# Zumbro River Watershed: Water Plans

The Zumbro River Watershed encompasses Dodge, Goodhue, Olmsted, Rice, Steele, and Wabasha Counties. Each county has developed a 10-year rotating comprehensive local water management plan (LWMP) in order to improve water quality within Minnesota. The water plans are comprised of a set of concerns the counties have described as a priority, along with how they intend to effectively manage them.

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

Water Plans:
Dodge County LWMP 2006-2015 amended 2011
Goodhue County LWMP 2010-2020
Olmsted County LWMP 2013-2023
Rice County LWMP 2004-2014 amended 2010
Steele County LWMP 2007-2016 amended 2011
Wabasha County LWMP 2008-2012

# Water Plan Evaluation

| Concern | Dodge | Goodhue | Olmsted | Rice | Steele | Wabasha |
|---|---|---|---|---|---|---|
| Conservation BMPs | | | | | | |
| Coordination/Partnership | | | | | | |
| Education | | | | | | |
| Groundwater | | | | | | |
| Shoreland Management | | | | | | |
| SSTS/ISTS | | | | | | |
| Surface Water | | | | | | |
| Technical/Financial Assistance | | | | | | |
| Erosion Control | | | | | | |
| Feedlot Compliance | | | | | | |
| Municipal Wastewater | | | | | | |
| Sediment | | | | | | |
| Watershed-based Approach | | | | | | |
| Wetlands | | | | | | |
| Monitoring | | | | | | |
| Priority Pollutants | | | | | | |
| Seek Funding | | | | | | |
| Stormwater Management | | | | | | |
| TMDL - Impaired Water | | | | | | |
| Wellhead Protection | | | | | | |
| Abandoned Wells | | | | | | |
| Development Concerns | | | | | | |
| Nutrient Management | | | | | | |
| Drainage Management | | | | | | |
| Manure Management Plan | | | | | | |

Concerns addressed in County Water Plan associated with nutrient issues

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

# 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.

# 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 CREPII, 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 1city 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

# Olmsted County LWMP 2013-2023

## Priority Concern: Drinking Water & Groundwater Protection

Objective: Continue and enhance groundwater monitoring programs in order to improve the regional understanding of how land cover and land use impact the interaction between the landscape, surface water, karst features and groundwater.

Actions:

- Support upgrading the Olmsted County Environmental Laboratory's data management system to a regional system, incorporating E911 addressing and property record investments.
- Support and provide administrative assistance to the Southeast Minnesota Volunteer Nitrate Monitoring Network and the Volunteer Targeted Nitrate Monitoring Network. Maintain the County's network of citizen volunteers.
- Support state, federal and academic water quality monitoring programs and hydrogeologic studies conducted in Olmsted County.

Objective: Support implementation of Wellhead Protection Area Plans.

Actions:

- Provide support and assistance on Wellhead Protection Area planning committees for public water suppliers. Assist public water suppliers with completing Wellhead Protection Area plans and implementation efforts, including water demand management programs.
- Seek funding for Source Water Protection programming with a focus on Wellhead Protection Areas and implementation of Wellhead Protection Plans. Included in this process is the sealing of abandoned wells located within wellhead protection areas of each city as well as writing and administering grants.
- Cooperate with public water suppliers in inventorying and mapping potential contaminant sources within the Drinking Water Supply Management Areas for each city. Particularly support the Class V Injection Well implementation plan.
- Support MDH and non-community public water suppliers to achieve WHPA goals and objectives (land development controls).
- Support the implementation of conservation and best management practices within the highly sensitive portions of the wellhead protection areas identified for each city in their wellhead protection plan. The coordination of programs will be for land management practices focused on:
    - use and storage of agricultural fertilizer and pesticides;
    - urban use of fertilizer and pesticides;
    - feedlot and manure management and feedlot management plans;
    - protective measures for aggregate mining

- funding for incentive programs for application of agricultural and urban/suburban best management practices that enhance groundwater protection; and
- educational programs related to the bullets above.

Objective: Support community water supply and sewer system projects and appropriate installation and management of private systems.

