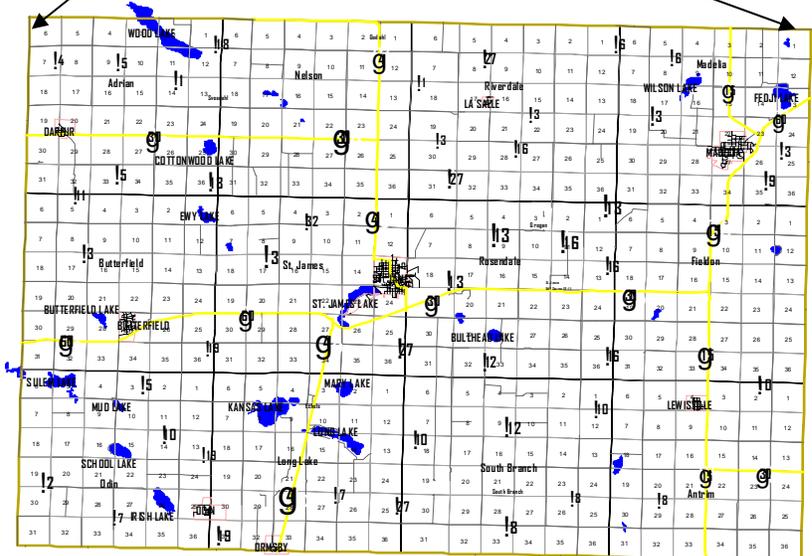
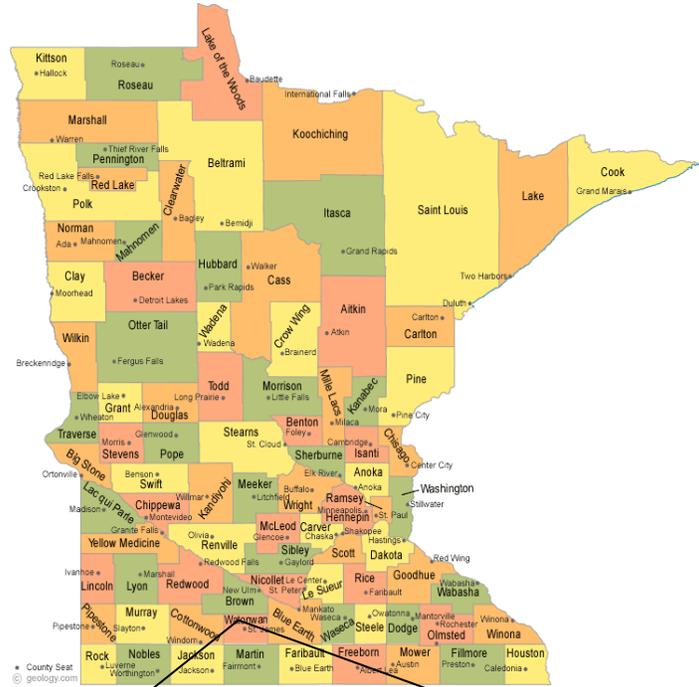


WATONWAN COUNTY LOCAL WATER MANAGEMENT PLAN 2008-2018



**Submitted by: Watonwan County Environmental Services
July 2008**

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A) EXECUTIVE SUMMARY

Watonwan County is a Southwestern Minnesota County surrounded by the borders of Martin, Jackson, Cottonwood, Brown and Blue Earth counties. The county seat of Watonwan County is St. James, with a population of 4,627 at the 2000 census. The 2000 census total put Watonwan County's population at 11,876.

A1) PURPOSE & INTRODUCTION

The Watonwan County Local Water Management Plan is intended to identify existing and potential water related issues in the context of watershed units and groundwater systems, informing specific implementation activities and goals for sound hydrological management of water and related resources. The Watonwan County Board of Commissioners adopted a resolution to revise the plan on August 15, 2006.

This Water Plan is a ten-year management plan with a five year implementation docket and schedule. It is the third edition of a local water management plan for Watonwan County. The original plan was adopted in 1989 and first updated in 1998.

Throughout the duration of the previous plans a Local Water Plan Task Force has met on a regular quarterly basis to discuss ongoing activities and address budget issues. Task Force members were informed at the September 11, 2006 meeting of the need for an update of the Water Plan. Survey forms were then sent out to a wide range of organizations, units of government, agencies and individuals seeking comment on priorities that should be addressed in an updated plan. Comments were submitted and compiled and were subsequently presented on December 11, 2006, upon which a discussion was held. Priority concerns were selected by staff based on those comments and discussions; and were presented to the Task Force on March 19th, 2007 for approval.

Under Watonwan County's present Water Management Plan, these accomplishments and activities have taken place:

- ▶ The replacement of 414 non-compliant septic systems from 1998-2008
- ▶ Delegated county in the state feedlot program, working with the MPCA and the Minnesota Association of County Feedlot Officers.
- ▶ Worked with local feedlot owners and developers with permitting, registration and securing manure management plans.
- ▶ Provided funds for collection of manure samples by county livestock producers.

