

# Mississippi River – Winona Watershed: Water Plans

The Mississippi River –Winona Watershed encompasses Olmsted, Wabasha, and Winona 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:

Olmsted County LWMP 2013-2023

Wabasha County LWMP 2008-2012

Winona County LWMP 2011-2015

# Water Plan Evaluation

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

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

# 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, monitor 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.

# Waseca County LWMP 2009-2018

---

## Priority Concern: Reducing Priority Pollutants

### **Goal: Protect and improve the quality of water resources throughout the county**

Objective: Identify non-compliant septic systems

Actions:

- SSTS Program. Continue to locally administer the County's SSTS Program, requiring inspections for new construction and prior to property transfers.
- SSTS Maintenance. Provide educational assistance to homeowners on proper SSTS maintenance, compliance, and suggested inspection frequency.
- Noncompliant SSTSs. Provide educational and financial assistance, as available, to homeowners to upgrade noncompliant SSTSs

Objective: Properly manage pollution caused by feedlots and industry

Action:

- Feedlot Program. Continue to locally administer the County's Feedlot Program to assist feedlot operators in obtaining and maintaining compliance with State regulations, developing manure management plans, and using proper land application techniques.

Objective: Work towards getting all of Waseca County's waters off the TMDL 303(d) list of impaired waters

Actions:

- TMDL Studies. Cooperatively work with partners to coordinate the preparation of TMDL studies and implementation plans for impaired waters. The County's Water Plan Coordinator shall take an active role in representing Waseca County
- In-Lake Management. Conduct or provide technical and financial assistance, as available, to partners for the implementation of in-lake management efforts, such as aeration and alum treatment, to improve the quality of water resources, when appropriate.

Objective: Reduce erosion and sediment loading of surface water resources

Action:

- Erodible Land. Target highly erodible land for enrollment in conservation easement programs, such as CRP and RIM.

Objective: Properly manage stormwater runoff

Actions:

- TMDL Studies. Cooperatively work with partners to coordinate the preparation of TMDL studies and implementation plans for impaired waters. The County's Water Plan Coordinator shall take an active role in representing Waseca County.
- Erodible Land. Target highly erodible land for enrollment in conservation easement programs, such as CRP and RIM.
- Stormwater Management Plans. Participate in the development and implementation of stormwater water management plans for cities and rural areas with stormwater-related issues.
- In-Lake Management. Conduct or provide technical and financial assistance, as available, to partners for the implementation of in-lake management efforts, such as aeration and alum treatment, to improve the quality of water resources, when appropriate.
- Feedlot Program. Continue to locally administer the County's Feedlot Program to assist feedlot operators in obtaining and maintaining compliance with State regulations, developing manure management plans, and using proper land application techniques.
- SSTS Program. Continue to locally administer the County's SSTS Program, requiring inspections for new construction and prior to property transfers.
- SSTS Maintenance. Provide educational assistance to homeowners on proper SSTS maintenance, compliance, and suggested inspection frequency.
- Noncompliant SSTSs. Provide educational and financial assistance, as available, to homeowners to upgrade noncompliant SSTSs

## Priority Concern: Drainage/Wetland Management

**Goal: Maintain and enhance the County's drainage system and wetland resources**

Objective: Properly manage the County's drainage system

Actions:

- Public Drainage Systems. Ensure that public drainage systems are operated and maintained in accordance with the State Drainage Law (M.S. Chapter 103E) and other applicable regulations.
- Pursue money to complete a Drainage Management Study which would inventory, map, and identify win-win projects to improve the County's drainage system and to modernize the County's drainage records.
- Alternative Drainage Practices. Provide educational, technical, and financial assistance, as available, to landowners and contractors for the demonstration of alternative drainage practices, such as blind intakes, that replace open tile intakes, as applicable. Install two demonstration sites.
- Land Use Controls. Continue to implement the County's adopted land use controls, including the feedlot, floodplain, SSTS, and shoreland programs.