Actions:

- Pursue funding opportunities to create a cost-share program for sealing abandoned and non-conforming contaminated wells.
- Implement financial assistance and incentive programs that encourage homeowners to improve non-compliant and failing SSTS.
- Assist Cascade Township and the City of Rochester in a study to determine the potential for connecting the Hallmark Terrace and Zumbro Ridge manufactured home parks to the City of Rochester sanitary sewer system.
- Assist the City of Oronoco in the development of citywide sanitary sewer and water system plans and implementation of Phase II water system plans.
- Inventory and study existing development areas in the county that may contain concentrations of nonconforming SSTS and wells, including development along Lake Zumbro, rural service centers, and rural/suburban subdivisions and manufactured home parks. This analysis should include identification of possible funding sources for replacing non-compliant systems, including the Minnesota Public Facilities
- Authority's Small Community Wastewater Treatment Program and other MPCA programs.
- Complete the update of and adopt the County's SSTS ordinance. New provisions could include:
    - requiring countywide inspection of all new and reconstructed septic systems,
    - requiring submittal of all applications and related design information into a central county database, and
    - developing and implementing a point of sale requirement for all properties in the county served by an SSTS.

Objective: Design and maintain groundwater resource-related GIS databases.

Actions:

- Map county springsheds to identify Source Water Areas for springs in order to identify contribution areas in the event of leaks and spills (e.g., fuel spills).
- Improve the water quality data reporting system and expand it to include an annual report on water quality including results from the private drinking water well testing and the county's water monitoring networks (Decorah Edge, stream, lake, and reservoir), and the MPCA's Citizen Stream and Lake Monitoring Programs.

Objective: Protect sensitive geologic areas, features, and formations.

Actions:

- Evaluate the need for a countywide sinkhole ordinance.
- Contact and educate landowners that have sinkholes on their property about sinkhole BMPs. Provide incentives to implement BMPs that reduce the potential for groundwater pollution in karst terrain.
- Develop a program to incentivize protection of sensitive Decorah Edge features identified by the criteria in the Olmsted County Wetland Conservation Ordinance. The program should include landowner education and contact, cost share for BMPs, and utilization of RIM and similar programs.

Objective: Increase public awareness of the importance of protecting drinking water supplies, groundwater resources, and sensitive geologic areas from potential pollutants.

Actions:

- Produce new educational materials that update the general public understanding of groundwater resources, source water protection, pollutant impacts, and best management practices.
- Develop educational materials and programs, based on the most recent findings of ongoing research in southeast Minnesota, that focus on landowner implementation of best management practices in karst terrain.
- Educate private well owners about the well code, proper well construction and maintenance, testing, sealing, and related best management practices and requirements. Educate SSTS owners about the construction and maintenance of such systems. Design education programs for use in multiple venues.
- Provide copies of “Septic System Owners Guide” (U of M Extension) to the owners of newly installed or reconstructed systems.

## Priority Concern: Agricultural Erosion and Sediment Control, Nutrient Management and Chemical Use

Objective: Apply conservation and best management practices on rural land in the county.

Actions:

- Develop a program to inspect, maintain, and oversee maintenance of conservation structures (grade stabilization structures, farm ponds, and similar BMPs) according to BWSR and NRCS guidelines.
- Actively market existing agricultural cost share, loans, and other incentives to landowners and operators.
- Increase the amount of planted woodland on marginal row crop areas on highly erodible soils and those overlying focused groundwater recharge areas (Decorah Edge and sandy soils).

- Develop a field tile map for land in the county that can be used for land development reviews, to coordinate drainage improvements, and to understand ground and surface water flow dynamics.
- Research the impact of agricultural tiling and identify management and design improvements that will reduce impacts on individual properties and watersheds. Consider alternative measures to minimize downstream impacts of tile installation.
- Restore the Decorah Edge in the agricultural areas of the county. Submit a Legacy grant that will provide the incentives to effectively conserve the critical portions of the Decorah Edge.
- Expand the Zumbro Watershed Partnership Critical Restoration Sites (digital terrain analysis for TMDL implementation) project funded by the LCCMR beyond the initial 50 "critical source areas" identified in the initial study to each subwatershed within the Zumbro River watershed in Olmsted County and also to the Root River and Whitewater River. Pursue grant funding for bank stabilization for the sites identified in the current study and any future inventories.

Objective: Coordinate plans and programs within the county, and with other counties and state and federal agencies, and non-governmental organizations.