- ▶ Provided cost share for feedlot repairs and compliance issues.
- ▶ Supported and participated in the South Central Minnesota County Comprehensive Water Planning Project, informally known as the 13 County organization.
- ▶ Through the 13 County organization, we worked with the Water Resource Center at the University of Minnesota Mankato in the development of GIS capabilities for Watonwan County and Watonwan SWCD.
- ▶ Participated in the Blue Earth River Basin Initiative joint powers organization.
- ▶ Participated, along with other counties in the Greater Blue Earth River Watershed in the creation of the Greater Blue River Basin Alliance, a joint powers of counties and Soil and Water Districts in the Greater Blue Earth River Watershed, upon the cessation of the activities of 13 County organization and of BERBI.
- ▶ Participated in the Water Implementation at the Local Level process and from 2000 through early 2008 provided administration and served as county representative for a Phase 2 Clean Water Partnership for the Watonwan River Watershed.
- ▶ Provided support to the Watonwan County Friends of the Library in the 2005 celebration of Mary Ellen Lewis Day, which entailed an environmental education field day for county residents held at the Meadowlark Learning Center near St. James.
- ▶ Provided support funds for the improvement of the Meadowlark Learning Center.
- ▶ Provided funding and staff support for highly successful Green Saturday events as they were put on by the Watonwan SWCD.
- ▶ Supported Watonwan County Townships with annual grant funding opportunities for water quality improvement projects as determined by township officials.
- ▶ Supplied county residents with drinking water testing kits.
- ▶ Provided technical support and advice to the Watonwan County Planning Commission and Watonwan County Board of Commissioners as land use projects were proposed and considered.
- ▶ Watonwan County and SWCD worked with the small communities in the county on their wastewater needs. Utilized a BWSR challenge grant to help fund the procurement of preliminary engineering reports for the four remaining unsewered small communities in Watonwan County. Out of the four, two are in the construction phase and two are in the final design phase as this plan is being written.
- ▶ Supported sealing of 168 abandoned wells.
- ▶ Utilization of Zone 10 engineers for construction projects.
- ▶ Installation of 130 rock tile intakes and intake buffers.
- ▶ Planting of shelterbelts, field windbreaks and living snow fences.
- ▶ Maintenance and upkeep of the Meadowlark Learning Center
- ▶ Administered the volunteer rain gauge reader program (SWCD)
- ▶ Citizens Stream Monitoring Program
- ▶ Annual Arbor Day Tree Program

- ▶ Bi-annual Habitat Workshops
- ▶ Bi-annual Green Saturday Program
- ▶ Conduct transect survey
- ▶ Stewardship Week program with area churches
- ▶ Environmental Poster Contest in county schools
- ▶ Environmental Awareness Day with county 6th graders.
- ▶ Reclamation and improvement of Long Lake Public Beach.
- ▶ Streambank survey conducted on North Fork of the Watonwan River and Perch Creek.
 - ▶ Three wetland banking sites established
 - ▶ Established one wildlife area
 - ▶ Goose Lake Basin (440 acres) restored in Fieldon Township
 - ▶ Ag waste lagoon closure demonstration for area engineers and state and county feedlot staff.
 - ▶ Published and distributed news articles and brochures to inform public on programs.
 - ▶ \$1,100,497.04 were spent on EQIP projects
 - ▶ Mitigation – 3 sites/10 acres
 - ▶ 14 Streambank repairs were completed which included 4,137 feet

The Watonwan County Environmental Services Department administers local water management in Watonwan County. Duties include convening of the local Task Force. The Task Force membership currently includes these individuals who have participated in this update process:

NAME	REPRESENTING
Dorothy Raney	SWCD
Bruce Johnson	Environmental Services/Water Planner
Marlin Ziemer	Planning Commission
Noren Durheim	SWCD Supervisor
John Baerg	County Commissioner
Mark Sturm	City of St. James
Mark Rentz	County Commissioner
Ron Lindeen	Adrian Township
Hank Kohn	St. James Township
Chris Hughes	BWSR/New Ulm
Roger Risser	Watonwan County Public Works
Phillis Brey	NRCS
Jack Krech	Watonwan SWCD
Julie Sulflow	Environmental Services
Paul Sawatzky	Nelson Township
Bill Yock	Nelson Township
Ruth Wiederhoeft	Antrim Township
Jerry Karau	Antrim Township
Sanford Seibert	Fieldon Township

Special thanks to Jack Krech, Phillis Brey, Dorothy Raney and Roger Risser for their direct assistance in the preparation of this plan.

PUBLIC & INTERNAL FORUM

- 8/15/06** County Commissioners approve resolution to update Local Water Management Plan.
- 8/25/06** Notice of Decision to Revise and Update the Local Water Management Plan to units of government, organization and responsible agencies.
- 10/1/06** Requested date for recommendations of priority concerns to be returned to Watonwan County Environmental Services.
- 12/11/06** Task Force meeting – Water Plan Survey Results
- 3/19/07** Task Force meeting – Water Plan update/priority concerns
- 6/11/07** Task Force meeting – Local Water Management Plan Scoping Document
- 11/6/07** Resolution Authorizing Extension of the Watonwan County Comprehensive Water Management Plan
- 11/15/07** Water Plan Special Public Meeting with Task Force
- 11/20/07** Resolution Authorizing Extension of the Watonwan County Comprehensive Water Management Plan
- 3/10/08** Task Force meeting – Scoping Document Discussion
- 6/9/08** Task Force meeting – Discussion of meeting with BWSR regarding Scoping Document approval
- 7/28/08** Public Hearing on Local Water Management Plan before the County Board of Commissioners.

Upon approval of this plan, the Minnesota Board of Water and Soil Resources (BWSR) has up to 120 days to pass an Adoption and Implementation Resolution. After final adoption, the plan may be amended in a similar process, by petitioning the BWSR Board, scheduling a public hearing and sending notice to the required parties.

A2) DESCRIPTION OF PRIORITY CONCERNS

The priority concerns listed below were selected by the Water Plan Task Force members after reviewing the comments and concerns. These concerns were selected as a result of information on implementation activities and program over time, a history of degrees of success in implementation and evaluation of a balance of need for further implementation with an assessment of what can realistically be achieved within the local economic and civic climate and culture.

■ Priority Concern 1: Surface Water Quality Protection & Improvement

Surface water quality for all waters addressing established and discovered impairments for phosphorus, nitrogen and fecal coliform bacteria, turbidity and Biological Fish Index of Biological Integrity.

■ Priority Concern 2: Groundwater Protection

Groundwater protection, taking into consideration availability as well as drinking quality.

