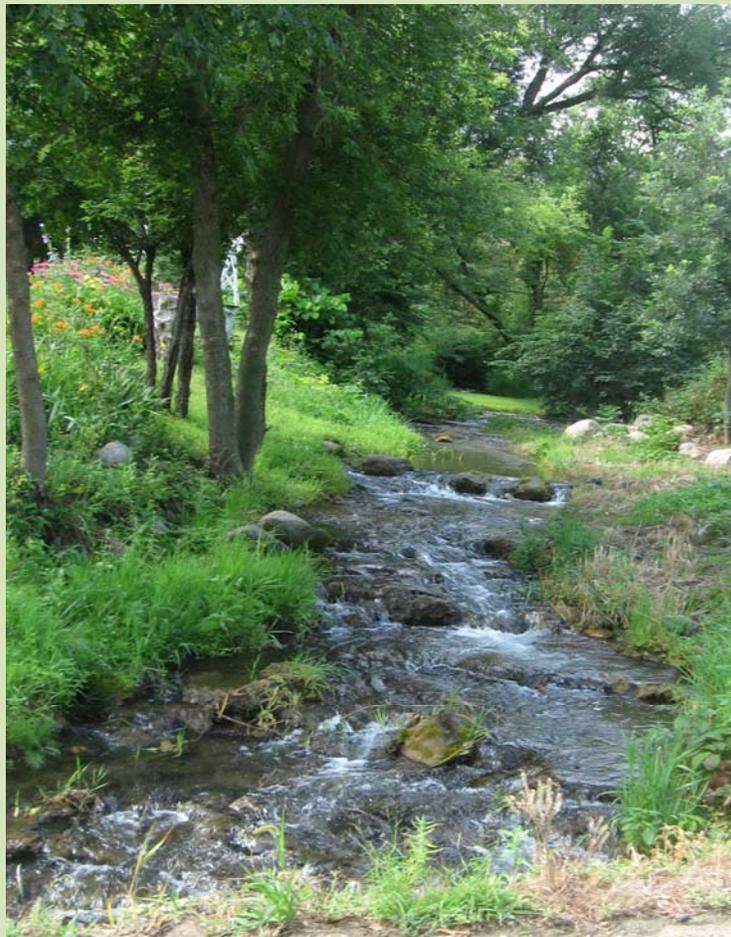


Yellow Medicine County Comprehensive Local Water Plan

May 2010 – May 2015



2010 Amendment
Executive Summary
Five Year Implementation Plan

EXECUTIVE SUMMARY

In 2005, Yellow Medicine County updated its Comprehensive Local Water Plan in accordance with Minnesota Statutes 103B. The Plan will remain in effect for a period of ten years, May 2005 – May 2015. The Plan serves two primary purposes: 1) to identify existing and potential issues and opportunities related to the protection, management, and development of water and land resources, and 2) to outline an implementation program that will guide the County in water resource management. The Implementation Section of the Plan (the Goals, Objectives and Action Steps) covers a five year period and needs to be reviewed and updated on a five year basis.

The Yellow Medicine County Board of Commissioners, on June 23, 2009, passed a resolution to amend the Yellow Medicine County Comprehensive Local Water Management Plan. On August 24, 2009 a Notice of Decision to Amend the Yellow Medicine County Local Water Management Plan was sent to all Local Units of Government and State review agencies. The Water Task Force met from February 2010 to April 2010 to identify priority issues for the next five years and to develop an implementation program. Comments were solicited from the public, other local governmental units, and state and federal agencies. Input was requested from Yellow Medicine County Pheasants Forever, Yellow Medicine County Cattleman's Association, Yellow Medicine County Soybean Growers and Yellow Medicine County Corn Growers Association.

Yellow Medicine County's Population and Location

Yellow Medicine County is located in West Central Minnesota along the South Dakota border. The County has nine cities and twenty-one townships. According to the 2000 Census, the County had 11,080 residents. The County has an area of 752 square miles, which amounts to 485,120 acres of land. Hammer-shaped, the County is 54 miles long from east to west and 12 miles north and south at the west end of the County to 21 miles at the eastern boundary. The eastern boundary follows the Minnesota River and extends into the hammer shape, narrowing down to a twelve-mile dimension north and south running westward for thirty miles to the South Dakota border. Outside of the County's nine communities, the countryside is primarily dominated by agricultural land uses.

The elevation is 1,714 feet in the southwest corner of the county, 1,380 feet in the northwest corner, 920 feet in the northeast tip of the county and 1,059 feet in the southeast corner. The highest point, which is near the southwest corner, is 1,739 feet. The lowest point, which is where the Minnesota River flows out of the county, is about 860 feet. All of the county drains into the Minnesota River by way of the Yellow Medicine River, the Lac qui Parle River, and small streams and ditches, which rise in the Coteau des Prairies, a long range of hills running from west of Lake Traverse in the north to the Iowa line in the South. The Lac qui Parle River flows from southwest to northeast through the County, entering Lac qui Parle County before discharging into the Minnesota River.