Actions:

- Establish the necessary county resources to market, coordinate, provide technical expertise, and administer the new Minnesota Agriculture Water Quality Certification program (a program involving the USDA, USEPA, and the State of MN).
- Establish and maintain an electronic data management system that allows for easy access and analysis of conservation practices and other water related information utilizing GIS capabilities.
- Conduct a study of the existing county feedlot administration program. The purpose of the study will be to provide guidance to the County Board on the feasibility of County delegation of feedlot regulations from the MPCA and the capacity of the County to carry out a more comprehensive program.
- Establish farmer-led watershed councils for high priority watersheds in the county.
- Synchronize conservation implementation and evaluation into the 10-year MPCA watershed schedule. On a two to four year schedule, determine priority watersheds to focus conservation program work and application of Clean Water Fund grants.
- Populate and routinely maintain the County's water–related websites with resources needed by landowners and water partners.

Objective: Support continued programming for planning, research, and education by local, state and federal agencies.

Actions:

- Encourage ongoing monitoring of surface and groundwater for agricultural pesticides and nutrients and cooperate with regional, state, and federal agencies in the collection, analysis, and application of the data. Support continued monitoring of area surface waters.

    - Coordinate research findings such that it is useful to field staff.
    - Support the continued collaboration of state agencies and local units of government in reviewing river segments and watersheds.
    - Develop summaries of data and provide the data/summaries to field personnel in the SWCD's and NRCS offices.
    - Ensure that locally collected data meets minimum standards and is provided to the MPCA for TMDL planning.
    - Review water quality data with the SWCD board and Environmental Commission on an annual basis.
    - Utilize the data collected annually for the TMDL studies/ listing decisions for review and decisions made on proposed pollutant source proposals for establishment or expansion, i.e., feedlots, mining sites, and other point sources of water pollution.
- Continue the flood control reservoir trophic state study and improve it by collecting additional data on reservoir characteristics and water resource data (chemical, temperature, biologic). Consider expanding the program to other impoundments and secure funding to do so. Develop an index of soils information to supplement the existing Soil Survey and the eventual updated Survey. Request that the NRCS update the Soil Survey.
- Update the Olmsted County MLCCS (land cover) dataset on a biennial basis and populate the land use attribute.

## Priority Concern: Impaired Waters, TMDLs & Watershed Management

Objective: Contribute all pertinent county data to state, regional and local water quality databases. Support continued long term monitoring of surface waters in the county.

Actions:

- Coordinate, track, and analyze water monitoring projects and programs for the entire county. Annually review a priority list of waterbody monitoring data. Create a GIS geodatabase with updated County water body linework and data.
- Expand the County's stream and reservoir water monitoring networks to include more frequent sampling and a wider range of parameters.
- Promote volunteer monitoring through development and support of volunteer workshops. Increase school and citizen participation in the MPCA Citizen Stream Monitoring Program, MPCA Citizen Lake Monitoring Program, and macro-invertebrate community monitoring projects.
- Annually submit ongoing and historic surface water quality data to the MPCA to be entered into the STORET database.
- Identify the primary sources and rates of stream sediment in Olmsted County. Provide support and encourage the continued study of stream sediment in regional watersheds. As part of the study, identify and evaluate historic water mill sites and associated sediment deposits and restore stable stream channels.

- Expand the testing capabilities of the County's Water Testing Lab to include Total Maximum Daily Load parameters and stream health indicators.

Objective: Support the development and implementation of TMDL plans for each major watershed.

Actions:

- Support and cooperate with watershed organizations and the MPCA on the ongoing and planned TMDL technical studies and implementation plans for each watershed.
- Support the completion of the Root River TMDL for Turbidity. Support the preparation of the TMDL plan for the watershed.
- Implement the TMDL plans and watershed plans for each watershed – Root, Whitewater, and Zumbro Rivers. The County will need to work with each watershed organization and county to coordinate activities, find funding for implementation measures, and carry out the identified implementation measures.

Objective: Identify and prioritize opportunities to leverage skill sets and project funds through collaborative partnerships within watersheds and subwatersheds.

Actions:

- Track and report the schedule for state, federal, and non-profit grant processes. Integrate the information into the County's monthly Environmental Management Team meetings.
- Develop a water resources improvement program process that:
    - develops a document identifying county and other jurisdiction and organization annual investments and projects similar to the Transportation Improvement Program,
    - meets biennially to discuss and coordinate efforts with the SWCD, county and state agencies, cities, the surrounding counties, SEMWRB staff, SZJPB, WWJPB and ZWP to identify priority projects and programs to submit in the BWSR Biennial Budget Request,
    - develops an understanding of all Clean Water Fund and other funding sources, and
    - coordinates annual meetings with County agencies, townships, cities, NGOs, watershed organizations, other counties, SEMNWRB, and JPBs to discuss, prioritize, and jointly determine possible Clean Water Fund applications.