■ Priority Concern 3: Drainage Management

Drainage management with the goal of establishing wetland restoration and water retention areas. These and other drainage decisions should be aided by a refined, accurate and expanded local drainage inventory.

■ Priority Concern 4: Sediment Control & Stream Protection

Comprehensive sediment control efforts focusing on tillage and residue practices and management, and on flooding and flows as they affect stream banks and bluffs.

A3) SUMMARY OF GOALS, ACTIONS AND PROJECTED COSTS

Goals and actions were selected to address priority concerns.

■ Priority Concern 1: Surface Water Quality Protection & Improvement

Watsonwan County lies almost exclusively within the Watsonwan River Watershed and nearer to its entirety within the Greater Blue Earth River Watershed. There is a need to protect and reduce further impairment of the Watsonwan River, its tributaries and the lakes in the watersheds.

Consideration will be made to any high priority water quality problems. “High priority water quality problems” means areas where sediment, nutrients, chemicals, or other pollutants discharge to Department of Natural Resources designated waters or to any high priority waters as identified in a comprehensive local water plan or the conservation districts comprehensive plan, or discharge to a sinkhole or ground water. The pollutant delivery rate to the water source is in amounts that will impair the quality or usefulness of the water resource.

Desired objectives will be a continuation of local efforts to bring individual onsite septic systems into compliance with local and state rules, to continue efforts to bring community wastewater treatment facilities within the county into compliance with state and federal regulations and continue to bring feedlot operations into full compliance with an emphasis on manure management practices.

Implementation actions include review and revision of county ordinances, promoting and educating property owners on the operation and maintenance of onsite septic systems, providing technical assistance to feedlot operators and owners in determination of needs for site improvements and provide financial assistance for the improvement of feedlots and replacement of noncompliant septic systems. Maintenance of information systems to track implementation activities is seen as an important objective.

Projected costs for implementation of the actions proposed are approximately \$2,325,000 in required cost share funds and property owner costs. \$115,750 and in-kind services are estimated to be required for administration, education and outreach.

(Dollar figures are estimates based on historic costs.)

■ **Priority Concern 2: Groundwater Protection**

Groundwater protection will be addressed for the purpose of protecting both quality and quantity. Drinking Water Supply Management Areas and private and community wells will be a focus of implementation efforts, with the objective of protecting long-term supplies from contamination and depletion.

Implementation actions include working with municipal and rural water providers on land use activities within supply and management areas, provision of assistance to owners of abandoned wells in the sealing of those wells, maintenance of well sealing records, supporting drinking water well screening and testing programs and supporting well owner and water user education efforts.

Projected costs for the actions proposed are \$43,000 for implementation actions and \$8,500 and in-kind services for administration, education and outreach.

(Dollar figures are estimates based on historic costs.)

■ **Priority Concern 3: Drainage Management**

This concern will be addressed through the promotion of the restoration of wetlands, the establishment of water retention areas and the continued development of an accurate inventory of drainage infrastructure within the county.

Objectives include supporting the continuation of existing development of modernized drainage information systems and encouraging landowners to consider alternatives such as controlled drainage, restoration and other retention BMP's through promotional and educational efforts. An additional objective will be to seek financial assistance for the purpose of supplementing traditional cost share sources for easements and costs that may be required to achieve meaningful implementation.

Project costs for implementation activities and actions are \$225,000 and \$1000 and in-kind services for technical services, outreach and administration.

(Dollar figures are estimates based on historic costs.)

■ **Priority Concern 4: Sediment Control & Stream Protection**

This concern will be addressed to reduce the delivery of sediment over surface features to surface waters and to create restorations and structures that will slow delivery of precipitation waters, with emphasis on waters designated as TMDL impaired.

The Watonwan SWCD work plan indicates erosion problems as high priority. "High priority erosion problems" means areas where erosion from wind or water is occurring equal to, or in excess of, 2 x T tons per acre per year or is occurring on any area that exhibits active gully erosion or is identified as high priority in the comprehensive local water plan or the conservation district's comprehensive plan.

Implementation actions include the promotion of BMP's, providing technical assistance in the selection and design of practices, providing financial incentives for implementation of BMP's. It will also be an objective through this plan to work with state and federal agencies in the implementation of TMDL's as they continue to be set and as plans are developed.

Projected costs for implementation of the actions proposed are \$105,000. \$62,500 and in-kind services are estimated to be required for outreach activities and technical assistance.

(Dollar figures are estimates based on historic costs.)

A4) CONSISTENCY WITH LOCAL, STATE AND REGIONAL PLANS

Watonwan County Environmental Services and the Watonwan County Public Works Department administer the county's land use ordinances. The Watonwan County Zoning Ordinance is reviewed on an ongoing basis for reflection of the goals of this plan. The Watonwan County Board of Commissioners are open to recommendations from county staff and citizens for consideration of amendment. It is deemed at the time of the creation of this implementation plan that it is consistent with county land use requirements. The City of St. James Drinking Water Supply Management Plan was submitted for review during the preparation of this plan and is given consideration in the objectives of this plan. The Greater Blue Earth River Fecal TMDL Plan is in place and the objectives and goals of this plan are consistent with that plan. It is anticipated that a succession of additional TMDL plans will be commissioned and approved over the duration of this plan.

A5) SUMMARY OF RECOMMENDED AMENDMENTS TO OTHER PLANS AND OFFICIAL CONTROLS

The review and amendments of the Mining and Extraction section of the Watonwan County Zoning Ordinance is recommended at the completion and approval of this document. Action is also required by the State of Minnesota to amend the county's wastewater treatment rules by 2010 and this plan is consistent with Watonwan County's intentions and plans to do so.