- Erosion and Stormwater Management Ordinance. Explore the development of an erosion and stormwater management ordinance.
- Drainage Buffers. Work towards establishing buffers on all drainage systems

Objective: Preserve and restore wetlands

Action:

- Buffer Standards. Develop buffer standards for land use near wetlands.

## Priority Concern: Natural Corridors and Shoreland Management

### **Goal: Protect and enhance the County's shoreland and natural corridors**

Objective: Develop and implement reasonable strategies to protect and enhance shorelands

Actions:

- BMP Program. Provide educational, technical, and financial assistance, as available, to landowners for the implementation of water quality-related BMPs, such as stormwater retention practices, lakescaping, and vegetative buffer strips. Consider establishing a new Riparian Buffer Education Program.

Objective: Develop and implement reasonable strategies to protect and enhance natural corridors

Action:

- Local Ordinances. Protect natural shorelands and scenic corridors by adopting local initiatives. Examine adopting the DNR's new shoreland management standards.

## Priority Concern: Public Education

### **Goal: Increase Awareness of key water planning issues**

Objective: Expand the public's knowledge and understanding of important water issues and resources

Actions:

- NPDES Stormwater Permit Requirements. Provide educational assistance to landowners and contractors on NPDES stormwater permit requirements for construction activity.
- BMP Program. Provide educational, technical and financial assistance, as available, to landowners for the implementation of groundwater protection BMPs, including the proper decommissioning of wells and storage tanks and correct application of pesticides and other chemicals. Continue Ag BMP funding.
- Wellhead Protection. Participate in the preparation and implementation of wellhead protection plans for public water suppliers.

- Public Meetings. Hold public meetings, as necessary, to keep the public informed of current water resource-related issues.
- Have the Water Plan Task Force meet annually or more as needed

# Winona County LWMP 2011-2015

---

## Priority Concern: Water Quality

**Goal: All Winona County residents have access to safe drinking water.**

Objective: Assess the condition of groundwater and the interconnection of land use and associated pollution risks.

### Actions:

- Provide updated information to Minnesota Geological Survey and Minnesota Department of Health for Minnesota County Well Index (CWI) records where needed.
- Utilize the ACCESS well water chemistry database for tracking private wells chemistry data.
- Participate as a sub-grantee for the continuation of the Southeast Minnesota Volunteer Nitrate Monitoring Network.
- Participate as a sub-grantee for the Southeast Minnesota Volunteer Targeted Nitrate Monitoring Network.

Objective: Assist public water suppliers (PWS) in developing Wellhead Protection Plans and/or managing their 200 foot inner wellhead management zone.

### Actions:

- Provide representation on the Wellhead Protection Planning Committee for public water suppliers.
- Provide information from County records on potential contaminant sources and GIS assistance in mapping and completing potential contaminant source inventory information for public water suppliers.
- Provide land use and parcel maps to public water suppliers.
- Provide support to the cities of Winona, Goodview, Lewiston, and Utica to carry out their Wellhead Protection Plans.
- Target pollution prevention programs in wellhead protection areas.

Objective: Assist private well users in protecting and/or improving their drinking water supplies.

### Actions:

- Educate private well owners on the well code, the Water Quality Ordinance and proper well construction, maintenance and sealing, and well setbacks.
- Host two nitrate clinics a year.

- Provide information to health clinics and hospitals concerning the need to test private wells for common contaminants such as nitrates and coliform and the services of the Environmental Services Department regarding testing.
- Subsidize the cost of water test kits for low-income residents through programs such as the Women, Infants and Children program.
- Publish and distribute grant and loan program information for new well construction and well repair such as the USDA, Rural Development, Section 504 Loan and Grant Program, and the Ag Best Management Program.
- Provide private well owners with abandoned wells cost share money to properly seal their wells and pursue funding opportunities that will allow the development of a grant and/or County revolving loan program fund for well sealing and well replacement.

Objective: Provide educational opportunities to the public and schools on drinking water issues, land use planning, groundwater quality, and the significance of karst geology.