Objective: Support the formation of and long term funding for community-based watershed organizations for the Root, Whitewater, and Zumbro watersheds. Support watershed planning activities carried out by each watershed organization.

Actions:

- Work with adjacent counties to determine organizational structures for the Root, Zumbro, and Whitewater Rivers to implement watershed/TMDL plans. Support and assist established watershed organizations and their partners in the Whitewater and Zumbro River watersheds. Support the formation of a watershed group for the Root River watershed.

- Initiate and complete a study of long term financing options and sources for the existing watershed organizations covering the Zumbro and Whitewater watersheds and for the newly developing Root River watershed organization.

Objective: Support planning/implementation projects for waterbodies in Olmsted County.

Actions:

- Continue to pursue organizational and funding resources for the following projects: Lake Zumbro Restoration, Zumbro River Restoration (in the former Lake Shady lakebed), Cascade Creek/Lake Project, Logan Creek Priority Watershed Project, and Bear Creek Priority Watershed Project.
- Work with the South Zumbro Joint Powers Board to identify major sources of sediment and nutrients impacting the reservoirs managed by the JPB. Develop programs to address these impacts.

Objective: Educate and involve the public in watershed and TMDL studies and programs.

Actions:

- Coordinate public educational programs on water resources for adults and children in Olmsted County. Develop public understanding and support for watershed-based management through education, information sharing, park informational kiosks and exhibits, and volunteer projects. Provide the general public an annual summary of surface water quality monitoring data through the County or watershed organizations websites.
- Make annual presentations to the Olmsted County Environmental Commission, County Board, Olmsted SWCD, and in other forums about county water resource management efforts and the condition of water resources. Collaborate with other local, state, and federal agencies in developing an annual status report on county water resources. Data and analyses should be presented on a watershed basis.

## Priority Concern: Urban/Suburban Stormwater Quality and Quantity

Objective: Support existing storm water management programs, including construction site erosion and sediment control activities.

Actions:

- Assist small cities and townships (non-MS4 communities) and MS4 permittees in developing and implementing illicit discharge ordinances.
- Develop and implement an urban forest master plan for Rochester.
- Review and update the Olmsted County regulations that address storm water erosion and runoff control, grading plan approval, and grading and drainage standards.
    - Use the LiDAR dataset to update the Olmsted County Soil Erosion model and ordinance.

    - Work with the townships on ordinance improvements and implementation (plan reviews, administration, inspections, and enforcement)
    - Determine if a coordinated effort with shared resources can be organized and implemented.
- Develop additional resources for the County and townships to adequately regulate storm water in new residential subdivision and commercial/industrial development under County/township jurisdiction. Train County field staff to identify erosion problems, monitors compliance with grading/storm water plans, and perform other management activities.
- Coordinate an annual MS4 report review process among all permittees in Olmsted County, at which time the Olmsted County MS4 program manager will assess the reports in order to identify program components that could benefit from further cooperation and coordination, if any. If there are opportunities for additional countywide collaboration, the County's MS4 program manager will prepare recommendations and facilitate a meeting to address those concepts.
- Pursue funding to support retrofit activities in previously developed areas, such as construction of new BMPs and enhancement of existing BMPs to expand storm water management capacity.
- Conduct an inventory of ravines and other highly eroded areas to identify sites for stabilization. Develop an implementation program to prioritize the upland sites and impacted stream channels, applicable best management practices, and costs. Pursue funding for stabilization of priority sites and for sediment/debris removal projects to restore in-channel morphology and habitat.

Objective: Provide information and educational opportunities for cities and townships on storm water management, including erosion and sediment control standards and best management practices.

Actions:

- Encourage all of the non-MS4 cities in the county to meet the principles of the EPA Phase II storm water requirements.
- Minimize compaction on construction sites and restore soils where it occurs, using education programs, revised models, and BMP's.
- Promote Olmsted County and other LGU projects that demonstrate Low Impact Design or Minimum Impact Design technologies.
- Develop a community-wide survey to assess baseline awareness about local water issues, the water protection behaviors already adopted by citizens, and citizen readiness to adopt new water quality behaviors.