B) PRIORITY CONCERNS

B1) IDENTIFICATION OF PRIORITY CONCERNS

Priority Concerns for local water management were selected by the Watonwan County Water Plan Task Force members after reviewing the concerns submitted by state and local agencies and other concerned citizens. **(Refer to Priority Concerns Scoping Document – Appendix E2.)**

Comments on priority concerns were received from:

- ▶ Minnesota Board of Water and Soil Resources
- ▶ Minnesota Department of Natural Resources
- ▶ Minnesota Pollution Control Agency
- ▶ Minnesota Department of Health
- ▶ Watonwan Soil and Water Conservation District
- ▶ Martin Soil and Water Conservation District
- ▶ Blue Earth County Water Planning
- ▶ City of St. James
- ▶ Village of LaSalle
- ▶ Watonwan County Public Works
- ▶ South Branch Township
- ▶ John Baerg, Watonwan County Commissioner
- ▶ Sanford Seibert, Citizen/SWCD Supervisor
- ▶ Lowell Sieg, Citizen

B2) ASSESSMENT OF PRIORITY CONCERNS

Watonwan County consists of eight (8) incorporated communities, four (4) unincorporated villages and twelve (12) townships. As of 2006, it was estimated by the Minnesota Demographic Center that there were 11,480 residents in the county, 396 less than counted in the 2000 US Census. The Center projects Watonwan County population to be 10,020 in 2035 with virtually all of the loss from the 2006 estimate projected to come outside of the City of St. James.

The economy of Watonwan County is dominated by agricultural production and food processing industries. There are also manufacturing and fabrication concerns that provide employment in St. James and Madelia.

Land cover in the county is 82.81% agricultural production lands, 2.12% forest, 5.6 grass/shrubs/wetlands, 0.83% water and 8.59% urban development according to the most recent information compiled in 2000 by the University of Minnesota. 2.3% of the county is covered by

nonimpervious surface areas. **(Refer to Watonwan County Land Use Map - Appendix E12)**

Average rainfall in Watonwan County is 28-32 inches. In 2005, rainfall totaled 39.08 inches, spiked by abnormally heavy September rainfall.

Watonwan County is unique in Southern Minnesota in that all but a very small area of the county is contained within one significant watershed, that being the Watonwan River Watershed. Very small areas in 3 corners of the rectangular county are comprised of 721 acres in the Blue Earth River Watershed and 130 acres in the Middle Minnesota Watershed. No natural tributaries to the Blue Earth or Middle Minnesota lie within Watonwan County.

Draining to the Watonwan River are the North Fork of the Watonwan River, the South Fork of the Watonwan River, St. James Creek, Butterfield Creek, Spring Branch Creek, Perch Creek and Willow Creek which course through Watonwan County.

Watonwan County contains numerous lakes and sloughs. Kansas Lake, Long Lake and St. James Lake are designated by the Minnesota DNR as Recreational Development Lakes, and 21 water bodies are classified as Natural Environment Lakes. All of the county's water bodies are affected by land use and practices in the watersheds and drainage systems that feed them. Sediments and accompanying nutrients and pollutants are delivered to these waters and can alter the condition of the affected waters. Decreasing clarity, which can affect aquatic plant growth and increased algae growth related to nutrient loading that impair fish and wildlife habitat are ongoing concerns. **(Refer to Watonwan County Primary Lakes & Streams Map – Appendix E3)**

■ **Priority Concern 1: Surface Water Quality Protection & Improvement**

a) **Agricultural Runoff**

Runoff of sediments and pollutants from agricultural lands and facilities to surface waters is a matter of concern.

The implementation of Best Management Practices (BMP) to prevent runoff and conserve soil is encouraged and addressed primarily through recommendation of available conservation easement programs. Sources of additional cost share resources are continually sought to make implementation more attractive to landowners and producers. Such opportunities have been in place in various forms for a considerable time and have been utilized effectively in Watonwan County. It remains important that

easement and cost share programs be in place for installation of buffers, terraces, waterways, retention and sedimentation structures and other BMP's to continue. The Watonwan SWCD and NRCS staff are in place to assist landowners with evaluations, design, construction and maintenance of BMP's as well as to assist landowners with applications for funding assistance when funding sources are available. External financial resources will be essential to achieve progress along with willing and cooperative property owners and stakeholders. **(Refer to Watonwan County Protected Waters & Wetlands Map – Appendix E10)**

b) TMDL Assessment

Total Maximum Daily Loads (TMDL's) addressing sediment, turbidity and fecal coliform are being addressed at various watershed scopes in 2008 with phosphorous and Fish Index of Biological Integrity TMDL in the assessment phase in streams and other waters in Watonwan County.

Watonwan County participates in the development of TMDL allocations and implementation plans for impaired waters in the county as directed by State of Minnesota agencies. The county will require information and guidance through this process as TMDL listings, allocations and implementation plans grow. While the county is committed to participation in improving water quality improvement efforts, primary decisions will be made at levels beyond local government. Watonwan County is represented in greater watershed work by the county and the SWCD supporting and having a presence on the policy board of the Greater Blue Earth River Basin Alliance (GBERBA) and the county supporting and being represented on the policy board of the Minnesota River Basin Joint Powers Board. Recent discussions within these organizations indicate that a number of distinct possible scenarios are being explored surrounding TMDL implementation and funding. **(Refer to the Greater Blue Earth Basin – 2008 Impaired Waters Requiring a TMDL map – Appendix E13)**

c) Shoreland Management

The county's streams and lakes are protected in the nearby topography by the county's shoreland ordinance. Shoreland areas are those lands defined as lying within 1000 feet of lakes and 300 feet of rivers and streams. Shoreland structure development issues are addressed in the lot sizes, dimension and setback requirements and standards of the Zoning Ordinance. Management and treatment of the immediate shoreland impact area is subject to DNR Shoreland Management Guidelines, as administered by Watonwan County Environmental Services.