Yellow Medicine County shares borders with South Dakota to the west, Chippewa and Lac qui Parle County to the north, Renville County to the east, Redwood County to the southeast, and Lyon and Lincoln Counties to the south.

**Yellow Medicine County
Water Task Force Committee Members**

The following Yellow Medicine County Water Task Force members are recognized for their contributions to this Water Plan:

LouAnn Nagel, Yellow Medicine SWCD
Willis Beecher, LqP Yellow Bank Watershed District & Ag Producer
Cindy Potz, Yellow Medicine River Watershed District
Mitch Kling, Lincoln Pipestone Rural Water System
Gene Eilers, Municipalities Representative
Alan Saltee, Township Representative & Ag Producer
Gary Johnson, County Commissioner
Delmar Mamer, Citizen
Randy Jacobson, Zoning Administrator
Jolene Johnson, Water Plan Coordinator

Ex-Officio Members

David Sill, BWSR
Andy Sander, Yellow Medicine County Highway Dept.
Mary Homan, Lac qui Parle Watershed Clean Water Partnership
Menno Fokken, Yellow Medicine Soil and Water Conservation District

Yellow Medicine River Watershed District

The Yellow Medicine River and associated watershed originates in Lincoln County at Lake Shaokatan and flows northeast into Yellow Medicine County and then flows eastward to the Minnesota River south of Granite Falls. Thirty eight (38%) percent of the Watershed; or 165,760 acres, is within the borders of Yellow Medicine County. The Yellow Medicine River is divided into three major branches, the North Branch, the South Branch and the Main Stem. It has two major tributaries, Mud Creek and Spring Creek.

The intent of the Greater Yellow Medicine River Clean Water Partnership (1997 – 2007) was to advance the current understanding of the cause-effect mechanisms relating the watershed land use practices to river water quality. Fifteen hydrologic sampling stations were located throughout the watershed representing discharges from relatively large contributing watershed drainages. Additional monitoring sites include two lake stations and four reservoirs. Water quality samples were collected during both dynamic and quiescent flow regimes along with continuous flow records. Dry mass loadings and flow discharges were estimated for each of the

sub watershed and priority rankings were determined for phosphorus, nitrogen and suspended solids.

The goal of the Clean Water Partnership project was a 25% reduction in Total Phosphorus, Total Suspended Solids and Nitrates and Nitrogen Dioxide at the priority sites. Implementation activities during the Phase II Clean Water Partnership included conservation measures such as CREP, CRP and RIM programs, filter strips and basins, upgrades to septic systems, local nutrient management assessments conducted by the Yellow Medicine River Watershed District and several information and education initiatives.

The data indicates that total phosphorus remained approximately the same at most of the sub watersheds, however data indicates a reduction at site 1 which is near the river mouth and represents the entire watershed discharge. Reduction in total suspended solids appears to be substantial in most of the sub watersheds and indicates a dampening of erosion rates. The soluble species ortho phosphorous appears to have increased, and nitrate-nitrite nitrogen, and the total nitrogen seem to be less influenced by the implementation activities.

The Watershed District continues to test five sites in Yellow Medicine County. The District's priorities include keeping tabs on the amounts of fertilizers being applied on cropland and the application site's proximity to tile intakes. Nutrient management is also a priority. The District values the installation and maintenance of filter strips along the Yellow Medicine River and the watershed ditches. Flooding continues to be a concern and keeping the river channel open by the removal of fallen trees and beaver dams. There are a number of impairments located in the Watershed and the District will be addressing those in the future. Currently the watershed is working on 2 TMDL projects in the southwestern part of the watershed (Lincoln and Lyon County area) – the South Branch fecal TMDL and the Lake Shaokatan TMDL.

The Yellow Medicine River Watershed District will be monitoring four sites in Yellow Medicine County through the Minnesota Pollution Control Agency's Surface Water Assessment Grant program. The monitoring will take place in 2010 and 2011.

Lac qui Parle – Yellow Bank Watershed District

The western one-third of Yellow Medicine County is drained by the Lac qui Parle River. There are approximately 117,760 acres of the watershed in Yellow Medicine County. The Lac qui Parle River flows from the southwest to the northeast through the County and enters Lac qui Parle County before discharging into the Minnesota River. An important land feature to note is that there is a 1,070 foot drop in elevation in the first 60 miles of drainage and a 930 foot drop in elevation over the next 1,000 miles of drainage. The following are tributaries: Canby Creek, Florida Creek, Lazarus Creek and the Lac qui Parle Creek.

The Lac qui Parle-Yellow Bank Watershed District conducted a watershed wide diagnostic study from 2001-2003. The purpose of the study was to assess the water quality and land use throughout the District to develop a strategic implementation plan that could be shared with watershed partners. Thirteen sites strategically located throughout the watershed were monitored. Sub-watersheds were monitored to determine load contribution from each minor watershed.

