendments that conform to the objectives of the water management plan.
- Dodge County plans to close, and place final cover on, its demolition landfill in accordance with Minnesota Pollution Control Agency rule.

Objective: Administration and Coordination

Actions:

- The County will carry-out the Local Water Management Plan including annual activity planning, staffing, contracting, and reporting.
- The County will collaborate with partners to reach shared goals and objectives. Partners include Federal Agencies, State Agencies, Soil and Water Conservation District, Watershed Districts and Partnerships, Local Governments, Joint Powers Boards, not for profit organizations, businesses, and individuals. When possible the County will jointly work on “accessory activities” as outlined below:
 - Inventory and Mapping
 - Obtain annual aerial photographs at a scale that will improve accuracy of inventories and improve ability to educate public, provide technical assistance and enforce regulations.
 - Make Environmental Atlas an interactive product on internet that allows user to overlay multiple themes and analyze data.
 - Seek out and actively participate in research studies which seek to clarify information relating to pollutant transport, ground water sensitivity, surface water conditions and health risk.
 - Map and Inventory condition of existing buffers on Protected Waters.
 - Update Feedlot Inventory.
 - Inventory of unique, rare and endangered natural habitat.
 - Compile flood damage information.
 - Identify primary sources of soil erosion at a sub watershed scale and calculate amount of soil lost to streams.
 - Pursue updated FEMA flood maps.
 - Groundwater Monitoring
 - Regularly obtain (and pay for) groundwater samples from a network of drinking water wells to provide baseline and long-term trends of water quality in primary aquifers.
 - Seek out and actively participate in research studies which seek to clarify information relating to pollutant transport, ground water sensitivity, and health risk.
 - Gain more information about potential risks from manure storage basins; earthen and concrete construction.

- Study soil sampling protocol to help define opportunities for improving use of soil testing data by landowners.
- Seek out and actively participate in research studies and grant opportunities which pertain to increasing our knowledge of groundwater trends and protecting sensitive ground water areas of the county, particularly, those areas of northern and eastern Dodge County where the first carbonate aquifer have no shale or clay protection.
- Surface Water Monitoring
 - Continue to monitor Salem Creek (impaired water) for fecal coliform bacteria and assist landowners in evaluating options to reduce fecal contributions including feedlot runoff, manure land spreading, and septic systems.
 - Expand the number volunteer stream monitors to accurately judge conditions of all sub watersheds.
 - Install and operate continuous flow meters on primary river segments.
 - Expand the sampling program to a point when one or two water quality parameters can be recognized by the general public as indicators of water quality and the conditions that lead to said quality.
 - Seek out and actively participate in research and grant opportunities which seek to clarify information relating to pollutant transport, surface water conditions, and health risk. Direct special attention to low floodland areas of the county and projects which emphasize the county's upland water retention potential from its position at the top of 3 watersheds.
 - Demonstrate soil erosion control features at farm scale.
 - Work with MPCA, and other agencies, to establish and maintain surface water monitoring sites on a small subwatershed, such as Milliken Creek, to record trends in water quality/quantity and track impacts of land management practices.
- Education and Technical Assistance
 - Support cooperative education efforts, and demonstration projects, to promote Agricultural BMP's including, but not limited to: nutrient management (including reduction in fall application of nitrogen), conservation drainage systems to promote water storage capabilities, buffers for protected waters and sensitive features like sinkholes, soil testing, pesticide application, etc...
 - Inform all citizens of the importance of sealing unused wells.
 - Demonstrate options for treatment of milkhouse waste.
 - Assist municipalities to develop and enforce a Shoreland Overlay Zoning District, Stormwater Management Plans, and Wellhead Protection Plans.
 - Partner with them, and provide technical assistance, on grant opportunities designed to improve surface and ground water in the county. Where appropriate, assist with city storm water projects.

- Lead the effort to write a plan with goal to repair all failing septic systems. Part of the plan should be education and incentives to encourage homeowners to voluntarily repair their failing septic systems. Education should include information about the risks of a failing system, how to recognize a failing system, how to repair it, and where to get financial assistance. The education should include a comparison of the “facts vs. myths” regarding mound type individual sewage treatment systems.
 - Lead a demonstration of Stormwater Management techniques, conducted on a “farm scale” or construction site, that illustrate methods to retain and treat storm water runoff including wetland restoration.
 - Identify additional “special project areas” of the county where conditions merit special attention to ground and surface waters issues due to susceptibility to pollutants, or opportunities for increased utilization. Pursue funding and partnerships, where appropriate, to address these issues.
 - Financial Assistance
 - In addition to existing grant and loan programs, seek opportunities for financial assistance for activities such as:
 - Grants to feedlot owners to fix physical conditions that pose a pollution potential.
 - Low interest loans for replacing septic systems. The loan payback system should include an option for a special assessment payable on the property tax statement.
 - Grants to landowners who seek to implement practices designed to retain water on the land, e.g., wetland protection and restoration.
 - Regulation, Ordinance, Planning
 - Implement the South Zumbro Watershed Storm Water and Capital Improvement Plan.
 - Adopt a policy and process that supports full enforcement of MN Rule 7020 including: regularly verifying that Manure Management Plans are properly implemented, regularly inspecting feedlots for compliance, and enforcing Open Lot Agreements. Inspections should occur on 20% of the feedlots each year. Enforcement policy should include easily administered penalties for violations.
 - Adopt a policy and process that supports full enforcement of stormwater management and erosion control standards including standards found in the Zoning Ordinance and construction stormwater permits.
 - Encourage growth in or near the cities, utilizing city services. Discourage expansion of the designated Urban Expansion District (2005 Zoning Ordinance) prior to completion or full development within the current boundary.
 - Discourage large-lot rural housing outside the Urban Expansion District. Encourage cluster, low impact development with associated open space where rural subdivisions are allowed.
 - Support efforts to protect unique natural resources and open space.

- Support efforts to sunset old plats in rural areas that have not been developed (see Goodhue Co. as example).
 - Lead in the implementation of a system that tracks compliance with septic system maintenance standards and regularly notifies the owner when maintenance is due.
 - Evaluate the pros and cons of a “soil loss ordinance”; consider options for implementation in the county.
 - Require landowners to be in compliance with all regulations as a condition of approval of any zoning permit (even regulations unrelated to the permit request; for example....proof of compliance with shoreland buffer standards on all land before a zoning permit for a structure is approved.)
 - Utilize, or encourage utilization of, the state public drainage regulation and code.
- Administration and Coordination
 - The County will collaborate with partners to reach shared goals and objectives. Partners include Soil and Water Conservation District Federal Agencies, State Agencies, Local Governments, Joint Powers Boards, not for profit organizations, businesses, and individuals.
 - The county, when practical, will develop work plans for completing accessory actions and apply for grants to complete the work plans.