Objective: Apply low impact or minimal impact design practices to development in the County.

Actions:

- Continue to support and apply the Peak Flow Reduction Opportunities in the Cascade Creek Tributaries Final Report and the related Cascade Turbidity Reduction through Rural Retention

and Stream Restoration Program implementation project. Pursue funding for implementation projects.

- Encourage development proposals to incorporate Low Impact Design strategies (and Minimal Impact Design strategies when made available by MPCA) to manage storm water runoff. Research how to incorporate the concepts into the existing zoning ordinances and land development manuals in the county.

## Priority Concern: Wetland Resources & Natural Corridors

Objective: Buffer all sensitive land and water interfaces.

Actions:

- Assist landowners and managers with shoreland and riparian best management practices and funding options.
- Work with the Minnesota Department of Natural Resources to identify and implement management strategies for trout stream watersheds and the areas contributing groundwater to springs associated with trout streams.
- Pursue funding to conduct a countywide inventory of streambank stability on all perennial streams. Identify high priority sites for in-stream habitat improvement and streambank stabilization and develop an implementation program. Develop a demonstration project(s) for cost-effective streambank stabilization.
- Conduct a study of Olmsted County's surface water system to determine best management practices and if there is a need for buffer requirements for croplands adjacent to non-public stream reaches. At a minimum, the study will consist of the following:
    - Identification/mapping of public waters for each watershed;
    - Identification/mapping of the watershed and subwatershed boundaries;
    - Identification/mapping of the surface water system within each subwatershed above the public water designation;
    - Describe the surface water channels and designate on the surface waters map;
    - Conduct an assessment of each subwatershed to determine the extent of surface flow and best management practices; and
    - Submit the information and analysis to the County Board.
    - If warranted by the study results, develop programs to address water quality in non-public waters.
- Evaluate adopting and applying the proposed model shoreland standards developed by the Minnesota Department of Natural Resources. Consider amending land use regulations to require subdivisions to provide for shoreland buffers through easements or dedication.

Objective: Promote and protect forest resources and grassland resources, including pasture.

Actions:

- Provide and promote technical assistance for best management practices in pasture management plans. Continue funding for the pasture management specialists available in the Root, Whitewater, and Zumbro River watersheds.
- Encourage the Minnesota Department of Natural Resources to maintain the forest stewardship plan program. Encourage the MN DNR to provide adequate staffing for plan preparation and sustainable forestry practices on private lands.
- Increase the amount of forestland managed under best management practices.
- Utilize the plans of the Minnesota Forest Resource Council – Landscape Committee for Southeast Minnesota to conserve and expand forest resources. Work with the landscape committee and the Minnesota Forest Resource Council to implement the approved plans. The plans include the updated landscape plan and landscape stewardship plans being developed for the Root River and Whitewater watersheds.
- Study the concept and develop a forest resources element to the County's land use plan.

Objective: Develop strategies to better utilize the natural water quality functions provided by wetland systems.

Actions:

- Develop a countywide plan to identify "high priority areas" that meet the requirements of MR 8420.0835. High priority areas should be
    - designated by minor watershed or subwatershed;
    - in watersheds that contain high value wetlands that are at risk of degradation and are integral to maintaining the ecology and condition of the watershed;
    - located on the Decorah Edge,
    - based on criteria that can be used to identify individual wetlands and on criteria established in MR 8420.
- Conduct an inventory of drained wetlands and identify high priority areas for restoration for the purposes of wetland banking for development and agricultural needs. Encourage wetland replacement to be located within Olmsted County.
- Develop an Agricultural Wetland Bank program for Olmsted County.
- Organize annual meetings to identify wetland replacement needs for public projects and create cooperative plans for replacement.
- Encourage the use of the "exceptional natural resource value" provisions of the Wetland Conservation Act rules on lands that are located within the Decorah Edge district, or within the watershed of designated trout waters, shorelands, or lands identified by the County's open space plan (when adopted).

- Implement a countywide system to record wetland boundaries, impacts, and wetland establishment. The system should be organized in a GIS database. (This program has been initiated within the City of Rochester.)

Objective: Promote and market wetland preservation and restoration programs.

Actions:

- Promote and market wetland preservation and restoration programs such as CRP, WRP, RIM, and BWSR wetland banks each year.
- Promote and educate landowners/managers about wetland preservation programs such as the Wetland Preserve Area Program and the Rural Preserve Property Tax Program in order to minimize property taxes on wetlands. Prepare a summary tax sheet that explains the wetland and rural preserve programs for landowners and managers.