The Lac qui Parle River Watershed in Yellow Medicine County has six impairments listed on three river reaches in the county. The impairments are for fecal coliform and turbidity on the south branch Lac qui Parle from the headwaters in Lincoln County to the West Branch Lac qui Parle just east of Dawson, MN. Also, Lazarus Creek from where the Canby Creek merges to the Lac qui Parle River, and Florida Creek from the MN/SD border to West Branch Lac qui Parle River in Lac qui Parle County. The Draft TMDL Assessment Report is expected to be completed in June 2010 and be ready for public review and a final TMDL Assessment Report in February 2011. An Implementation Plan for the impaired reaches will be developed during this time using the TMDL Assessment Report and input from local citizens and agencies.

Redwood River Watershed

The extreme southeastern tip of Yellow Medicine County is drained by the Redwood River. There are approximately 14,100 acres of the watershed that lie within Yellow Medicine County's borders. Yellow Medicine County is a member of the Redwood Cottonwood Rivers Control Area (RCRCA). This organization was formed in 1983 to enhance and protect the Redwood and Cottonwood Rivers. The Redwood River Clean Water project, sponsored by RCRCA, was designed to improve water quality in the Redwood River, Lake Redwood and ultimately the Minnesota River. Findings were based on a three year evaluation of the lake's watershed. Sedimentation and high phosphorus concentrations are primary concerns in the watershed. Accelerated implementation of best management practices have been a special emphasis in several priority minor watersheds.

Four reaches of the Redwood River have been identified as being impaired for turbidity. These reaches are found throughout the watershed and vary in size. A draft TMDL to address the turbidity impairments is scheduled to be completed in 2010. Several reaches of the Redwood River have been identified as being impaired for fecal coliform and an implementation plan to address those impairments will be developed in conjunction with the turbidity implementation plan upon EPA approval.

Water Plan Accomplishments

The Yellow Medicine County Comprehensive Local Water Plan has addressed many water quality and quantity issues. Over the past years, the Water Task Force has met and developed work plans according to the goals, objectives and actions presented in the Water Plan. The Yellow Medicine SWCD has been a very important partner in the implementation part of the Water Plan. The following is a list of Water Plan accomplishments from 2005 – 2010.

Education and Information:

- Educate landowners about the importance of protecting wellhead protection areas.
- Promoted water conservation through newsletter articles.
- Assist the Lac qui Parle and the Yellow Medicine River Watershed Districts with TMDL development and implementation.
- Published the Water Quality Quantity Newsletter

- Promote recycling and proper household hazardous waste management.
- Participated in the SWCD's 5th grade Conservation Days.
- Published news articles to address water quality, water quantity and conservation issues and concerns.
- Educate landowners about the importance of conservation practices and conservation programs and BMPs.

Monitoring and Data Collection:

- Free water testing (coliform bacteria and nitrates) of private wells in the County. Eighty nine private wells were tested.

Inventory and Mapping:

- Assisted landowners in the review and comment of the draft floodplain maps.
- County and Judicial Ditch information and records were digitized and a GIS layer of county ditch systems was developed.
- Continue to maintain the feedlot database

Land and Water Treatment:

- Sealed 104 wells from 2005 – 2009 through the Abandoned Well Sealing Cost Share Program
- Assisted with the Household Hazardous Waste Collection, Electronics Collection and Fluorescent Bulb Collection
- Upgraded 194 septic systems from 2005 – 2009
- In the Canby Creek Watershed, upgraded 21 septic systems; sealed 9 wells and worked with 7 feedlots to bring them into compliance.
- In the Lazarus Creek Watershed, 6 wells were sealed, 10 septic systems upgraded and 3 feedlots were brought into compliance.
- Inspect 10% of the registered feedlots in the County on an annual basis.
- Designed and planted 34,700 feet of field windbreaks
- Designed and planted 130.8 acres of farmstead windbreaks
- Designed and planted 36 acres of wildlife habitat
- Worked with landowners on the design, cost-share and installation of 39,805 feet of terraces and/or water and sediment control basins
- Worked with landowners on the design, cost-share and installation of 37.5 acres of grass waterways
- Established 1,824.3 acres of filter strips/buffers along ditches and streams
- Enrolled 3,084.8 acres of cropland into CRP, RIM, etc.
- Enrolled 1,084.8 acres of pasture into prescribed grazing systems.
- Restored 359.2 acres of wetlands into conservation programs
- Developed nutrient management plans targeting 9,544.38 acres
- Developed pesticide management plans for 8,228.6 acres
- Cost shared the installation of 104 blind intakes

Regulations, Ordinances and Planning:

- Serve on the Yellow Medicine River Watershed and Lac qui Parle Watershed Clean Water Partnership Technical Advisory Committees.
- Participate in the City of Canby's wellhead protection planning meetings.
- Updated the Yellow Medicine County Land Use and Related Resource Management Ordinance, including the Feedlot Ordinance.
- Updated the Yellow Medicine County Comprehensive Plan.
- Conducted an annual meeting of stakeholders and the Local Work Group to discuss resource concerns and set priority areas for EQIP

The following is a list of ongoing activities in Yellow Medicine County:

- Publish newsletters, news articles, and news releases to address water quality, water quantity, and conservation issues and concerns.
- Promote recycling and solid waste management
- Provide well testing kits for the public
- Continue to promote and staff the Household Hazardous Waste drop off site located in Clarkfield
- Continue to enforce the Yellow Medicine County Feedlot Ordinance and assist producers with feedlot questions
- Provide low interest loans for septic system upgrades through the watersheds Clean Water Partnerships
- Administer the Shoreland and Floodplain Management program
- Work with the Minnesota Department of Agriculture as a testing site for commercial pesticide applicators
- Continue to require permits and inspections for all newly installed septic systems
- Implement and update the SSTS ordinance as needed
- Select a conservation farmer
- Participate in the MASWCD poster and essay contest
- Set up displays at the fair, banks, restaurants, family resource fairs, etc.
- Distribute educational material to each grade level in the county and conduct a presentation in each classroom
- Work with the SWMACDE to sponsor an Environmental Fair for all 6th graders
- Distribute an education newsletter twice a year to all teachers, scout leaders, 4H leaders, etc.
- Promote soil stewardship week
- Hold conservation days for all 5th graders in the county
- Hold a field day for all 2nd grade students at Bert Raney Elementary School
- Assist and promote the SWMACDE Area Envirothon and the State Envirothon

- Work with Pezuta Zizi Environmental and Cultural Learning and Resource Center to present the Rocky Creek Ecosystem for the 5th and 6th graders at Bert Raney Elementary School. Continue to serve on the Pezuta Zizi Board
- Hold a mini Envirothon for junior high students
- Develop promotional presentations for local organizations
- Provide assistance in implementing the Federal Farm Program
- Continue to administer the Wetland Conservation Act
- Continue to monitor groundwater observation wells designated by DNR
- Continue to comment on DNR water permits
- Participate in the state rainfall-monitoring program by selecting rainfall monitors to record daily precipitation
- Yellow Medicine County has designated the entire county as a high priority wetland preservation area. The county will continue to accept and process eligible applications for wetland preservation on a countywide basis

*For more information about Yellow Medicine County's
Ongoing activities, please contact the following:*

**Yellow Medicine County Zoning Office
1000 10th Ave, P.O. Box 675
Clarkfield MN 56223-0675
(320) 669-7524**

Goals, Objectives and Action Steps

Yellow Medicine County's four priority issues are:

Groundwater Protection
Erosion and Sediment Control
Reducing Priority Pollutants
Surface Water, Drainage Management and Flooding

This section identifies the goals, objectives and actions that will guide the County in water resource management over the next five years (2010 – 2015). Each of the action steps identifies who is responsible for its implementation, when the action step should occur, and an estimate on how much it will cost. For the purposes of this section, the following abbreviations are used. The abbreviations in **BOLD** indicate the lead agency for that specific action.

CB	= County Board	USACE	= U.S. Army Corps of Engineers
PC	= Planning Commission	BWSR	= Board of Water & Soil Resources
PZ	= Planning & Zoning	DNR	= Department of Natural Resources
DA	= Ditch Authority	FWS	= U.S. Fish & Wildlife Service
HD	= Highway Department	MDA	= Minnesota Department of Agriculture
YMR	= Yellow Medicine River Watershed	MDH	= Minnesota Department of Health
LqP	= Lac Qui Parle Watershed	MDOT	= MN Department of Transportation
MGS	= Minnesota Geological Survey	CPH	= Countryside Public Health
SWCD	= Soil and Water Conservation District	MPCA	= Minnesota Pollution Control Agency
WPC	= Water Plan Coordinator	UMES	= University of MN Extension Service
NRCS	= Natural Resources Conservation Service	PRK	= Yellow Medicine County Parks Dept
RCRCA	= Redwood Cottonwood Rivers Control Area		

Throughout the Comprehensive Water Plan, Goals, Objectives and Action Steps are defined in the following way:

Goal: A general, idealistic statement intended to be achieved at some undetermined future date.

Objective: An action-oriented statement that supports the completion of a goal. There may be more than one objective per goal.

Action Step: Specific implementation steps that will be followed in order to achieve the County's Goals and Objectives.

Impaired Waters and TMDL's:

Minnesota's Impaired Waters and Total Maximum Daily Loads (TMDL):

The federal Clean Water Act (CWA) requires states to adopt water quality standards to protect waters from pollution. These standards define how much of a pollutant can be in the water and still allow it to meet designated uses, such as drinking water, fishing and swimming.

The standards are set on a wide range of pollutants, including bacteria, nutrients, turbidity and mercury. A water body is "impaired" if it fails to meet one or more water quality standards.

To identify and restore impaired waters, Section 303(d) of the Clean Water Act requires states to:

- 1) Assess all waters of the state to determine if they meet water-quality standards.
- 2) List waters that do not meet standards (also known as the 303d List) and update every even-numbered year.
- 3) Conduct TMDL studies in order to set pollutant reduction goals needed to restore waters.

Federal and state regulations and programs also require implementation of restoration measures to meet TMDLs.