Freeborn County LWMP 2006-2015 amended 2011

Priority Concern: Aquifers

Goal: Protect aquifer from contamination by water wells

Objective: Require proper construction, maintenance, and abandonment of water wells

Actions:

- Target the cities of Albert Lea, Alden and Glenville for inventory and mapping of existing water wells to prioritize abandonment policy
- Assist the cities of Albert Lea, Alden and Glenville in applying for Federal and State Funding to assist landowner sealing water well costs
- Seek local cost-share funding for water well sealing Assist Public Water Suppliers with implementing wellhead protection plans

Goal: Protect ground water from depletion and degradation

Actions:

- Support Minnesota Rules Chapter 4725 "Guide to Water Wells and Borings" is followed during construction, maintenance, and abandonment of water wells
- Increase well head protection efforts in land use policy plans
- Promote wise and efficient use of groundwater resources
- Improve citizens/landowners access to local and regional groundwater data
- Collect water quantity and quality data for management decisions
- Sealing abandoned/unused wells
- Develop a water allocation plan to manage drought conditions/water shortages

Priority Concern: Surface Waters

Goal: Stormwater management

Actions:

- Provide assistance to municipalities for the development of stormwater control and treatment plans
- Participate with communities to develop and implement stormwater policies on flood and pollution mitigation plans
- Offer incentives on rain gardens, rain barrels, stormwater wetlands, and water storage pond construction
- Assist in educational events on urban best management practices to reduce run-off
- Identify areas in drainage systems to establish water retention/water infiltration ponds

- Support the use of drained wetland areas for water storage capacity
- Seek funding for surface water gauging stations
- Seek grant opportunities to fund wetland restoration in priority areas

Goal: Address impaired surface waters

Actions:

- Provide technical assistance with outreach, education and demonstration sites to reduce agricultural chemical and nutrient impacts
- Support Aquatic Invasive Species Prevention Programs
- Assist the MPCA in development of “Total Maximum Daily Load” TMDL by major watershed for priority pollutants (fishes bioassessments, turbidity, ammonia (un-ionized), pH, fecal coliform, nutrient/eutrophication biological indicators)
- Provide technical assistance throughout the TMDL study and implementation study. Freeborn County will share water quality/quantity data collected for use in identifying impaired waters.
- Seek local, state, and federal grant funding to protect surface waters
- Participate in low interest loan, cost share, and incentive programs for “Best Management Practice” implementation
- Develop plans to address subwatershed level impacts to reduce pollutants causing impairments, as part of an approved implementation plan.
- Continue support of citizen stream monitoring, citizen lake monitoring, and citizen precipitation monitoring programs
- Facilitate effective water resource management through education and public outreach (newsletters, articles, radio, county fair booth)
- Participate with MPCA on the Watershed Restoration and Protection (WRAP) Program starting in the following years: Le Sueur River Watershed 2008, Cedar/Shell Rock River Watershed 2009, Cannon River Watershed 2011, Winnebago River Watershed 2013, Blue Earth River Watershed 2017
- Coordinate with the Shell Rock River Watershed and Turtle Creek Watershed Districts efforts on remediating water quality through a comprehensive strategy on watershed management.
- Coordinate Agriculture Water Management Issues and Conservation Drainage Issues
- Designate a Lakes Management Subcommittee to participate with Department of Natural Resources and Ducks Unlimited in the development of management plans on Bear Lake and State Line Lake
- Continue systematic redetermination of benefits for ditch systems
- Implement consistent buffer initiatives according to current drainage law

Goal: Protect surface water and ground water from ISTS

Objective: Follow MPCA approved design, construction and operation of SSTS

Actions:

- Follow MPCA Water Quality Division SSTS, Chapter 7080 thru 7083
- Seek licensing of all SSTS Designers, Installers, Pumpers and Septage Haulers that perform work in county
- Provide education to landowners on properly installed and functioning SSTS
- Apply for state and local cost-share funds for SSTS Installations

Goal: Enhance protection of surface and ground water resources from subsurface sewage system treatment systems

Actions:

- Continue compliance with Minnesota Rules 7080 through 7083
- Provide County level FTE licensed and certified SSTS inspectors
- Develop an individual parcel county-wide compliance inspection program
- Provide continuing education to local SSTS professions and landowners
- Apply for state and local cost share programs to assist municipalities and income eligible landowners with waste water collection and treatment construction costs

Priority Concern: Topsoil

Goal: Protect and preserve topsoil

Actions:

- Educate landowners on soil erosion practices
- Participate in (Ag BMP) MDA Best Management Loan Program
- Implement Minnesota Construction site erosion and sediment control planning
- Support enrollment of highly erodible lands into Federal Conservation Reserve Program (CRP), Reinvest in Minnesota Program (RIM), Environmental Quality Incentives Program (EQIP)

Goal: Control soil erosion

Actions:

- Preserve and protect top soil
- Promote conservation programs that reduce soil erosion
- Pursue grant opportunities for incentive funding of controlled tile drainage systems on ag fields
- Provide public education for the protection of sensitive lands
- Participate in demonstrations of effective conservation tillage methods
- Support wind erosion conservation practices (tree plantings, seeding of erosion area)
- Educate landowners on TMDL permit efforts to reduce sedimentation of creeks, ditches, and lakes.

- Enhance the promotion of buffer strips, filter strips, grassed waterways, and sediment control basins.
- Support the use of “Precision Agricultural Technologies” (PCT) and cover crops where appropriate.
- Engage local partners (NRCS, Conservation Groups, Lake Associations) to foster new relationships on conservation approaches.

Priority Concern: Wetlands

Goal: Preserve existing wetlands

Actions:

- Participate in Wetland Preservation Program (WPA)
- Freeborn County, acting as local governing unit for implementation of the Wetland Conservation Act will continue to follow US Corps of Engineers, DNR, BWSR Wetland Regulations
- Apply for state funding and assistance from MDA and DNR to control invasive species infestations on public and private wetlands Complete wetlands inventory and prioritization for protection planning
- Work to establish Federal, State and Local funding partnerships for wetland restoration land purchase.
- Develop and implement a 5 year wetland preservation education action plan

Priority Concern: Feedlots

Goal: Protect surface water and ground water resources from feedlot/animal waste contamination

Actions:

- Enforce Minnesota Rules Chapter 7020 – MPCA Feedlot Permit Program Standards.
- Continue to provide education to feedlot owners/operators on best management of animal waste.
- Pursue Federal and State Funding to mitigate or eliminate pollution from feedlots and animal manure.