# 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

# Wabasha County LWMP 2008-2012

## Priority Concern: Soil Erosion

### Goal: Reduce soil erosion from agricultural fields

Objective: Use BMP's to reduce erosion

Actions:

- Annually spot check 20% of the county for the next five years for farm plan compliance
- Send letters to each new farm plan highlighting practices that would further reduce soil erosion past the minimum
- Promote BMP's that reduce soil erosion to tolerance levels through farm plan spot checks and new farm plan letters
- Pursue additional funding for producers to install soil erosion BMP's
- Partner with watershed groups to hold demonstration days to promote various conservation tillage technology
- Provide educational handouts to producers when they certify their crops on how BMPS can be cost effective

Objective: Change marginal row cropped acreage to perennial cover

Actions:

- Encourage the reenrollment of CRP acres
- Promote long term conservation programs such as CRP, CCRP etc.
- Send letters and hold field days to promote livestock farming to increase perennial cover such as Alfalfa/Hay in crop rotations
- Pursue funding for incentives to encourage livestock farming to increase perennial crops (such as hay and pasture) in crop rotations
- Objective: Focus on areas of high need
- Target sensitive areas, including highly erodible and riparian areas.
- Increase funding to protect critical areas
- Promote conservation buffer strips and stream bank stabilization

### Goal: Reduce soil erosion from construction sites

Objective: Work with other agencies to educate about construction runoff

Actions:

- Provide annual professional workshops for contractors to address soil loss from building sites
- Hold demonstration days for county residents to promote proper use of erosion control BMP's

- Partner with the highway department to demonstrate the correct installation of erosion control BMP's
- Provide informational pamphlets to new construction applicants on the impacts of development, particularly in sensitive areas.
- Meet annually with city councils to set education opportunities in each city

Objective: Implement and Review Wabasha County Ordinances

Actions:

- Provide landowners with shoreland buffer ordinance information through Planning and Zoning
- Review and promote shoreland and bluffland ordinances with planning and zoning, the planning commission and the county commissioners every other year

### Goal: Protect and Restore Bank and Shoreline Erosion

Objective: Educate and promote landowners on current protection efforts

Actions:

- Use GIS to identify areas of high need
- Use existing ordinances with state and federal programs to increase stream buffers by 50 % over the next five years
- Pursue additional funding for riparian buffer strip implementation
- Partner with conservation groups such as Trout Unlimited to restore the banks of trout streams

## Priority Concern: Nutrient and Manure Management

### Goal: Reduce nutrient loading of surface waters from agriculture

Objective: Ensure proper manure management procedures are practiced throughout Wabasha County.

Actions:

- Calibrate manure spreaders and educate farmers on the economic benefits of proper manure management
- Encourage producers under 300 animal units to obtain appropriate Nutrient Management Plans, either a Mini Manure Management Plan or Comprehensive Nutrient Management Plan.
- Spot Check 5% of nutrient management plans to make sure they are being followed.
- Provide each livestock producer with a copy of the publication "Applying Manure in Sensitive Areas" from MPCA when feedlots are re-registered

Objective: Provide education on ways to improve water quality

Actions:

- Provide informational handouts on methods to reduce field runoff of applied manure and the economic benefits to farmers during manure spot checks
- Include feedlot runoff reduction worksheet with permitting information
- Educate new feedlot owners about feedlot rules and method, of reducing runoff from their lot
- Work with producer groups to hold annual manure/nutrient management workshops
- Participate in ag waste workshops with U of M extension
- Hold field days to demonstrate small feedlot fixes, and make farmers aware of current cost share opportunities.

Objective: Reduce runoff of Commercial fertilizers from agriculture fields

Actions:

- Target non livestock producers to obtain a nutrient management plan through FSA newsletter
- Host annual meetings with fertilizer sales representatives in the area on application rates
- Hold producer meetings and send mailings encouraging commercial fertilizer setbacks from sensitive areas
- Work with producer groups and Extension to conduct nutrient management workshops on the economic benefits of soil testing

### Goal: Reduce Nutrient Loading of Surface Waters from Urban Residents

Objective: Educate homeowners about backyard conservation

Actions:

- Educate on the importance of keeping sewer drains free of trash and lawn litter through mailings
- Work with municipalities to promote alternative management practices of roof water
- Hold backyard conservation demo days to promote conservation practices

Objective: Provide homeowners with information and opportunities to implement backyard conservation.