MPCA's responsibilities include performing assessment activities, listing impaired waters, and conducting TMDLs in Minnesota. The agency also coordinates closely with other state and local agencies on restoration activities.

The Clean Water Legacy Act, passed in June 2006, allocates first year funding to accelerate water monitoring, TMDL development and restoration activities throughout the state. Now with the new Clean Water Funding (constitutional amendment) passing in 2008 this furthers these efforts.

Impaired Waters:

Below is the MPCA 2008 Clean Water Act Section 303(d) list of impaired water for Yellow Medicine County.

<u>Reach</u>	<u>Unit ID#</u>	<u>Affected Use</u>	<u>Pollutants/Stressors</u>
Lac qui Parle River Headwaters (Lk Hendricks 41-0110-00) to Lazarus Creek (Canby Cr)	07020003-505	Aquatic Recreation	Fecal Coliform
Lac qui Parle River Headwaters (Lk Hendricks 41-0110-00) to Lazarus Creek (Canby Cr)	07020003-505	Aquatic Life	Fish Bioassessments

Lac qui Parle River Headwaters (Lk Hendricks 41-0110-00) to Lazarus Creek (Canby Cr)	07020003-505	Aquatic Life	Turbidity
Lac qui Parle River Lazarus Cr (Canby Cr) to W Branch Lac qui Parle River	07020003-506	Aquatic Recreation	Fecal Coliform
Lac qui Parle River Lazarus Cr (Canby Cr) to W Branch Lac qui Parle River	07020003-506	Aquatic Life	Turbidity
Lazarus Creek (Canby Cr) Canby Cr to Lac qui Parle River	07020003-508	Aquatic Recreation	Fecal Coliform
Lazarus Creek (Canby Cr) Canby Cr to Lac qui Parle River	07020003-508	Aquatic Life	Turbidity
Lazarus Creek MN/SD border to Canby Cr	07020003-509	Aquatic Life	Fish Bioassessments
Tenmile Creek Headwaters to Lac qui Parle River	07020003-511	Aquatic Recreation	Fecal Coliform
Tenmile Creek Headwaters to Lac qui Parle River	07020003-511	Aquatic Life	Fish Bioassessments
Florida Creek MN/SD border to W Branch Lac qui Parle River	07020003-521	Aquatic Recreation	Fecal Coliform
Florida Creek MN/SD border to W Branch Lac qui Parle River	07020003-521	Aquatic Life	Fish Bioassessments
Florida Creek MN/SD border to W Branch Lac qui Parle River	07020003-521	Aquatic Life	Turbidity
Minnesota River Chippewa R to Stony Run Cr	07020004-501	Aquatic Recreation	Fecal Coliform
Minnesota River Chippewa R to Stony Run Cr	07020004-501	Aquatic Consumption	Mercury in Fish Tissue
Minnesota River Chippewa River to Stony Run Cr	07020004-501	Aquatic Life	Turbidity
Yellow Medicine River Spring Cr to Minnesota River	07020004-502	Aquatic Life	Turbidity
Minnesota River Wood Lake Cr to Sacred Heart Cr	07020004-504	Aquatic Consumption	Mercury in Fish Tissue

Minnesota River Wood Lake Cr to Sacred Heart Cr	07020004-504	Aquatic Consumption	PCB in Fish Tissue
Minnesota River Lac qui Parle to Chippewa River	07020004-505	Aquatic Consumption	Mercury in Fish Tissue
Minnesota River Hawk Cr to Wood Lake Cr	07020004-506	Aquatic Consumption	Mercury in Fish Tissue
Minnesota River Hawk Cr to Wood Lake Cr	07020004-506	Aquatic Consumption	PCB in Fish Tissue
Yellow Medicine River S Br Yellow Medicine River To Spring Cr	07020004-513	Aquatic Life	Turbidity
Minnesota River MN Falls Dam to Hazel Cr	07020004-515	Aquatic Consumption	Mercury in Fish Tissue
Minnesota River MN Falls Dam to Hazel Cr	07020004-515	Aquatic Consumption	PCB in Fish Tissue
Minnesota River MN Falls Dam to Hazel Cr	07020004-515	Aquatic Life	Turbidity
Minnesota River Hazel Cr to Yellow Medicine River	07020004-516	Aquatic Consumption	Mercury in Fish Tissue
Minnesota River Hazel Cr to Yellow Medicine River	07020004-516	Aquatic Consumption	PCB in Fish Tissue
Minnesota River Stony Run Cr to Palmer Cr	07020004-519	Aquatic Consumption	Mercury in Fish Tissue
Spring Creek Headwaters to Yellow Medicine River	07020005-538	Aquatic Life	Fish Bioassessments
Judicial Ditch 10 (Wood Lake Cr) Timm Lk to Wood Lake Outlet	07020004-546	Aquatic Life	Fish Bioassessments
Minnesota River Granite Falls City N boundary To Granite Falls Dam	07020004-575	Aquatic Consumption	Mercury in Fish Tissue
Minnesota River Palmer Cr to Granite Falls City N Boundary	07020004-583	Aquatic Consumption	Mercury in Fish Tissue
Minnesota River Granite Falls Dam to 8 th Ave and Baldwin St bridge	07020004-612	Aquatic Consumption	Mercury in Fish Tissue

Minnesota River 8 th Ave and Baldwin St bridge To MN Falls Dam	07020004-613	Aquatic Consumption	Mercury in Fish Tissue
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Lakes	Lake ID #	Affected Use	Pollutants/Stressors
Del Clark	87-0180-00	Aquatic Consumption	Mercury in Fish Tissue

The list of impaired waters is updated every two years, and is scheduled to be updated in 2010.

