Mississippi River – La Crescent Watershed: Water Plans

The Mississippi River – La Crescent Watershed encompasses Houston 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:
Houston County LWMP 2007-2017 amended 2012
Winona County LWMP 2011-2015

Water Plan Evaluation

Concern	Houston	Winona
Conservation BMPs		
Education		
Feedlot Compliance		
Groundwater		
Sediment		
Shoreland Management		
SSTS/ISTS		
Stormwater Management		
Surface Water		
Technical/Financial Assistance		
TMDL - Impaired Water		
Wetlands		
Coordination/Partnership		
Erosion Control		
Manure Management Plan		
Monitoring		
Municipal Wastewater		
New Technology		
Nonpoint Source Pollution		
Priority Pollutants		
Water Retention		
Watershed-based Approach		
Wellhead Protection		

Concerns addressed in County Water Plan associated with nutrient issues

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

Houston County LWMP 2007-2017 amended 2012

Priority Concern: Changes in agriculture and effects on water resources

Priority Concern: Impact of development on the sensitive Karst topography

Priority Concern: Recreation uses of water and impact to the environment

Priority Concern: Education and awareness of resources and sensitivity

Priority Concern: Groundwater sensitivity in Karst topography

Goal: Protect groundwater in order to maintain an adequate supply of safe drinking water for current and future generations

Objective: Provide technical and financial assistance to land users to properly manage and utilize agriculture nutrients

Actions:

- Provide technical assistance on ag waste management on 20 per year
- Establish demonstration plot exploring manure application rate and nitrogen/phosphorus rates
- Manure application field day

Objective: Address non-conforming ISTS

Actions:

- Update 50 non-conforming ISTS
- Inspect all new & upgraded ISTS
- Administer AgBMP loan program
- Enter all new & upgraded ISTS inspections

Objective: Well Tests

Actions:

- Offer free infant well tests of 15 families/year
- Offer well water testing kit at low cost to landowners
- Participate in SE MN Domestic Well Network
- Provide annual free nitrate testing to Houston County residents
- Prepare two news articles annually on well testing
- Prepare posters on prenatal and infant care & place where appropriate

Goal: Improve surface water quality in rivers and streams in Houston County

Objective: Explore methods to slow decline in perennial vegetation

Actions:

- Promote existing programs which offer incentives to establish/maintain perennial vegetation
- Develop local/regional incentives to establish 1000/acres of perennial vegetation annually
- Information/education campaign on importance of hay land for erosion control and runoff reduction
- Assist with implementation/administration of programs that support/promote animal agriculture
- Promote perennial vegetation within the riparian zone through buffer initiatives the reduce sediment delivery and nutrient reduction. Goal of 20 acres annually

Objective: Provide incentives to adopt conservation practices which will offset the effects of current cropping trends on runoff and erosion in Houston County

Actions:

- Establish incentive program to plant 500 acres of fall cover crops
- Continue technical assistance to the NRCS through contribution agreements and other related programs to install approved EQIP conservation practices
- Seek federal, state, and local grants including but not limited to National Fish & Wildlife (NFWF), Emergency Defense Fund (CWF), and The Nature Conservancy to provide cost share and technical assistance to landowners for conservation practice implementation countywide
- Conduct one annual meeting with county commissioners and watershed groups to discuss funding mechanisms for BMP installation
- Continue partnership opportunities with The Nature Conservancy and NRCS to install 500 linear ft. of stream bank restoration and 30 acres of streambank buffers an 20 BMP's within priority areas of the Root River Watershed
- Provide technical and administrative assistance to the Crooked Creek Watershed to implement their watershed plan
- Contact ARS (Agriculture Research Station) to obtain cover crop data information for Houston County landowners and conduct one landowner workshop
- Assist Minnesota Board of Water and Soil Resources (BWSR) in the conservation practice and implementation and enhancement of the Hokah Wetland Bank Project. Plan/maintain 80 acres of native grass plantings
- Provide outreach to landowners/landlords throughout the county through two annual news articles on the importance of conservation planning and installation of recommended practices. Goal of 20 per year

- Provide guidance, cost share assistance and recommendations to 20 Bee/Duck Creek Watershed landowners using various programs (CRP, EQIP, State) for forest stewardship activities that reduce runoff, improve wildlife habitat and maintain, expand and improve perennial cover
- Continue prioritization and promote of BMPs using LiDAR and the Stream Power Index (SPI) as a way to target sensitive landscape features that contribute a disproportionate amount of sediment and nutrients

Objective: Provide technical and financial assistance on feedlots

Actions:

- Provide planning and financial assistance for low-cost feedlot fixes on 5 lots per year
- Provide technical assistance to Houston County to conduct inspections and provide maintenance recommendations on 7% of open lot agreements (OLA program) per year
- Promote residue management on 500 acres of highly erodible land annually
- Encourage wetland restoration on 2 sites in Houston County
- Plan and implement grazing plans on 250 acres of sensitive areas annually

Objective: Provide technical and financial assistance to land users to establish practices which will reduce discharge of pollutants from animal feedlots

Actions:

- Continue ongoing partnership with county feedlot officer to address open lot agreement workload
- Assist JPB with 2 large feedlot storage and runoff projects

Objective: Develop additional alternatives to promote non-traditional livestock operations

Actions:

- Prepare and submit an annual news article on information and opportunities for non-traditional livestock operations and agricultural operations that support the use of perennial vegetation
- Provide most updated information and material related to non-traditional livestock operation and provide guidance and contacts to interested residents

Goal: Manage stormwater runoff to minimize risk to human life, property, and the environment

Objective: Provide technical and financial assistance to establish practices that reduce sediment delivery

Actions:

- Provide financial incentives to establish 5 push-up ponds annually
- Develop program providing stormwater retention through road culvert or ditch size reduction on 2 township and county roads annually

Objective: Explore opportunities to reduce peak flow from rural and urban residential development

Action:

- Provide home site evaluations on average of 12 rural building sites per year

Objective: Explore opportunities for solutions to flooding concerns throughout the county, including prioritization of water retention/flood storage using LiDAR Terrain Analysis and solicitation of funding sources for project costs and technical assistance along with utilizing upstream jurisdiction and other partners

Action:

- Participate with US Fish and Wildlife Service, Root River Citizens Committee and other partners

Objective: Provide administrative and technical assistance to address issues related to existing wetland within Houston County

Action:

- Assist the county in administering the WCA

Objective: New Technology

Actions:

- Provide funding and in-kind contributions for improved technology using LiDAR, stream monitoring projects and computer design software in an effort to enhance natural resource protection
- Discuss and prepare staff training needs for both technical and administrative employees

Objective: Flood Retention

Actions:

- Complete 2007, 2008 flood workload (Staggemeyer site 2)
- Provide annual maintenance on existing Winnebago Watershed flood control structures
- Provide technical and planning assistance to the Bee/Duck Creek, Crooked Creek and Winnebago Watershed committees
- Seek funding opportunities for cost share assistance through the Clean Water Grant proposal to install flood retention structures within the Bee/Duck Creek, Crooked Creek and Winnebago watersheds

Goal: Review of local and regional plans and ordinances for compliance and compatibility

Objective: Administer all provisions of Houston County Water Plan

Actions:

- Staff part-time Water Plan Coordinator
- Continue participation on SE WRB
- Review local/regional plans to insure compliance with Water Plan

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