Development of property in the shoreland zone that is proposed for a greater use than a single residence is subject to evaluation for the possible need for subdivision to ensure development consistent within the provisions of county rules and state guidelines.

d) Feedlots & Nutrient Management

Watonwan County is a Delegated County in the State of Minnesota feedlot Program as overseen by MPCA. The county addresses feedlot development and expansion extensively in and through its land use regulations and procedures. All feedlots over 20 animal units are required to obtain and operate under permits issued by Watonwan County. In addition, feedlots that exceed numbers of animals and/or animal units as prescribed by the U.S. Environmental Protection Agency, as exceeding a minimum requirement are required to obtain National Pollution Disposal and Elimination System (NPDES) permits issued by and overseen by the MPCA. Permits are accompanied by manure management plans and manure application records are requested of feedlot operators annually. **(Refer to Watonwan County Feedlot Map by Animal Unit – Appendix E5)**

Minnesota State Feedlot rules set down specific setback requirements from open waters, wells and drainage tile intakes for applications of livestock manure. The University of Minnesota College of Agriculture and its Extension Services have established recommended rates of application of nutrients. Soil testing is to be considered a primary component of nutrient management and is requested at least once every four (4) years as part of manure management plans. **(Refer to Watonwan County Manure Acres Map – Appendix E14)**

e) Wastewater Treatment

Wastewater in Watonwan County is regulated at the non-point source level by the county. Watonwan County regulates and administers onsite wastewater through the Zoning Ordinance. Inspection is required at property transfer and at the addition of a living space that involves a bedroom or a bathroom. Upgrade is also required at the discovery of system failure. Watonwan County will be revising and updating its waste water ordinance section in 2009 as required by MPCA as a follow up to the agency revisions to state onsite rules having been adopted in February of 2008.

The communities of St. James, Butterfield, and Madelia have wastewater treatment plants permitted by the MPCA. The Village of LaSalle is in the process of constructing an MPCA permitted facility in 2008. The Villages of Odin and Ormsby are in the final

planning process for construction of treatment facilities. The Village of Darfur has been serviced by a Watonwan County permitted treatment system since 2002. The complete treatment of wastewater in the incorporated towns and villages is an objective and priority of this plan and a long held goal of the County Board of Commissioners. **(Refer to Watonwan County Upgraded Septics Map – Appendix E6)**

f) Wetland Restoration

There is no shortage of awareness or recognition on the part of conservation and environmental services staff in the county regarding the value of wetlands in water quality maintenance and improvement efforts. Wetland restorations can be useful as an offset to activities that direct overland stormwater and subsurface drainage water to surface water. Creating restoration that would keep pace with those factors is unrealistic under current agricultural conditions. However, Watonwan County, SWCD and NRCS staff will continue to encourage the holding of water on the landscape at every opportunity. While projects will need to be large in scale to provide significant mitigation, restorations, as well as water storage structures of all types are seen as useful.

Floodplain management efforts are guided by measures in place throughout the county's ordinance and policies that prohibit development in the floodplain. Buildings, feedlots and wastewater treatment sites are prohibited in the floodplain and will remain so.

■ **Priority Concern 2: Groundwater Protection**

Groundwater sources, quantity and accessibility are studied, assessed, monitored and appropriated for use by the Minnesota DNR. Watonwan SWCD assists the DNR in the collections of data from observation wells within the county. The DNR issues permits for appropriation of groundwater for substantial water users. Watonwan County has no bio-fuel plants within its borders. Bio-fuel plants are known to be substantial groundwater users and it has been indicated by county elected officials that the appropriation process would be an important function in the event that a bio-fuel or any other large scale industrial user were to be proposed.

a) Rural Water

Rural water services are in wide use in western Watonwan County, including servicing the communities of Butterfield, Odin and Ormsby. A considerable portion of the water servicing rural water

customers is supplied by wells owned and operated by the City of St. James.

b) Wellhead Protection

Wellhead Protection and Drinking Water Supply Management Plans have been prepared for the City of St. James and the Village of LaSalle and is being prepared for the City of Madelia. Odin, Ormsby and Butterfield are served by Red Rock Rural Water, with Red Rock Rural Water supply wells being within Wellhead Protection and Drinking Water Supply Management Plans. Minnesota Department of Health (MDH) staff report that the need for plans for Darfur and Lewisville is listed with MDH but are well down the line of order for plan development and are not likely to be prepared within the timeframe of this plan. **(Refer to Drinking Water Supply Management Area Maps – Appendix E4)**

c) Landuse

In an effort to increase groundwater protection efforts in Watonwan County, the Mining and Extraction section of the Watonwan County Zoning Ordinance is scheduled for review and consideration for amendment in 2008. An effort to inventory and register extraction facilities will be undertaken with the goal of all active sites obtaining conditional use permits that reflect the standards of the ordinance and any required conditions that are brought forward from the process.

Groundwater protection is a consideration of the county's onsite wastewater program. Current and future ordinance requirements do and will consider well and water supply line setbacks and water table depth.

The application of manure from livestock feedlots and manure storage areas is also considered in the provision of state and county rules and recommendations. Setback for facility construction and manure application location from private and municipal wells are in place and feedlot owners are informed annually of manure application setbacks requirements. Land application review is the primary driver of the county feedlot workplan.

d) Pesticide Application

Watonwan County works cooperatively with the Minnesota Department of Agriculture in certification testing of licensed pesticide applicators. Agricultural pesticides are a potential contaminant to surface and ground water and it is important that

compounds be applied at approved labeled rates. While the Department of Agriculture hold the regulatory authority in this area, the Watonwan SWCD works with well owners in the sampling of drinking water. Watonwan NRCS offer comprehensive full farm nutrient and pesticide planning assistance in conservation plans supported through the USDA Environmental Quality Incentive Program (EQIP).

e) Well Sealing

There exists a substantial number of abandoned and unused wells on properties in the county which hold potential for delivery of pollutants to aquifers. When new wells are installed, rural water is accessed or building sites are demolished, there invariably are wells on site that once served the property. Watonwan County has historically provided cost sharing funds through the Water Plan budget to property owners to assist in the cost of properly sealing abandoned wells. The growth of large farms and a declining rural population will very likely lead to continued vacating of older rural farm building sites and home which should continue to create demand for well sealing services and cost share funding.