Actions:

- Encourage homeowners to direct runoff to pervious areas.
- Promote the use of rain barrels and rain gardens through demonstration sites and fact sheets.
- Work with lawn care businesses and residents to reduce amount of herbicides used on lawns by homeowners.

- Partner with lawn care business to make soil testing before fertilizer application, standard procedure.

Objective: Assist with implementing urban BMP's

Actions:

- Pursue funding to provide homeowners cost share dollars and incentive payments for backyard conservation.
- Provide technical assistance to homeowners to install conservation practices.
- Partner with city planners to leverage time to increase BMP installations.

## Priority Concern: SSTS/Ground Water Protection

### Goal: Protect ground water drinking water sources

Objective: Manage wellhead protection areas

Actions:

- Support development of wellhead protection plans.
- Target landowners in the wellhead protection areas to use BMP are to prevent groundwater contamination.
- Reduce the use of commercial fertilizers and chemicals in the wellhead protection areas.
- Use GIS to develop maps of wellhead protection area and its sensitive features.
- Consider wellhead protection areas in land use decisions.
- Objective: Educate and assist private well owners with well protection
- Educate well owners on setbacks from contamination sources through newsletters
- Educate landowners on well drilling code requirements for all well construction when permit is issued
- Inform private well owners of the importance of regular well testing

Objective: Promote the proper sealing of abandoned wells

Actions:

- Identify and locate abandoned wells with GPS as they are found on site visits and provide the landowner information on well sealing
- Seek funding for cost share programs for sealing costs
- Educate homeowners on the importance of sealing abandoned wells

### Goal: Encourage proper management of new and existing onsite treatment systems

Objective: Promote SSTS updates and management

Actions:

- Perform inspection of all new SSTS installation
- Keep a system inventory of all SSTS installations
- Inspect a percentage of existing systems for compliance
- Work with pumping companies to notify homeowners of pumping requirements every 3 years
- Provide training programs for designers and installers
- Give homeowners SSTS maintenance information at time of installation
- Pursue the possibility of a county low interest loan program for new SSTS installations
- Goal: Assist with community treatment systems
- Objective: Encourage the installation of treatment facilities
- Partner with regional Coordinators to provide wastewater education to unsewered communities
- Assist unsewered communities with installing waste treatment facilities
- Provide technical assistance to communities to get 2 communities adequate waste treatment facilities
- Work with community leaders to pursue funding for the facilities

## Priority Concern: Pasture and Forest Land Management

### Goal: Improve quality and quantity of current pasture conditions

Objective: Promote and assist landowners to change to grazing management

Actions:

- Increase sustainable rotational grazing systems by 25%, with priority on those near riparian areas.
- Educate Producers on the economic and environmental benefits of rotational grazing.
- Conduct a survey on pasture use and management and use the information to contact landowners and encourage a change from continuous to controlled grazing to improve conditions.
- Collaborate with the Grazing Land Conservation Initiative (GLCI) and hold grazing workshops to educate interested producers and the general public the benefits of grazing and to create a positive image of livestock producers throughout the county.
- Work with other South Eastern Soil and Water Conservation Districts to hire an area grazing specialist.

### Goal: Improve quality of forest land and increase forest management awareness

Objective: Educate and promote proper forest management

Actions:

- Educate landowners on the economic and environmental benefits of proper forest land management
- Partner with DNR forestry to educate citizens on invasive species and how to properly manage
- Provide information to homeowners on windbreaks and shelterbelts through FSA newsletters

## Priority Concern: Impaired Waters

### Goal: Address impaired surface waters in Wabasha County

Objective: Identify impaired surface waters

Actions:

- Assist with developing and implementing TMDL plans
- Provide technical assistance for TMDL studies
- Participate in TMDL efforts within the County
- Address the surface water according to its impairment
- Use long-term water quality and fisheries data collected on West Indian Creek to model baseline watershed conditions and potential improvements that can be attained through changes in land use within the watershed.

Objective: Target surface waters to remove from the impaired waters list

Actions:

- Market available programs to landowners
- Partner with municipalities and other agencies
- Target sub watersheds of the impaired surface water
- Develop an inventory and target area of the watershed by using GIS
- Make public aware of impaired waters and educate them of ways to improve the conditions of the water