Goal: Management of Animal Manure for land applications

Actions:

- Follow Minnesota Rules 7020 for animal feedlot, manure storage, and land application of liquid and solid waste products.
- Provide manure management workshops
- Require and provide construction inspections of new feedlot facilities

- Provide manure management plan review every four years with all producers
- Provide opportunities and incentives to owner/operators for planning and training of feedlot operations
- Continue to provide MPCA/Freeborn County Feedlot Officers and permitting process
- Utilize GPS for mapping of feedlot sites and identification of environmentally sensitive areas to control manure application
- Require soil sampling of manure application acres for nutrient analysis
- Host/participate in field demonstrations plots, new equipment displays, and calibration of injectors/spreaders
- Assist MPCA, MDA, U of M, and MN Extension Offices on grazing of lands and nutrient management plans
- Utilize GIS/GPS Technologies in developing Manure Management, Nutrient Management, Pasture Management, and Rotational Grazing Plans.
- Encourage involvement in the Livestock Environmental Quality Assurance (LEQA) Program
- Consider development of local Agricultural Advisory Committee for livestock producers
- Provide technical assistance with implementation of Best Management Practices to reduce impacts of manure land applications

Priority Concern: Municipal wastewater

Goal: Protect surface water and ground water from municipal wastewater contamination

Actions:

- Provide assistance to municipalities to construct and maintain wastewater treatment facilities
- Apply for federal/state/local funding for wastewater treatment facilities
- Seek priority placement on MPCA Wastewater Infrastructure Fund (WIF) for nonconforming wastewater treatment facilities

Priority Concern: Stormwater Drainage

Goal: Protect surface waters from stormwater drainage of sediment, nutrients, and chemicals

Actions:

- Maintain or improve existing ditch system
- Require vegetative buffer strips along public ditches upon redetermination
- Encourage landowners of private ditches to establish and maintain vegetative buffer strips
- Educate landowners on land treatment options and available cost-share programs to minimize transport of sediment
- Identify ditches that contribute excess sediment into surface waters
- Measure surface water flows and analyze water for nutrient/chemical/sediment loading
- Follow MPCA TMDL recommendations for remediation of waters

Priority Concern: Watersheds

Goal: Manage watersheds to reduce bacteria, nutrients, chemicals, and sediments from entering surface waters

Actions:

- Develop and education presentation on point and non-point pollution sources
- Apply for federal/state/local funding for Land BMPs
- Require erosion and sediment control plan on construction sites (requirement in building permit)
- Assist municipalities on stormwater management issues

Goal: Manage watersheds to control surface water run-off

Actions:

- Require post-land development surface water run-off rates not exceed pre-land development run-off rates
- Preserve flood plain areas
- Continue to participate in DNR Floodplain Management – MN Chapter 103.F
- Apply for federal/state/local funds for construction of riparian buffers
- Continue participation in MN Department of Agriculture Best Management Loan Program
- Prioritize drained wetlands for use as water holding basins and restore wetland use
- Continue participation in volunteer citizen precipitation gauge monitoring program

Priority Concern: Shorelands

Goal: Protect and preserve existing shorelands

Actions:

- Follow MN DNR Standards for Management of Shoreland Areas – M.S. 6120
- Provide educational opportunities on shoreland protection
- Work to preserve existing natural riparian vegetation or re-establish it

Goal: Protect shoreland areas

Actions:

- Identify shoreland erosion sites and prioritize run-off sites for remediation
- Promote best management practices to reduce erosion and sedimentation on shoreland areas
- Promote vegetative buffers along shoreland areas
- Require animal grazing management practices to limit erosion potentials

- Pursue aquatic management areas
- Follow MN DNR Public Waters permitting and local shoreland ordinance practices (M.S. 6120)
- Require construction site erosion control standards
- Provide building contractor educational opportunities on erosion control practices
- Provide landowner information on sediment and erosion control practices
- Support DNR Lake Management Plans
- Support up-grades to public access areas on Freeborn, Bear, Pickerel, Upper Twin, Lower Twin, Geneva, Fountain, Albert Lea, Goose, and State Line Lakes in Freeborn County
- Preserve, enhance, and protect natural shoreland resources of all water bodies for wildlife habitat

Goodhue County LWMP 2010-2020

Priority Concern: Erosion and Sediment control

Goal: Limit and reduce erosion and control sediment from land use practices associated with urban development

Objective: Provide leadership, education and staff time to assist cities, townships, developers and landowners in developing and implementing environmentally sound stormwater management practices.

Actions:

- Provide information on stormwater and erosion rules and regulations to 25 landowners, 1 township, 5 city staff and 5 contractors each year.
- Offer 5 remediation techniques on erosion and sediment control issues in urban areas.
- Assist Goodhue County Public Works Department with Public Waters permits compliance on all bridges and culverts effecting stream crossing. Assist County planning staff with proper stream alignment and debris issues as they arise.
- Cooperate with municipalities in Goodhue County who administer SWPPP and offer assistance in writing and implementing plans when applicable.
- Develop 1 urban stormwater BMP demonstration site to display the water quality benefits of practices that reduce volume and rate of stormwater runoff.

Objective: Encourage maintenance on 10% of existing stormwater basins.

Actions:

- Assist City of Red Wing with inventory and inspections on 20 stormwater basins.
- Assist Goodhue County Public Works Department as well as all municipalities with stormwater detention pond maintenance needs

Objective: Provide and seek financial incentives for implementing stormwater BMPs.

Actions:

- Encourage 2 developments to incorporate Low Impact Development strategies and proper platting techniques which compliment natural resource features.
- Seek and provide funding for 5 rain garden and infiltration basin retrofits within municipalities in Goodhue County to help achieve stormwater volume and rate reduction.
- Provide funding sources for 5 streambank restoration and stabilization within municipalities in Goodhue County.

Goal: Limit and reduce erosion and control sediment from land use practices associated with agricultural practices

Objective: Establish and maintain stream and field vegetated buffers in accordance with Goodhue County Zoning Ordinance.

Actions:

- Continue to educate all township supervisors, County staff and landowners on the Shoreland Ordinance and the importance of buffers.
- Utilize GIS land use buffer layer developed by Cannon River Watershed Partnership to identify location needs of buffers on 400 acres across Goodhue County.
- Provide the Goodhue County Land Use Department with proper technical support when addressing buffer all related issues.
- Continue to provide and seek funding for financial incentives for 100 acres of buffer installations.
- Promote 50 acres of harvestable buffers to landowners who can utilize those perennial crops in buffer settings.

Objective: Increase and maintain perennial vegetation on the landscape in Goodhue County

Actions:

- Promote and establish 5 acres of cover crop practices on canning crops and silage fields each year
- Increase the amount of managed wood land on marginal row crop acres by 5 acres each year
- Partner with Pheasants Forever and other non-profit organizations to establish and maintain native grasses on interested landowners' property yearly

Objective: Preserve, enhance and increase wetland resources in the Zumbro River and Cannon River watersheds.

Actions:

- Promote and market 20 acres of wetland preservation and restoration programs such as CRP, WRP, RIM and BWSR Wetland Banks each year.
- Yearly provide and promote preservation programs to 5 wetland landowners such as Wetland Preserve Area Program and the Rural Preserve Property Tax Program in an attempt to alleviate tax burdens.
- Educate all staff, 5 contractors and 50 landowners on the values of wetland functions and the Wetland Conservation Act of Minnesota each year.

Objective: Provide technical and financial assistance to Goodhue County landowners interested in reducing erosion and sediment by implementing BMPs in an effort to improve water quality

Actions:

- Actively market local/state/federal conservation programs which provide incentives to 30 landowners interested in reducing flooding and erosion each year.
- Assist 5 landowners with establishing and demonstrating conservation tillage and rotational grazing methods that have proven to be cost effective and benefit water quality. Using the tillage transect data each year, target areas of the County that have the lowest residue amounts.
- Provide leadership and staff time to market, implement and maintain long-term conservation programs such as CREP II, WRP and RIM on 200 acres of conservation land.
- Seek increased cost-share rates (above 75%)

Priority Concern: Septic System Compliance

Goal: Improve groundwater and surface water resource in Goodhue County by using the tools available to increase septic compliance

Objective: Seek incentives from funding sources available which address septic system compliance in Goodhue County.