Action:

- Provide the public with groundwater educational materials in print and mixed media

**Goal: Winona County surface waters support their beneficial uses for recreation, aquatic life, and as sources of drinking water - where applicable.**

Objective: Reduce fecal coliform impairments by further implementation of TMDL activities.

Actions:

- Continue efforts with Whitewater River Watershed Project in addressing TMDL fecal coliform impairments in the watershed through the Bacteria Reduction Project.
- Host yearly meetings with the MPCA and the public to explain ongoing implementation activities in the Garvin Brook Watershed in addressing TMDL fecal coliform impairments.
- Implement 10 rotational grazing plans.

Objective: The development of turbidity TMDL(s) for streams in the Garvin Brook, Whitewater River, and Root River Watersheds.

Actions:

- Host yearly meetings with the MPCA and the public to explain ongoing implementation activities in the Garvin Brook Watershed in addressing TMDL turbidity impairments.
- Participate with the Whitewater River Watershed Project in hosting yearly meetings with the MPCA and the public to explain ongoing Turbidity TMDL activities in the Whitewater River watersheds.
- Participate in writing an Implementation Plan based on the TMDL study and assist in executing the plan.

- Participate in the Root River Turbidity TMDL by attending Technical Advisory Committee and Stakeholder meeting and providing information upon request.

Objective: The promotion and support of aquatic life assessments for all trout streams in the Buffalo-Whitewater and Root River Watersheds incorporating biological monitoring and biological criteria.

Action:

- Host meetings for local government officials and the public regarding monitoring results and assessments from MPCA intensive watershed monitoring activities of 2008 and 2010.

**Goal: Buffer all sensitive water/land interfaces.**

Objective: Increase compliance with 50 foot buffer Shoreland Ordinance requirement in agricultural areas along protected waters.

Actions:

- Make presentations to the County Board and Township Officers Association regarding the general results of the Whitewater Watershed Project’s Environment and Natural Resources Trust Fund project and discuss the importance of stream side buffers.
- Field verify those areas where the GIS land cover information indicates that the 50-foot buffer is not present.
- Contact those landowners out of compliance with the 50-foot buffer and explain the requirements.
- Distribute educational materials regarding Shoreland buffer requirement and government programs that provide assistance to establish and maintain buffers.
- Establish a hay-able buffer program.

Objective: Promote buffers around sinkholes.

Actions:

- Provide resource support to the Minnesota Geological Survey and the University of Minnesota Department of Geology and Geophysics for field assistance and verification in updating the Karst Feature database utilizing LiDAR.
- Inventory surrounding land use around sinkholes.
- Inform landowners owning land with sinkholes of buffer options and setback requirements.
- Support the regional ENRTF MN DNR springshed mapping for trout stream management by identifying targeted landowners and making contacts to them regarding the project.

**Priority Concern: Soil Erosion, Sediment Control and Stormwater Management**

**Goal: Minimize the erosion of agricultural soils.**

Objective: Promote programs that encourage soil conservation.

Action:

- Promote projects and activities that educate and encourage cropping practices that minimize soil erosion. Cover cropping, contour farming, crop rotation, conservation cropping systems (No-till, strip-till and ridge-till management)

**Goal: Eliminate gully erosion.**

Objective: Install grass waterways and grade stabilization structures.

Actions:

- Identify hot spots for gullies and other sources of erosion. Contact landowners with options for cost share and technical assistance to address erosion concerns.
- Install 40 grade stabilization structures in high-prioritized areas.
- Install 5,000 feet of waterways and diversions per year in high-prioritized areas.
- Inspect, maintain, and oversee maintenance of conservation structures according to BWSR guidelines

**Goal: Maintain or increase the percentage of perennial vegetation.**

Objective: Promote and protect forest resources.

Action:

- Maintain and assist with Forest Stewardship Plans.

Objective: Promote grass-based agriculture.

Action:

- Increase the adoption of rotational grazing by writing 25 grazing plans

**Goal: Reduce stormwater runoff from impervious surfaces through site design principles.**

Objective: All municipal areas meet the principles of the EPA Phase II Stormwater Requirements.