Approved TMDLs and implementation plans that have been approved by the EPA:

- Lower Minnesota River TMDL: Low Dissolved Oxygen; Approved September 28, 2004

TMDLs Underway:

- Lac qui Parle River: Bacteria, Turbidity, and Low Dissolved Oxygen

PRIORITY ISSUE #1: GROUNDWATER PROTECTION

Priority Concern:

“Protect drinking water resources by providing assistance to help manage vulnerable areas from potential contamination sources.”

Groundwater Goal: Protect and Improve the Quality of Groundwater in the County.

Objective A: Support the needs of public water suppliers and wellhead protection planning.

Actions:

1. Participate in the preparation and implementation of wellhead protection plans for public water suppliers.

Who: **WPC, PZ, SWCD** *When:* 2010 - 2015 *Cost:* \$3,000

2. Consider wellhead protection areas when making land use decisions, such as the permitting of feedlot, land use and sewer systems.

Who: **PZ, PC, CB** *When:* 2010 - 2015 *Cost:* \$5,000

3. Contact cities and the rural water system with available assistance. Advise and assist public water suppliers with technical land use information and planning assistance when wellhead protection plans are developed. The City of Canby is currently working on their wellhead protection plan and in the near future Lincoln Pipestone Rural Water’s Burr well field will be working on a wellhead protection plan.

Who: **PZ, WPC, SWCD** *When:* 2010 - 2015 *Cost:* \$5,000

4. Identify and contact landowners who own and operate land in the delineated wellhead protection areas and/or source water protection areas and encourage them to use practices that will aid in the protection of groundwater.

Who: **SWCD, PZ** *When:* 2010 - 2015 *Cost:* \$5,000

5. Work with the City of Canby, and any other cities to encourage landowners in the Drinking Water Supply Management Area to use appropriate land use practices to protect the public water supply from potential contamination.

Who: **PZ** *When:* 2010 – 2015 *Cost:* \$1,000

6. Continue to have Wellhead Protection Areas as priority areas for cost-share and other land use incentive programs (i.e. sealing abandoned wells, upgrading septic systems, feedlot management, nutrient management, CRP, RIM, etc.) The Local Work Group, which is used for setting priorities in Yellow Medicine County for the Federal Environmental Quality Incentive Program, identified vulnerable well areas in Canby, Echo and Wood Lake as a high priority when ranking applications for funding.

Who: **SWCD**, PZ, WPC, NRCS *When:* 2010 – 2015 *Cost:* \$3,000

7. Continue to cooperate with Lincoln Pipestone Rural Water on the expansion of the rural water system and advise them about County programs that will help manage potential contamination sources.

Who: **WPC**, SWCD *When:* 2010 – 2015 *Cost:* \$1,000

Objective B: Encourage good land use decisions to protect groundwater resources from contamination sources.

Actions:

1. Annually educate landowners, both rural and urban on the proper applications and disposal of agriculture and lawn chemical /fertilizers.

Who: **WPC**, PZ, MDA *When:* 2010 – 2015 *Cost:* \$500

2. Provide financial assistance as available to seal 20 abandoned wells per year.

Who: **WPC** *When:* 2010 – 2015 *Cost:* \$30,000

3. Annually develop and distribute educational materials for homeowners and realtors on the importance of disclosing and sealing wells.

Who: **WPC** *When:* 2010 – 2015 *Cost:* \$500

4. Work with state agencies to assist the County with learning how to interpret data and identify sensitive areas needing additional management and protection. Use the Upper Minnesota River Basin Regional Hydrogeologic Assessment and other groundwater information as informational sources.

Who: **WPC** *When:* 2012 *Cost:* \$1,000

5. Annually provide a variety of education on both public wellhead protection areas and the protection and management of private wells (and well areas) to city residents, rural

**PRIORITY ISSUE #2:
EROSION AND SEDIMENT CONTROL**

Priority Concern:

“Soil erosion and sedimentation on agricultural lands”

Soil Erosion and Sediment Goal: To Protect and Improve Surface and Ground Water Quality by Addressing and Reducing Soil Erosion and Sedimentation.

Objective A: Reduce erosion and sediment problems to sustainable levels by promoting the use of Best Management Practices (BMPs).