Actions:

- Continue to seek funding for and administer the AgBMP Loan program in the Goodhue SWCD office at least once per year.
- Apply for funding opportunities, like the Clean Water Fund, for financial assistance for fixing 5 ITPH systems and failing septic systems within Shoreland Districts each year.

Objective: Support septic system compliance efforts in Goodhue County and southeastern Minnesota.

Actions:

- Offer support and assistance to Goodhue County Land Use Department when adopting a septic system Point-of-Sale Ordinance.
- Continue to support efforts made by Southeast Minnesota Wastewater Initiative staff and the Southeast Minnesota Water Resources Board in seeking additional funding and facilitating 1 cooperative meeting each year.
- Assist Goodhue County Land Use Department with SSTS 2010 Rule Revision.
- Seek funding and provide education for 30 individual and 3 cluster septic system upgrades.

Priority Concern: Groundwater Protection

Goal: Protect the groundwater resource of Goodhue County by implementing the actions listed below:

Objective: Help support and educate source water protection efforts across Goodhue County

Actions:

- Assist participating municipality staff on Wellhead Protection Plan writing and implementation efforts.
- Promote well sealing programs within WHP areas in one town each year.
- Inspect all feedlots within DWSMAs in rotation every 4 years. Identify all SSTS systems within DWSMAs and seek funding for non-compliant systems.
- Promote existing conservation programs to one town each year and offer source water protection ideas to city council and water supply staff.
- Encourage and assist 1 city each year to work with landowners and map nutrient applications in DWSMAs.
- Identify and seek funding for fixing five leaking underground storage tanks within DWSMAs.

Objective: Continue to develop a baseline of nitrate concentration in groundwater.

Actions:

- Administer and maintain the network of citizen volunteer nitrate monitors in Goodhue County.
- Collect at least 1 nitrate sample and 1 Atrazine sample from each volunteer each year to maintain baseline data.
- Share data sets with other local and state agencies involved with well data each year
- Educate 75 landowners on overall groundwater quality in Goodhue County each year.

Priority Concern: Impaired Waters

Goal: Continue to assess water bodies for impairments and take steps to repair impaired waters and watersheds

Objective: Educate urban residents on water quality impairments in Goodhue County

Actions:

- Provide 1 brochure and 1 news releases on yard waste rules and pick up days each year.
- Promote composting efforts in Red Wing every other year with 1 newspaper bulletin.
- Conduct 1 stormwater intake stamping day within municipalities in Goodhue County.

Objective: Promote new and existing rules, ordinances and BMPs within cities which contribute to impaired waters.

Actions:

- Perform a Phosphorous workshop for landowners and commercial applicators on the 'No Phosphorous' state law in Minnesota and survey compliance in each city over 5 years
- Inventory each municipality's street sweeping programs and seek funding for improved maintenance programs.
- Routinely assist municipalities with construction site inspections for erosion and sediment control.
- Seek funding for 1 erosion and sediment inspector to follow up on MPCA issued Stormwater

Goal: Continue to assess water bodies for impairments and take steps to repair impaired waters and watersheds

Objective: Assess surface waters in Goodhue County for their designated uses.

Actions:

- Continue to development a stream monitoring network in Goodhue County. Focus efforts on streams with little or no baseline water quality data and on parameters which we have little data for.
- Seek funding sources for 2 initial stream assessments and 1 long term monitoring site.
- Submit all water quality data collected on streams and lakes in Goodhue County into the STORET data base yearly.
- Assist with ongoing monitoring efforts in place by MPCA, CRWP, ZWP, etc. in an attempt to further understand the water resource.

Objective: Address impaired waters in watersheds which host an impairment listing.

Actions:

- Partner with local/regional/state agencies on developing TMDL studies and Implementation plans each year.
- Educate 10 landowners and 5 staff on TMDL Implementation Plan and the objectives needed to achieve load reduction goals yearly.
- Address water quality impairments by designing and installing 5 conservation practices in targeted watersheds yearly.
- Provide a summary of monitoring data in Goodhue County to give the general public a better understanding of the quality surface water each year. Make this information available on the Goodhue County SWCD Website.

Priority Concern: Feedlot Water Quality Improvement

Goal: Improve water quality by feedlot T/A and financial assistance on feedlot fixes

Objective: Provide feedlot owners and operators with proper education on feedlot compliance

Actions:

- Educate at least 30 landowners per year on MN 7020 Feedlot rules along with Goodhue County Feedlot Ordinance.
- Develop and maintain a web page illustrating available feedlot cost-share programs on the Goodhue County SWCD website.
- Provide an opportunity for 20 feedlot owner or operators to tour the latest feedlot BMPs implemented in Goodhue and surrounding Counties every other year.

Objective: Provide financial and technical assistance to feedlot owner and operators to achieve feedlot compliance.

Actions:

- Continue to solicit funding for 10 low-cost feedlot improvements on feedlots with 300 AU or less yearly.
- Sign letters of intent with at least 2 feedlot owners interested in large feedlot fixes by August of each year for CWF submittal in the fall.
- Design and offer solutions to 15 feedlot owner/operators with pollution problems on open lots yearly.
- Design and seek funding for a feedlot fix located at the 4-H Barn at the Goodhue County Fairgrounds in Zumbrota.
- Appoint 1 fulltime position per 500 feedlots in Goodhue County as recommended by MPCA to provide assistance in feedlot registration, permits and construction.

Priority Concern: Nutrient Management

Goal: Provide the resources available to County staff to landowners to help implement sound BMPs

Objective: Assist rural landowners in adopting and following comprehensive nutrient management practices.

Actions:

- Conduct fertilizer application assessments on 1 golf course and park within Shoreland District in Goodhue County each year.

- Promote and market cost-share programs that assist in nutrient management plan writing and practice installation for 5 landowners each year.
- Educate 10 feedlot owner/operators on the value of manure and the importance of record keeping.

Objective: Identify sensitive features for nutrient applicators and decision makers in various GIS formats.

Actions:

- Provide farm scale aerial maps depicting where and where not to apply nutrients and the location of sensitive features for 15 landowners each year.
- In GIS format, map all WWTF sludge application sites in Goodhue County.

Objective: Educate private and commercial land applicators on the regulations and benefits of fertilizers.