Action:

- Assist small cities on stormwater retention/infiltration projects.

**Priority Concern: Nutrient, Manure, and Human Waste Management**

**Goal: Treat manure wastes or manage wastes as fertilizer and / or energy source in order to prevent the contamination of ground and surface waters.**

Objective: Correct open lot runoff from noncompliant feedlots.

Action:

- Provide technical assistance for design, installation and implementation of feedlot plans.
- Provide maintenance suggestions and inspections of implemented feedlot projects in accordance with State Standards.
- Provide administrative and technical assistance for correcting manure runoff problems.
- Implement a County Feedlot and Inspection Program

Objective: Increase the usage of manure management plans among livestock producers.

Actions:

- Promote and educate landowners on the benefits of manure/nutrient management plans.
- Make the AgBMP Loans available for landowners to purchase manure/nutrient management equipment to meet their manure management plans.
- Assist feedlot operators with development and implementation of Manure Management Plans.
- Provide livestock producers maps of sensitive features.

Objective: Promote pasture management throughout the County.

Action:

- Design, implement, and provide technical assistance for pasture management plans.

**Goal: Treat human waste to prevent the contamination of ground or surface waters.**

Objective: Address Imminent Threats to Public Health from septic systems.

Actions:

- Incorporate revisions to the SSTS Ordinance to identify and fix ITPH and systems failing to protect ground water.
- Follow up on all with ITPH to insure compliance is achieved in required time frames.

Objective: Update septic system database and GIS to show all septic systems within Winona County.

Actions:

- Participate as a sub-grantee to develop a comprehensive SSTS database through the Southeast Minnesota Water Resources Board 2010 Clean Water Fund SSTS Program Enhancement Grant.
- Work with all SSTS professionals to insure that they utilize the electronic based system for submitting Compliance Inspection Reports and other information.

Objective: Initiate projects with small communities with significant wastewater needs.

Actions:

- Based on updated septic system information, review and update the list of small communities with wastewater needs.
- Make contact with two communities of greatest need and start task forces.

Objective: Provide operational and maintenance information to homeowners having septic systems.

Actions:

- Host yearly Operation and Maintenance Workshop
- Provide copies of Septic System Owners Guide to owners of newly installed systems or upon request.

Objective: Provide financial assistance to individuals needing replacement systems.

Actions:

- Participate as a lender of last resort in the MDA AgBMP program.
- Determine income eligibility of ITPH and noncompliant septic system owners and seek Clean Water Fund grant funds for these individuals.

## Priority Concern: Watershed Management Approach

**Goal: Compose watershed assessments and plans for all 68 minor watersheds.**

Objective: Promote and utilize a watershed planning approach in dealing with nonpoint source pollution, soil erosion and hydrologic problems.

Actions:

- Promote the formation of community-based watershed groups and watershed planning activities in the watersheds of Big Trout, Gilmore Creek, Pleasant Valley Creek and Rush Pine.
- Support and assist established watershed organizations, Whitewater Watershed Project and the Stockton-Rollingstone-Minnesota City Watershed District, in conducting outreach activities and using Winona County and SWCD programs to address watershed problems.
- Supply additional support for the Rush-Pine Creek Watershed

Objective: Educate residents and local units of government regarding watersheds and water resources.

Actions:

- Make routine presentation to the County Board and in other forums about County Water Management efforts and the condition of the water resources.

- Increase school and citizen participation in the MPCA Citizen Stream Monitoring Program, MPCA Citizen Lake Monitoring Program, and macroinvertebrate community monitoring projects.

Objective: Promote GIS data sharing and modeling for assessing watersheds and water resource quality.

Actions:

- Initiate a project to develop GIS data sharing capability among those groups that monitor water and land uses in Winona County and the region.
- Evaluate and utilize existing GIS tools for determining the impact of proposed land use activities on watershed hydrology, soil erosion potential, nonpoint pollution runoff potential, and natural resource quality