Actions:

1. Promote Best Management Practices in the County. Concentration will be on the following designated high priority areas as identified through the Stakeholder and Local Work Group Process:
 - a) Yellow Medicine Watershed – specifically the monitoring sites #4 (1 mile west of Hanley Falls, the outlet of Cottonwood Lake) and #12 (Mud Creek) having a high nitrate problem.
 - Sandnes – Sections 9-11, 13-17, 19 and 36
 - Norman – Sections 13-14, 22-24, 26-28 and 33-36
 - Wergeland – Sections 16-21 and 18-33
 - b) Yellow Medicine River to Spring Creek as listed as impaired waters (turbidity). This is the area from Hanley Falls to the Minnesota River.
 - c) Lac qui Parle Watershed – specifically the following areas:
 - Norman – Sections 1, 2, 11, 12 and 14
 - Omro – Sections 1-16, 22-24, 26-28 and 34
 - Oshkosh – Sections 1-12, 14-23 and 28-33
 - Tyro – Section 4-9, 16-19 and 30
 - Wergeland – Section 4-7
 - d) Canby Creek Watershed – specifically the following areas above Del Clark Lake:
 - Fortier – Sections 11, 13-16 and 20-34
 - Norman – Section 8, 9, 16-18, 19-20 and 30
 - e) Main channel of the Yellow Medicine River, Lac qui Parle River, Florida Creek and Lazarus Creek (1 mile on each side).
 - f) Vulnerable well areas (Canby, Echo, Wood Lake and the Burr well field)
 - g) Land adjacent to the lake of Wood Lake
 - h) Judicial Ditch #10 Watershed – HUC Code 702004560

Who: SWCD, PZ

When: 2010 – 2015

Cost: \$20,000

2. Reduce the amount of wind erosion to 5 ton or less soil loss per acre on the most severely erodible acres by designing and planting 15,000 feet of field windbreaks and/or living snowfences, 100 acres of farmstead windbreaks and 25 acres of wildlife habitat. Continue to promote the installation of plastic mulch for better weed control and/or soil moisture.

Who: **SWCD**, MDOT, HD *When:* 2010 – 2015 *Cost:* \$176,000

3. Promote enrollment of 10,000 acres into the residue management practice incentive program offered through the Environmental Quality Incentive Program (EQIP) or any other funding sources.

Who: **SWCD**, NRCS *When:* 2010 – 2015 *Cost:* \$234,000

4. Reduce the amount of water erosion to 5-ton or less soil loss per acre on severely eroded acres by the installation of BMPs such as but not limited to:
 - a. Terraces and/or water & sediment control basins 25,000 feet
 - b. Grass waterways 40 acres following conservation practices.

Funding will be obtained through various agencies and/or programs, such as Federal Funds, Clean Water Funds, State Cost Share Program, etc. The Ag BMP Loan Program could be used to supplement cost share dollars or to fund projects. If successful in obtaining funds through the Clean Water Fund, the SWCD will be able to substantially increase the number of practices established in this five year period. The district will be meeting with the adjacent SWCDs in the Yellow Medicine River Watershed, Lac qui Parle-Yellow Bank Watershed and the Redwood Watershed setting goals and objectives for the perspective watersheds.

Who: **SWCD**, NRCS *When:* 2010 – 2015 *Cost:* \$300,000

5. Continue to manage CREP, RIM, and CRP easements, monitor sites to see that conservation practices are installed and conduct approximately 100 status reviews each year.

Who: **SWCD**, NRCS *When:* 2010 – 2015 *Cost:* \$45,000

6. Establish 1,500 acres of filter strips/buffers along ditches and streams to capture sediment as it leaves the fields. Assist the FSA in promoting and processing the Continuous Conservation Reserve Program. Determine if buffer strips exist along the watercourses in the county. If not, make personal phone calls and/or personal visits with landowners promoting the CRP Program and/or any other easement programs. Maintain the minimum one-rod grassed areas as it applies to drainage policy. Continue to promote and work in the Yellow Medicine River Watershed, the Lac qui Parle River Watershed, and the

Redwood River Watershed to accelerate the implementation of filter strips/buffers in these areas and promote filter strip incentive programs.

Who: **SWCD**, NRCS, DA *When:* 2010 – 2015 *Cost:* \$375,000

7. Enroll 1,500 acres of cropland subject to severe erosion into existing programs (i.e. CRP, RIM, etc.)

Who: **SWCD**, NRCS *When:* 2010 – 2015 *Cost:* \$300,000

8. Enroll 500 acres of pasture into prescribed grazing systems.

Who: **SWCD**, NRCS *When:* 2010 – 2015 *Cost:* \$8,250

9. Conduct an annual meeting of stakeholders and/or Local Work Group to discuss resource concerns and set priority areas for the Environmental Quality Incentive Program (EQIP). Promote installation of best management practices utilizing the EQIP and/or the State Cost Share Program, and the Ag BMP Loan Program for financial support. Convene Local Work Group Meetings for EQIP to discuss priority practices and priority areas. Assist with taking applications and planning for EQIP contracts.

Who: **SWCD**, NRCS *When:* 2010 – 2015 *Cost:* \$4,950

10. Educate landowners/operators about erosion and sediment control, the importance of installing conservation practices and encourage enrollment into conservation programs by providing information and options about BMP's through newsletters, news releases and individual contacts.