Action:

- Host a chemical/fertilizer applicators meeting each year with the 15 local cooperatives

Le Sueur County LWMP 2006-2015 amended 2011

Priority Concern: Impaired Waters/TMDLs

Goal: Protected, restored and improved surface water quality in lakes, rivers, and streams

Objective: Work with the MPCA, Lake Associations, neighboring counties, and other state and federal agencies on TMDL process with the development of TMDL implementation plans that address impairments according to the MPCA schedule by 2015

Actions:

- Determine annually, the local impairments from 303(d) list and the timeline of the State to address these impairments
- Develop TMDL Implementation Plans by coordinating and/or participation in meetings and providing input

Objective: Implement TMDL Implementation Plans by year 2015

Actions:

- Incorporate TMDL implementation actions into local plans
- Implement TMDL plans

Objective: Collect useful scientific water quality data on area lakes, streams, rivers and wetlands within Middle Minnesota River watersheds when funding is available

Actions:

- Locate funding sources to assess surface water in the Middle MN Watershed
- Implement the monitoring project which includes entering data into the state reporting program

Priority Concern: Wastewater Treatment

Goal: All septic systems in Le Sueur County brought into compliance

Objective: Strengthen and improve ISTS Local Program by December 2015

Actions:

- Conduct a septic system inventory. Enter data into Seplog and ArcMap using GPS as a mapping tool
- Update septic system inventory on a regular basis
- Develop plan to hire a full time Septic Program staff person

Objective: Increase the number of ISTS upgrades to bring systems into compliance by 20% annually

Actions:

- Continue the countywide revolving loan program for septic upgrades
- Develop incentive payment program for septic upgrades
- Locate grant-funding sources for incentive payment program for septic upgrades
- Implement program for septic upgrades
- Educate landowners about nonconforming septic systems and the relationship between these systems and water quality through news releases, workshops, brochures and mailings
- Promote local ISTS/SSTS programs that offer education, financial assistance and alternative system research
- Work with Lake Associations and municipalities on sewer options

Priority Concern: Stormwater Management

Goal: Minimize impacts from runoff of development areas and agricultural land that alter surface water hydrology

Objective: Increase the number of water retention structures and practices on the landscape by 30% annually by 2015

Actions:

- Actively promote programs that provide financial assistance to install water retention BMPs. See watershed implementation plans for priority projects
- Locate funding sources to bring the 50% cost share programs up to 75%

Objective: Increase the number of wetland restoration contracts in the county by 20% annually by 2015

Actions:

- Promote wetland restorations and programs in areas that will address surface water peak flow
- Locate funding sources for incentive for wetland restorations
- Maintain GIS coverage of wetland restoration

Objective: Increase the number of municipal and shoreland water retention structures and practices on the landscape by 30% by 2015

Actions:

- Create an inventory of municipal stormwater systems and locate areas that flood
- Actively promote programs that provide financial assistance to install water retention BMPs
- Locate funding sources that offers 75% cost share

- Implement the rain garden/native plantings Cost Share Project by installing up to 20 shoreland BMP projects

Goal: Diminished runoff issues cause by urban and development runoff

Objective: Promote sound hydrologic stormwater management to reduce runoff to 11 municipalities and developers and unincorporated areas by 2015

Action:

- Provide information to all municipalities, their residents and to developers in Le Sueur County on Best Storm Water Management practices through letters, news releases, and workshops

Objective: Promote stormwater management to municipalities and all residents to reduce pollutants from reaching surface water annually by 2015

Actions:

- Provide information to all municipalities, their residents and to developers in Le Sueur County on Best Stormwater Management practices through letters, posters, news releases, and workshops
- Develop two workshop projects and locate funding for workshops on stormwater management

Priority Concern: Protection of Undeveloped Shoreline

Goal: Achieved no net loss of existing natural shoreline

Objective: Respond to 100% shoreland regulation inquiries annually

Actions:

- Respond to all shoreland regulation inquiries and ensure proper restitution if violations occur
- Provide information and assistance to landowners and lake associations for the development and implementation of shoreline restoration plans and projects
- Review other county ordinances that have high number of lakes
- Review local shoreland ordinance and revise if necessary

Goal: Achieved a new natural shoreline gain through shoreline restorations

Objective: Complete up to 40 shoreland improvement projects by 2015

Actions:

- Educate shoreland owners on shoreland BMPs and the need to restore shoreline to a more natural state through news releases, workshops, representation to organizations. Ag shoreland buffers are included in this

- Locate funding for Lake Shoreland Restoration Projects and implement shoreland restoration projects
- Promote shoreland protection through green space planning, Natural Resources Inventory, educational programs and research efforts through publications, presentation, workshop efforts of federal, state and local agencies

Priority Concern: Drinking Water Protection

Goal: Protected groundwater quality and quantity

Objective: Educate the public on proper construction, maintenance, protection and abandonment of wells and conservation of groundwater through two news releases and/or presentations annually

Action:

- Inform the public on the importance of well construction, maintenance, protection and abandonment and water conservation annually through various media sources

Objective: Coordinate water-testing clinic for up to 200 county residents with wells that include nitrate and arsenic by 2015

Actions:

- Locate funding for a water testing clinic that includes nitrate and arsenic testing throughout the county
- Organize and implement the water testing clinics, provide information to residents on arsenic and nitrate at the clinics
- Compile collected information and enter into GIS mapping program
- Provide outreach on arsenic following the testing clinic to disseminate information on arsenic in water supplies

Objective: Gather information about groundwater quantities and interconnection to surface water by 2015

Actions:

- Continue to monitor existing observation wells through the DNR OBWELL Program
- Identify major groundwater usage within the county through appropriation permits
- Work with state agencies on stream flow data and interpretation to determine relationship to groundwater recharge
- Investigate methods for obtaining a Class V Injection Well Inventory within groundwater management zones in wellhead protection areas
- Maintain and improve GIS files to assist Le Sueur County with water management efforts and decision making
- Investigate water quality monitoring sites that are in the vicinity of landfills

Priority Concern: Agricultural Drainage Management

Goal: Maintained drainage systems while sustaining agricultural productivity as well as improving artificial drainage water quality, understanding the system is part of a larger tributary system

Objective: Apply watershed base principles to drainage system management

Actions:

- Ensure that public drainage systems are operated and maintained in accordance with the State Drainage Law (M.S. Chapter 103D) and other applicable regulations
- Support drainage research and local demonstration projects that improve water quality
- Work with County Ditch Authority, the County Highway Department and MNDOT on drainage outlets that drain directly to lakes and rivers that need repair
- Modernization of ditch records
- Educate the public about drainage issues, drainage options to improve water quality, and the request if redetermination of benefits
- Promote programs that provide financial and technical assistance to install BMPs along drainage systems that will improve water quality

Priority Concern: Minimize environmental risks of agricultural impacts to water resources

Goal: Reduced water quality issues from agricultural sources to surface water

Objective: Secure funding for surface water protection and improvement projects on a watershed basis by 2015

Actions:

- Prioritize watersheds, carry out project development for watershed improvement projects, locate funding, implement project
- Work with Met Council, Scott and Rice Counties on a Sand Creek Watershed implementation project
- Promote Federal, State and local cost share and financial assistance programs for conservation projects to agricultural producers
- Locate funding sources to enhance 50% cost share programs to 75% cost share in priority watersheds
- Provide cost share funds through grant funded projects for installation of conservation practices

Objective: Provide education on nutrient management to residents by 2015

Actions:

- Support Minnesota Extension Service Nutrient Management Projects through assisting with locating funds to provide incentive for following MES guidelines
- Address manure management issues through the county feedlot program in assessed priority watershed and countywide

North Cannon River Watershed Management Plan 2013

Priority Concern: Surface Water Quality

Goal: To protect and improve the water quality of streams, rivers, and lakes such that each waterbody is “fully supporting” for its use designations according to MN State Standards

Objective: Monitor water quality at the Chub Creek Permanent Monitoring Station near the outlet of Chub Creek by collecting monthly grab samples April – October and analyzing for temperature, dissolved oxygen, conductivity, field pH, total phosphorus, dissolved phosphorus, total Kjeldahl nitrogen, nitrate, nitrite, ammonia, total suspended solids, turbidity, and bacteria.