■ **Priority Concern 3: Drainage Management**

Agricultural drainage is a long established practice that combines natural waterways, constructed ditches and waterways and sub-surface drain tile for the purpose of the rapid removal of precipitation sourced water from the surface and subsurface of agricultural cropping land. Such drainage allows for timely entry to fields for various cropping activities and also is intended to reduce stress on germinating and growing plants caused by standing water and over saturated soils in root zones. The county contains a series of inventoried public ditch systems and essentially unknown miles of private tile lines that outlet to public waters. **(Refer to Watonwan County Judicial Ditch Map – Appendix E8 & Watonwan County Public Drainage System Inventory – Appendix E9)**

a) Drainage Inventory & Information Base

Aging and overloading of drainage infrastructure has led to a persistent need for repair and maintenance of public drainage systems which the county undertakes at costs that are assessed to determined beneficiaries of the system, referred to as Judicial Ditches. The State of Minnesota Drainage Code provides the rules and guidelines for activities at and on public drainage systems. Upon examination of county records for judicial ditches, it is

discovered that what exists in many instances is no more than the original system design. System “as built” and accurate location records of repair activity were a rarity. In 2004, an effort was initiated to attempt to modernize drainage information in the county. Funding for a start up of this effort with the acquisition of equipment and computer components and part time staffing was facilitated through a BWSR Challenge Grant and through funds allocated from the Watonwan River Clean Water Partnership Phase 2B project. Existing records have been digitized and more durable hard copies and electronic versions of those maps were created, with the electronic files being used to create GIS layers. Most recently, the intakes, outlets and repair locations have been recorded as GPS coordinates and the map layers have been rectified to help in creating an even greater degree of accuracy, utilizing depth readings to establish accurate depth and grade profiles. Funds are in place to support this program in 2008 and into 2009. It is hoped that funding can be found or allocated to continue these efforts into the future. **(Refer to Judicial Ditch 35 – Branch 1 Tile Alignment/Watershed – Appendix E7)**

b) Wetland Restoration & Water Retention

While an accurate drainage inventory and mapping system will be useful to landowners in assessing the conditions of their properties, it is also an intention of the county in establishing this project that the information be utilized in the locating of areas large and small in the county where retention of water on the land through restoration and construction of wetlands in sensitive areas would be considered. Implementation of controlled drainage and any other technological advances that would be seen as useful in positively affecting the hydrology of streams could also be considered. Such BMP’s will be helpful in reducing acceleration to the natural process of stream bank erosion. Controlled drainage may also be seen as beneficial as a tool for keeping water in the soil subsurface for utilization by plants in periods of short rainfall. An accurate and accessible inventory of drainage infrastructure in the county will also prove useful in responding to changes in drainage codes and law, as well as in the determination of an implementation schedules for TMDL’s for such impairments as sedimentation, turbidity and fish habitat.

Wetland restorations and the establishment of water retention structures will require a substantial level of financial resources. Crop productions economics are driving the use of agricultural lands and are also amplifying the financial opportunities and benefits that present themselves with the expansion of drainage of cropland. If alternatives are to be entertained, there will need to be verifiable cost neutrality of benefits present, and accurate

information will be most useful in making that determination.
(Refer to Watonwan County Original Vegetation Map – Appendix E11)

■ **Priority Concern 4: Sediment Control & Stream Protection**

Comprehensive sediment control efforts, focusing on tillage and residue practices and on flooding and flows as they affect streams and bluffs.

Sediment, as it is removed from top soils over land, through tile intakes, through tile lines or scoured from culvert installations, bridge abutments, road ditches, open drainage ditches, gullies, stream banks or sensitive river and stream bluffs, is a primary export of the county. While efforts to protect local waters are often tied to bacteria, nitrogen, phosphorus and other pollutants as they affect local waters and their utility, sediment deposits down stream draw attention to upstream practices and conditions. Watonwan County is located almost entirely in the Watonwan River Watershed, a sub-watershed of the Greater Blue Earth River Watershed. **(Refer to High Priority Water Erosion Areas Map – Appendix E15; High Priority Wind Erosion Areas Map – Appendix E16 & High Priority Sedimentation Areas Map – Appendix E17)**

a) **TMDL's**

TMDL allotments for turbidity, sediment and habitat will require study and implementation on a larger watershed scale, and Watonwan County is poised to respond through involvement in the Greater Blue Earth River Basin Alliance. TMDL's established for the Blue Earth Basin, the Lower Minnesota and the Upper Mississippi, particularly reflected in a prospective Lake Pepin sediment TMDL will affect planning, and implementation activities in Watonwan County and the Watonwan River Watershed. For the purposes of this plan, it is presumed that efforts will continue to enroll landowners in existing programs that implement BMP's such as conservation easements, grassed waterways, stream and ditch buffers, terraces, gully control and retention and storage structures. Support of culvert end bridge abutment repairs and protection are often the responsibility of townships and will continue to be supported through this plan. The study and promotion of controlled drainage and promotion of wetland restorations should continue.

b) Watersheds

Down stream effects such as the deposition of sediment and turbid conditions in the Blue Earth, Minnesota and Upper Mississippi rivers will touch Watonwan County water management and implementation as TMDL reports are completed and loads are established. Local efforts to continue and expand water quality related BMP implementation will be useful in addressing that possibility.

c) Streambank Repair & Protection

Local infrastructure can also be affected by changes in hydrology and the changing courses of streams as sediment deposition and stream bank alterations redirect flowing water. Residences and other buildings, utilities and other features that were put in place in locations that seemed properly setback from waters at the time of construction or installation can become vulnerable to changing water courses and receding bluffs. Streambank stabilization, while seen as one hand as interference with the natural evolution of a stream, may become necessary to protect resources and infrastructure. Approval of major streambank protection measures require the input of multiple effected and interested parties.