Who: **SWCD** *When:* 2010 – 2015 *Cost:* \$8,000

11. Restore 150 acres of wetlands into conservation programs.

Who: **SWCD**, NRCS *When:* 2010 – 2015 *Cost:* \$600,000

12. Encourage landowners to utilize the Minnesota Department of Agriculture's on-line tool, "Minnesota Conservation Guide" which is a one-stop resource for information about agricultural and natural resource conservation practices, programs and payments.

Who: **PZ**, WPC *When:* 2010 – 2015 *Cost:* \$500

7. Use LIDAR to identify critical areas within a watershed.

Who: **SWCD**, NRCS, PZ

When: 2010 – 2015

Cost: \$3,000

8. Utilize new technology or information sources as they become available.

Who: **SWCD**, NRCS, PZ, WPC

When: 2010 – 2015

Cost: \$500

Objective B: Target identified impaired (Total Maximum Daily Load (TMDL)) water bodies for implementation of practices to reduce pollutants.

Actions:

1. Work with the Minnesota Pollution Control Agency and the watersheds to develop TMDL plans that will help meet the goal of getting the waters off the TMDL 303D list of impaired waters. The 2008 list of impaired waters in the County includes the waters listed at the beginning of this section.

Who: **MPCA**, WPC, SWCD *When:* 2010 – 2015 *Cost:* Unknown

2. Cooperate with the Lac qui Parle-Yellow Bank Watershed District in completing the TMDL study and participate in the development of the TMDL implementation plan by serving on the Technical Advisory Committee and in other roles as necessary.

- a. Assist in the development of the implementation plan for the fecal coliform and turbidity impairments in the Lac qui Parle River, Lazarus Creek and Florida Creek.

Who: **LQP**, WPC, SWCD, NRCS *When:* 2010 – 2012 *Cost:* \$5,000

3. The County should actively pursue grants and implementation dollars through the Clean Water Fund and other funding sources, for current projects, TMDL's underway and for new TMDL's/Impaired waters projects and work with State and local partners on addressing impaired waters.

Who: **WPC**, SWCD, YMR, LQP *When:* 2010 – 2015 *Cost:* \$2,500

4. Educate landowners who own land around the County's surface waters about the importance of protecting our surface waters from deterioration.

Who: **WPC**, SWCD *When:* 2010 – 2015 *Cost:* \$500

5. Update the County's Shoreland Ordinance to reflect changes made to the statewide program.

Who: **PZ**, DNR *When:* 2011 *Cost:* \$5,000

6. Cooperate with the Yellow Medicine River Watershed District and participate in the development of TMDL Implementation plans by serving on the Technical Advisory Committee and in other roles as necessary.

Who: **WPC**, YMR, SWCD *When:* 2010 – 2015 *Cost:* \$2,500

7. Cooperate with the Redwood Cottonwood Rivers Control Area (RCRCA) and participate in the development of TMDL studies and implementation plans for the impairments turbidity and fecal coliform.

Who: **WPC**, RCRCA, SWCD *When:* 2010 – 2015 *Cost:* \$2,500

8. Cooperate with the Yellow Medicine River Watershed District in the monitoring and assessment of sites identified in the Surface Water Assessment Grant Program.

Who: **WPC**, YMR, SWCD *When:* 2010 – 2011 *Cost:* \$2,500

PRIORITY ISSUE #4
SURFACE WATER, DRAINAGE MANAGEMENT AND FLOODING

Priority Concern:

“Manage flooding and its’ effects minimizing losses associated with the flooding of agricultural lands. Address runoff volume and water quality deterioration through surface water and drainage management.”

Surface Water, Drainage Management and Flooding Goal: To Implement Sound Surface Water and Drainage Management Strategies.

Objective A: Minimize losses associated with the flooding of agricultural lands.

Actions:

1. Address the smaller flood events such as 2 year and 5 year events by restoring 150 acres of wetlands through various conservation programs and increasing the number of filter strips through CCRP, etc. Target sites within the watershed to achieve strategic flood storage in conjunction with water quality and wildlife benefits. (see Action #11 on Page #18)

Who: **SWCD, NRCS** *When:* 2010 - 2015 *Cost:* \$600,000

2. Take flood prone land along rivers, streams and waterways out of crop production by encouraging enrollment into land retirement programs, such as CRP, RIM, WRP, etc., and applying best management practices to those areas (also see Priority Issue #2, Actions 6 and 7).

Who: **SWCD, NRCS** *When:* 2010 - 2015 *Cost:* \$20,000

3. Work with Area II, RCRC, watershed, surrounding counties and the East Dakota Water Development District to assess, prioritize and pursue funding through various agencies for water storage opportunities.

Who: **WPC, HD, YMR** *When:* 2010 - 2015 *Cost:* \$2,000

4. Use the FEMA Floodplain maps to assess agricultural flooding problems and promote local, state and federal BMP programs.

Who: **PZ, SWCD** *When:* 2010 - 2015 *Cost:* \$5,000