Objective: Conduct dissolved oxygen assessments in key streams to determine if water quality standards are being met, as funding allows.

Objective: Analyze Trout Brook springs for nitrates triennially to better assess nitrate levels and possible sources.

Objective: Participate as a local partner in supplemental water quality monitoring and watershed studies and projects by partnering in field work, sharing data, participating on advisory committees, or providing a local planning and prioritizing mechanism in cooperation with other agencies and organizations, as needed and as funding allows

Objective: Provide local match for grants and/or cost share assistance to landowners to install best management practices (BMPs) that reduce pollution in surface waters

Objective: Collaborate with member communities and others to help identify buffer priorities for use in community planning and future grant applications.

Objective: Re-examine the possibility of buffer requirements along all watercourses and waterbodies, including those outside of MDNR-protected waters, in 2018.

Objective: Advocate with the County Board and others to fund buffer installations along watercourses upstream from MDNR-protected waters in order to protect buffers required along MDNR-protected waters. Activities may include writing a letter or discussing the matter by phone or in person.

Objective: Advocate with the City of Randolph, Randolph Township and Dakota County to pursue the installation of a community wastewater treatment system or other shared and upgraded sewer and water systems in the City of Randolph due to its proximity to Chub Creek (impaired for bacteria); and along the shore of Lake Byllesby (impaired for nutrients). Activities could include writing a letter and/or convening stakeholders.

Objective: Seek agricultural producers interested in applying to be a Discovery Farm to gather water quality data from farm runoff to improve farm management and inform other local producers. www.discoveryfarmsmn.org/ Activities may include writing articles for township newsletters or convening an informational meeting.

Objective: Advocate with Dakota County to investigate the pollution potential of the old dump on the Cannon River near the City of Randolph, and other potential sources of pollution such as leaking underground storage tanks, historical dumps and waste sites. Activities may include writing a letter or discussing the matter by phone or in person.

Objective: Member communities shall adopt and enforce ordinances as strict as or stricter than Dakota County Ordinance 113 regarding the installation and maintenance of subsurface sewage treatment systems (SSTS) or will delegate the SSTS ordinance enforcement to Dakota County.

Objective: Member communities will annually report to the NCRWMO information on how and when their required storm water control ordinance is enforced on developments greater than one acre.

Priority Concern: Surface Water Quantity

Goal: To decrease the rate and volume of water that may contribute to flooding or nonpoint source pollution from overland runoff and subsurface drainage and dewatering activities

Objective: Monitor surface water quantity at the Chub Creek Permanent Monitoring Station near the outlet of Chub Creek by maintaining automated stage monitoring equipment and taking approximately four in-stream flow measurements, across a variety of flow regimes when possible, to continuously refine the flow rating curve and analyze the data in conjunction with water quality data collected here.

Objective: Provide local match for grants and/or cost share assistance to landowners to install BMPs that reduce rate and volume of runoff and subsurface drainage systems including tile gates, tile systems with lower gradient co-efficients, water control basins, infiltration basins, two stage ditches, side inlet controls, saturated buffers, wetland restoration, raingardens, etc.

Objective: Investigate possible mechanisms to inventory existing tile lines and/or collect data on installation of new tile lines, and understand the impact of tiling on stream water quantity in collaboration with other groups and as funding allows.

Objective: Gather and disseminate information on the latest technologies and practices for tracking and improving the impacts of tile line drainage including new conservation drainage approaches being researched and demonstrated in Minnesota like controlled drainage, shallow drainage, woodchip bioreactors, saturated buffers, rock inlets, alternative ditch design and various kinds of storage basins

Objective: Member communities will annually report to the NCRWMO data on how and when their required ordinance on stormwater management for land disturbances is enforced in their communities.

Priority Concern: Soil Erosion and Sedimentation

Goal: To reduce soil erosion and sedimentation throughout the watershed

Objective: Provide local match for grants and/or cost share assistance to landowners to install BMPs that reduce soil erosion including grassed waterways, riparian buffers, sediment control basins, establishing cover crops, conservation tillage, etc.

Objective: Develop a model ordinance that member communities may adopt providing guidance on how to enforce erosion control standards for new and renewing tax relief programs participants.

Objective: Develop a model ordinance that member communities may adopt providing guidance on how to enforce road right-of-way setback requirements.

Objective: Receive, at least biennially, data on the estimated reduction in sediment load to NCRWMO water resources due to the installation or use of best management practices as recorded through SWCD and/or U.S. Department of Agriculture (USDA) programs.

Objective: Seek agricultural producers interested in applying to be a Discovery Farm to gather water quality data from farm runoff to improve farm management and inform other local producers.
www.discoveryfarmsmn.org/

Objective: Member communities will annually report to the NCRWMO information on how and when their required ordinance on erosion control during land disturbances is enforced in their communities.

Objective: Member communities will annually report to the NCRWMO on their activities to enforce erosion control standards for new and renewing tax relief programs participants.

Objective: Member communities will annually report to the NCRWMO on their activities to enforce road right-of-way setback requirements.

Priority Concern: Groundwater

Goal: To protect groundwater quality and quantity

Objective: Cooperate with Minnesota Department of Agriculture, University of Minnesota Extension, and Dakota County to update nitrogen fertilizer management plan and/or disseminate new recommendations when published.

Objective: Cooperate with researchers and others to determine the routes of nitrogen transport from surface water to groundwater in the Trout Brook subwatershed by sharing data, sitting on advisory committees, and/or co-sponsoring or supporting research grants.

Objective: Provide local match for grants and/or cost share assistance for nutrient management practices.

Objective: Track groundwater quantity and quality trends by reviewing reports from entities such as Dakota County, U.S. Geological Survey, and MN Department of Natural Resources.

Objective: Member communities shall review the appropriateness of their existing mining ordinances with regards to protection of surface and groundwater resources. If none is adopted, community shall consider adopting a mining ordinance.

Priority Concern: Wetlands

Goal: To protect wetlands from deterioration or destruction and to restore wetlands where possible

Objective: Continue to review applications submitted under the Wetland Conservation Act (WCA) and the MDNR permitting program for compliance with WCA sequencing and mitigation rules and this watershed management plan.

Objective: Provide local match for grants and/or cost share funding to wetland restoration projects, with priority given to projects in the Chub Creek watershed and its subwatersheds.

Objective: Member communities shall post maps of the Wetland and Watercourse Inventory and Assessment or future inventories in their respective town halls.

Objective: Member communities will continue to work with the Dakota County SWCD for WCA coordination.

Priority Concern: Wildlife, Habitat and Restoration

Goal: To promote the protection and restoration of high quality natural areas throughout the watershed including wetlands, woodlands, prairies, and riparian corridors for improvement of water-based recreation, fish and wildlife habitat, and water quality.

Objective: Advocate with MDNR and seek partners such as the Dakota County Habitat Alliance for the development and implementation of management plans for the Chub Lake Wildlife Management Area. Activities may include writing a letter or discussing the matter by phone or in person.