B3) GOALS & OBJECTIVES TO ADDRESS PRIORITY CONCERNS

Goals and objectives to address priority concerns were approved by the Task Force as proposed by water planning staff as selected from comments submitted and the Task Force and discussed at the series of meetings. Goals are designed to express what is considered to be realistically achievable based on resources, expected levels of funding and stakeholder participation. Objectives are an attempt to map out how the goals will be accomplished, describing specific actions that will be attempted.

■ Priority Concern 1: Surface Water Quality Protection & Improvement

Goal: Prevention of further impairment of stream and lake water quality in the waters of Watonwan County.

Objective A) Agricultural Runoff

Objective B) TMDL Assessment

Objective C) Shoreland Management

Objective D) Feedlots & Nutrient Management

Objective E) Wastewater Treatment

Objective F) Wetland Restoration

■ **Priority Concern 2: Groundwater Protection**

Goal: Assure protection of the quality and safety of drinking water supply that is drawn from aquifers that serve the county and its inhabitants and assure a vigilant approach is taken and maintained in assuring the sustainability of groundwater.

Objective A) Rural Water

Objective B) Wellhead Protection

Objective C) Landuse

Objective D) Pesticide Application

Objective E) Well Sealing

■ **Priority Concern 3: Drainage Management**

Goal: Creation and maintenance of files containing accurate information on drainage infrastructure in Watonwan County involving rectification of existing systems and modernization of maps, profiles and records of repair and maintenance, with the goal of developing resources that will be of use as alternatives for conventional drainage are adopted. A priority goal will be to see this information is used to evaluate alternatives and ultimately lead to the design and implementation of water storage and wetland restorations.

Objective A) Drainage Inventory & Information Base

Objective B) Wetland Restoration & Water Retention

■ **Priority Concern 4: Sediment Control & Stream Protection**

Goal: To reduce sedimentation to streams and lakes and reduction of the effects that sediment has on habitats, stream courses, transfer of pollutants and impaired downstream conditions.

Objective A) TMDL's

Objective B) Watersheds

Objective C) Streambank Repair & Protection

C) IMPLEMENTATION SCHEDULE OF PRIORITY CONCERNS

The following implementation actions are proposed to be taken by the county in cooperation with stakeholders, state and federal agencies and other organizations to work toward meeting the goals in a 5 year implementation plan.

Watsonwan County and Watsonwan SWCD are limited by fiscal constraints that will require the funding be available in grants, primarily from the MPCA and BWSR. Clean Water Legacy and TMDL implementation funds may also play a role in supporting projects and programs as they are determined and are made available.

■ **Priority Concern 1: Surface Water Quality Protection & Improvement**

Goal: Prevention of further impairment of stream and lake water quality in the waters of Watsonwan County.

Objective A) Agricultural Runoff

Action 1) Make landowners aware of minimum tillage, ridge till, strip till and no till options through correspondence, news articles and personal contact.

Agency: SWCD, University of Minnesota Extension, NRCS

Timeframe: 2008-2012

Estimated Cost: \$500

Action 2) Provide financial support for alternative tillage through EQIP.

Agency: NRCS

Timeframe: 2008-2012

Estimated Cost: \$375,000

Action 3) AgBMP low interest loan funding for minimum tillage and no till equipment.

Agency: SWCD

Timeframe: 2008-2012

Estimated Cost: \$275,000

Action 4) Inform landowners regarding the availability of easement programs: CRP, RIM, WRP & WHIP through the SWCD website.

Agency: SWCD, WCES, USDA, NRCS

Timeframe: 2008-2012

Estimated Cost: Inkind

Action 5) Cost share funds for water retention and erosion control, terraces, waterways, sediment basins, retention ponds.

Agency: SWCD, NRCS & GBERBA

Timeframe: 2008-2012

Estimated Cost: \$200,000

Action 6) 3rd crop programs

Agency: Rural Advantage, SWCD

Timeframe: 2008-2012

Estimated Cost: Inkind

Action 7) Annual Environmental Day for all county 6th graders.

Agency: SWCD, NRCS

Timeframe: 2008-2012

Estimated Cost: \$5000

Action 8) Assist county drainage officials in determining compliance with buffer requirements on drainage ditches

Agency: SWCD, Drainage Officials

Timeframe: 2008-2012

Estimated Cost: Inkind

Action 9) Provide information to the public on water quality and conservation through a booth and display at the county fair.

Agency: WCES, NRCS, SWCD

Timeframe: 2008-2012

Estimated Cost: \$1000

Action 10) Bring the Prairie Ecology Bus annual display to the county fair.

Agency: WCES

Timeframe: 2008-2012

Estimated Cost: \$3,000

Objective B) TMDL Assessment

Action 1) Participate in GBERBA TMDL planning efforts.

Agency: SWCD, WCES, Citizen Stakeholders

Timeframe: 2008-2012

Estimated Cost: Inkind

Action 2) Address TMDL's through selling of BMP's and provision of technical assistance in BMP implementation.

Agency: WCES, SWCD, GBERBA

Timeframe: 2008-2012

Estimated Cost: Inkind

Objective C) Shoreland Management

Action 1) Review and assess adequacy of Watonwan County Shoreland Ordinances and procedures.

Agency: WCES, Public Officials, DNR

Timeframe: 2009-2010

Estimated Cost: \$2000

Action 2) Administer and enforce when necessary compliance with county ordinances and state recommendations, in cooperation with DNR staff.