Objective: Advocate with Dakota County to continue developing and implementing land conservation programs such as the Farmland and Natural Area Program to protect and preserve critical natural areas, farmland, and wetlands in the watershed. Activities may include writing a letter or discussing the matter by phone or in person.

Objective: Provide local match for grants and/or cost share assistance to landowners to install BMPs that protect, restore, or improve lakeshores and streambanks.

Objective: Provide a forum for or otherwise advocate for improved cooperation among Dakota County Parks, Douglas Township, Trout Unlimited, and the MDNR to prepare and implement a management plan for in-stream and riparian habitat restoration in Trout Brook and Pine Creek.

Objective: Receive and review information from Dakota County and other entities on the status of dam operations on Lake Byllesby and advocate for research on the effects of dam operations and fluctuating water levels on lake wildlife.

Objective: Receive and review information on the implementation status of a Total Maximum Daily Load Study on Lake Byllesby in order to improve water quality and recreation.

Objective: Advocate with the City of Randolph to adopt a shoreland ordinance similar to Dakota County's Shoreland and Floodplain Ordinance 50. Activities may include writing a letter or coordinating a meeting among organizations involved.

Priority Concern: Education and Outreach

Goal: To increase the awareness of water resources and practices needed for their improvement or protection among all sectors of the community.

Objective: Promote and encourage volunteer water monitoring, including the use of college students.

Objective: Maintain an updated website and notify the public of regular meetings.

Objective: Develop an annual report and annual plan; post on website.

Objective: Provide education to watershed residents by partnering with other entities and/or seeking funding to educate and engage agricultural producers, agricultural groups, and other residents about water resources, water conservation, and BMPs, including new and innovative practices, septic system maintenance, nutrient management, lakeshore and shoreline restoration, and buffers; through avenues such as field days, watershed councils, township officers meetings, township newsletters, etc.

Objective: Disseminate information on Minnesota Department of Agriculture's current and future guidelines for nitrogen application rates and timing through avenues such as township newsletters, township officers meetings, correspondence from agricultural product suppliers to producers, etc.

Objective: Use technical and citizen advisory committee, as needed.

Objective: Request that Dakota County Transportation Department install stream identification signs at all major stream crossings on Dakota County roads.

Objective: Advocate and partner with Dakota County and others for the development and installation of interpretive information on natural resources and water quality, such as signs, in Miesville Ravine Park Reserve and Lake Byllesby Regional Park. Activities may include writing a letter or discussing the matter by phone or in person, or assisting with development of sign content.

Objective: Maintain an online directory of water and natural resource organizations, jurisdictions and contacts for use by citizens and NCRWMO member communities.

Priority Concern: Administration

Goal: To fulfill statutory requirements and effectively and efficiently perform the strategies of this Watershed Management Plan.

Objective: Cultivate partnerships with agencies and organizations that have similar goals including collaborating on programs and co-sponsoring grant applications including but not limited to Cannon River Watershed Partnership, Dakota County, MDNR, Dakota County SWCD, Trout Unlimited, Pheasants Forever, MN Pollution Control Agency, USDA Natural Resources Conservation Service.

Objective: Fulfill the requirements of the MN Board of Water and Soil Resource's Performance Review and Assistance Program and submit required annual reporting activities per MR 8410.0150.

Objective: Amend this Plan, as necessary, to avoid duplication or conflict with the regulations or policies of other governmental agencies and ensure that Plan implementation strategies do not violate the constitutional rights of private property owners or other individuals.

Objective: Evaluate the implementation of the strategies and policies in this Watershed Management Plan and examine their effectiveness. Consider the elimination of ineffective strategies or policies. Member communities will annually submit a report card type form (developed by the NCRWMO). The NCRWMO will evaluate for compliance with the policies.

Objective: Member communities shall report to the NCRWMO on their implementation of all policies stated above.

Rice County LWMP 2004-2014 amended 2010

Priority Concern: Erosion Control

Objective: Erosion control and BMPs

Actions:

- Conduct contractor workshops for construction and agricultural projects teaching site BMPs
- Provide technical assistance to contractors and landowners to adopt soil erosion BMPs
- Implement BMP practices
- Research methods to address ravine and ditch erosion

Objective: Educate Rice County residents

Actions:

- Seek funding for erosion control demonstration projects
- Offer shoreline homeowners a class on erosion control and BMPs
- Provide educational assistance to contractors working on development projects
- Hold on demonstration on new and current BMPs each year

Objective: Buffer/filter strip establishment in agricultural areas, riparian corridors, bluff land interfaces, ditches, and natural streams

Actions:

- Promote the establishment and continued maintenance of buffers in agricultural areas
- Establish 3 buffer strips per year
- Send out ten proposals to landowners per year
- Hold one demonstration projects per year on how to keep surface water from eroding ravines, ditches, etc.

Priority Concern: Stormwater Management

Objective: Stormwater retention and water quality improvement

Actions:

- Hold one demonstration project on native grass planting in rural and urban areas
- Route grade/fill applications for Commercial and New Home Construction Building Permit Projects located in sensitive areas to SWCD to evaluate a projects impact on natural areas/corridors and wetlands

- Provide technical assistance to contractors and property owners. Perform inspections and enforcement of NPDES Construction Site Permits
- Attend monthly plat review meetings
- Lobby for Rice SWCD to inspect industrial stormwater permits

Objective: Educate public on stormwater management

Actions:

- Educate the public through rain garden promotion, as well as other low impact design techniques, infiltration, and runoff reduction
- Conduct a low impact development demonstration project

Objective: Evaluate agricultural and shoreline buffers

Actions:

- Review agricultural areas to determine whether stormwater runoff is moving through a buffer system or artificial wetland
- Review shoreland areas to determine whether stormwater runoff is moving through buffer system or artificial wetland

Objective: Improve county drainage system condition

Actions:

- Inventory county drainage systems to determine the location and condition
- Repair and maintain ditch systems

Priority Concern: Waste Disposal/Management

Objective: Septic system inventory

Action:

- Conduct septic system inventory to identify imminent public health threat systems throughout the county

Objective: Septic systems upgrade

Actions:

- Work with homeowners to upgrade at least 20 imminent public health threats per year
- Continue to provide low interest loan programs to residents for upgrading septic systems
- Research and work with cities to establish a septage receiving station

Objective: Septic system education

Actions:

- Educate homeowners on septic system maintenance, operation, and effects on water quality
- Educate homeowners on the benefits of grey water systems and their environmental affect
- Provide information to lakeshore owners on traditional as well as alternative septic systems for those with limited available space
- Host periodic maintenance/pumpers/installers/designers education workshops
- Continue to work with Southern Minnesota Wastewater Initiative to assist communities with inadequate sewage treatment in finding solutions to their wastewater problems

Objective: Agricultural/feedlot/education

Actions:

- Educate farmers on manure setback requirements along streams and other sensitive features
- Create 12 new manure management nutrient plans per year
- Evaluate 10 feedlots using MinnFarm software and site evaluation
- Work with landowners on ways to appropriately dispose of milk house waste
- Support manure management workshops, conservation tillage, technique training, and rotational grazing

Objective: Applying GIS to waste management

Actions:

- Create a GIS layer indicating the locations of where septage is being land applied
- Maintain a GIS layer indicating the locations of where manure is being applied

Priority Concern: Groundwater

Objective: Education

Actions:

- Make material available to public on groundwater issues and wellhead protection
- Provide additional information on groundwater issues to homeowners located in karst regions within the county
- Develop educational materials on the importance of sealing unused wells
- Assist Extension in one educational event on protection of rural wells
- Continue to offer free nitrate clinics in partnership with MDA
- Provide information to homeowners explaining what to do with a well to protect id during/after flooding
- Continue to offer water testing kits to the public

Objective: Well sealing

Action:

- Apply for funding or use state cost-share to seal three unused wells located in sensitive areas of the county per year

Objective: Monitoring and data collection

Actions:

- Continue to support and administer the Volunteer Nitrate Monitoring Program to obtain long-term trend data on nitrates and other groundwater contaminants
- Work with the Department of Health on water quality database, and continued monitoring

Objective: Water conservation

Actions:

- Provide material informing citizens on the importance of conserving water
- Carefully evaluate large scale groundwater extraction projects

Priority Concern: Surface Water

Objective: Improve/protect surface water resources

Actions:

- Promote programs that work to preserve and restore wetlands
- Continue to administer state WCA
- Work with other agencies to reestablish 15 acres of wetlands
- Dedicate time and available resources to help determine impaired waters status, and continue to submit water quality data to the MPCA for inclusion in their database to identify impairments
- Stay informed of TMDL projects as they develop, and participate in studies and decision making processes
- Provide assistance to Scott County on Sand Creek Watershed study
- Participate in the Roberds Lake, French Lake, and Circle Lake TMDL projects

Objective: Education

Actions:

- Educate the public on shoreline BMPs using news articles, website, lectures, and classes for county residents
- Provide an information packet to new homeowners locating in environmentally sensitive areas

Objective: Leadership

Action:

- Work more closely with the Rice County Coalition for Lake Associations (COLA) and the individual lake associations on projects to reduce water pollution

Priority Concern: Coordination/Special Concern

Objective: Committee Meetings

Action:

- The Rice County Water Plan Technical Committee will meet twice annually and the advisory committee will meet once annually to discuss what has and has not been accomplished in the plan, and what steps need to be taken to accomplish the plan's objectives.

Steele County LWMP 2007-2016 amended 2011

Priority Concern: Soil, Fertilizers, and Pesticides from Agricultural Fields Flowing into Surface Waters

Goal: Protect surface waters from sedimentation and agricultural field pollutant runoff

Objective: Develop strategies to minimize soil erosion and sedimentation

Actions:

- Work with the SWCD office on the development of a soil erosion ordinance
- Work with farmers to implement and enforce the soil erosion ordinance program to reduce erosion to T (tolerable soil loss)
- Run scenarios on GSSHA (Gridded Surface Subsurface Hydrologic Analysis) to understand the effectiveness of different BMPs in reducing turbidity and flow in the Straight River watershed and where to apply BMPs to reduce turbidity
- Implement recommended BMPs from GSSHA modeling and engage and incentivize landowners to implement BMPs in areas identified by GSSHA modeling
- Implement in-channel BMPs to protect streambanks and stabilize grades to prevent streambank erosion and sedimentation
- Administer and enforce official controls that require buffers on public waters and public ditches

Objective: Educate the public on best management practices to control soil erosion

Action:

- Provide education to landowners on best management practices for controlling erosion

Objective: Seek funding sources for soil erosion control and filter strip projects

Action:

- Apply for Clean Water Fund grants and other federal and state funding to create new erosion control projects or to enhance existing programs

Objective: Promote Ag BMPs for pesticide and fertilizer use under MDA and EQIP guidelines

Actions:

- Develop and implement a BMP training program for dealers, crop consultants, agronomists, and pesticide users
- Encourage the use of conservation drainage practices and designs during repairs and improvements of existing drainage systems.

Objective: Participate in the farm program policymaking process

Action:

- Work with federal legislators on developing environmentally and economically sustainable farm program policies

Priority Concern: Sewage from Rural Septic Systems into Surface Waters

Goal: To protect surface and ground water resources from rural wastewater contamination

Objective: To educate the public on the proper use and maintenance of individual sewage treatment systems

Action:

- Conduct sewage treatment workshops and distribute ISTS information to homeowners

Objective: To eliminate direct discharges of sewage to surface or ground water by identifying and repairing or replacing nonconforming sewage treatment/disposal systems.

Actions:

- Identify imminent public health threat (ITPHS) systems by comparing a list of all developed properties with the existing list of sewage treatment system permit records/installations in Steele County.
- Develop and implement a strategic plan to bring nonconforming ISTS into compliance through publicity, enforcement, and financial incentives
- Provide planning and technical assistance for small communities with inadequate wastewater treatment in the county
- Provide financial assistance to homeowners to replace nonconforming systems through the Clean Water Partnership (CWP) loan program, AgBMP loan program, and other funding sources

Priority Concern: Urban Stormwater Runoff

Goal: To protect surface water resources from pollutants in urban stormwater runoff

Objective: Administer and enforce stormwater runoff controls during construction activities

Actions:

- Require all NPDES plans be implemented as part of local permits for construction sites and other areas without permanent vegetative cover
- Inspect sites or require self-certification of stormwater control implementation during and after construction

Objective: Develop storm water runoff management and quality standards to use in local ordinances and plans

Actions:

- Administer and Enforce the City of Owatonna Stormwater Ordinance that was adopted in 2008
- Update existing stormwater management standards as needed for development projects in Steele County in an effort to minimize the impact that post development runoff will have on water resources

Objective: Provide public education about stormwater management

Action:

- Implement stormwater education as required for Owatonna under the MS4 permit

Objective: Provide water quality treatment and volume control of urban stormwater runoff through the use of stormwater ponds and detention basins.

Actions:

- Complete a detailed inventory of all existing stormwater ponds.
- Maintain and improve all existing stormwater ponds. Retrofit existing ponds for additional stormwater treatment and retention

Objective: To work towards complying with TMDL waste load allocations for turbidity and bacteria in the Straight River and Maple Creek.

Actions:

- Develop educational materials for the public and elected officials about the concerns and importance of TMDL requirements
- Install structural best management practices that encourage detention, infiltration, and volume reduction of stormwater prior to discharge to impaired waters

Priority Concern: Animal Feedlot Manure Runoff into Surface Waters

Goal: To protect surface water resources from open lot runoff and surface applied manure from animal feedlots

Objective: Address open lot feedlot manure runoff problems

Action:

- Provide technical and financial assistance to open lot owners to make improvements that reduce runoff

Objective: Minimize the impact that surface applied manure from animal feedlots will have on surface water quality

Actions:

- Work with local agronomists and agronomy centers to ensure that manure is included in the overall farm nutrient management plan
- Provide information and education about manure management BMP's and modern equipment technology to producers who apply their own feedlot manure
- Provide financial assistance to producers and commercial applicators for manure application equipment and manure storage facilities