Agency: WCES, DNR

Timeframe: 2008-2012

Estimated cost: \$3000

Action 3) Provide educational opportunities for shoreland residents and landowners on proper shoreland use and management.

Agency: WCES, SWCD

Timeframe: 2008-2012

Estimated Cost: \$1000

Objective D) Feedlots & Nutrient Management

Action 1) Manure management plans developed and maintained as required by county ordinances.

Agency: WCES, TSPs, GBERBA

Timeframe: 2008-2012

Estimated Cost: \$1000

Action 2) Continue county delegation agreement with MPCA for inspections and registrations of feedlots.

Agency: WCES

Timeframe: 2008-2012

Estimated Cost: \$50,000

Action 3) Coordinate efforts with the Madelia Project for potential use of livestock waste in bio-fuels production.

Agency: WCES, MPCA, Rural Advantage

Timeframe: 2009-2012

Estimated Cost: \$1250

Action 4) Administer permitting of new and expanded feedlot sites to fit local and state standards. Forward all applications that exceed minimums for animal unit thresholds to MPCA for processing as National Pollutant Discharge Elimination System permits.

Agency: WCES, MPCA

Timeframe: 2008-2012

Estimate cost: \$12,500

Action 5) Provide information to feedlot owners and operations on a frequent basis of setback requirements for manure application by letter annually.

Agency: WCES, SWCD

Timeframe: 2008-2012

Estimated Cost: \$2500

Action 6) Distribute, collect and file upon receipt manure application acreage and volume records as required in the county ordinance.

Agency: WCES

Timeframe: 2008-2012

Estimated Cost: \$10,000

Action 7) Ag BMP loan program funds offered for manure handling equipment.

Agency: SWCD

Timeframe: 2008-2012

Estimated Cost: \$250,000

Objective E) Wastewater Treatment

Action 1) Bring about ISTS replacements and upgrades through the provisions of the Watonwan County Zoning Ordinance.

Agency: WCES

Timeframe: 2008-2012

Estimated Cost: \$25,000

Action 2) Installation and replacement of 150 septic systems over 5 years.

Agency: WCES, Home and Business Owners

Timeframe: 2008-2012

Estimated Cost: \$1,350,000

Action 3) Seek sources of low interest loan funds for ISTS.

Agency: WCES, SWCD

Timeframe: 2008-2012

Estimated Cost: Inkind

Action 4) Completion of efforts to have all incorporated communities in Watonwan County served by wastewater treatment facilities.

Agency: MPCA, WCES

Timeframe: 2009-2010

Estimated Cost: Inkind

Action 5) Communicate through correspondence with permit holding homeowners on maintenance of septic systems. Send bi-annual letter of reminder to pump septic tanks regularly.

Agency: WCES

Timeframe: 2008-2012

Estimated Cost: \$1500

Action 6) Review and update the wastewater treatment section of the Watonwan County Zoning Ordinance.

Agency: WCES, Public Officials, MPCA, GBERBA

Timeframe: 2009-2010

Estimated Cost: \$5000

Objective F) Wetland Restoration

Action 1) Provide opportunities for the utilization of CRP, RIM, WRP, WHIP and wetland banking in Watonwan County.

Agency: SWCD, NRCS, FSA

Timeframe: 2008-2012

Estimated Cost: \$125,000

Action 2) Use newsletters, news articles, meeting and personal contacts and SWCD website to inform landowners and producers on the value of wetland restoration and protection.

Agency: WCES, SWCD

Timeframe: 2008-2012

Estimated Cost: \$2500

Action 3) Administer and enforce the Watonwan County Flood Plain Ordinance.

Agency: WCES, DNR

Timeframe: 2008-2012

Estimated Cost: Inkind

Action 4) Act as county authority for purposes of administration of Wetland Conservation Act.

Agency: SWCD

Timeframe: 2008-2012

Estimated Cost: \$50,000 plus inkind

■ **Priority Concern 2) Groundwater Protection**

Goal: Assure protection of the quality and safety of drinking water supply that is drawn from aquifers that serve the county and its inhabitants and assure a vigilant approach is taken and maintained in assuring the sustainability of groundwater.

Objective A) Rural Water

Action 1) Secure an inventory of rural water services in Watonwan County from Red Rock Rural Water.

Agency: WCES

Timeframe: 2008-2009

Estimated Cost: Inkind

Objective B) Wellhead Protection

Action 1) Coordinate activities and requests for permits in WHP's and DWSMA's with the unit of government that administers the protection plans.

Agency: WCES, Communities

Timeframe: 2008-2012

Estimated Cost: Inkind

Action 2) Participate in the development of future DWSMA and WHP plans.

Agency: WCES, Communities, DNR, MDH

Timeframe: 2008-2012

Estimated Cost: Inkind

Objective C) Landuse

Action 1) Review and update of the Watonwan County Zoning Ordinance as it addresses Mining and Extraction.

Agency: WCES, Communities, Townships, DNR, MDH, Red Rock Rural Water, Operators and Facility Owners

Timeframe: 2008-2009

Estimated Cost: \$3000

Action 2) Target application acres in manure plans located in sensitive areas and DWSMA's for review.

Agency: WCES

Timeframe: 2008-2012

Estimated Cost: \$3000

Action 3) Provide producers with information regarding availability of assistance with the closure of abandoned manure storage facilities through EQIP.

Agency: WCES, NRCS

Timeframe: 2008-2012

Estimated Cost: \$1000

Action 4) Continue county water screening services.

Agency: SWCD

Timeframe: 2008-2012

Estimated Cost: \$3000

Action 5) Monitor eight (8) DNR observation wells in the county.

Agency: SWCD, DNR

Timeframe: 2008-2012

Estimated Cost: Inkind

Action 6) Direct potential users to DNR for necessary appropriation permits.

Agency: NRCS, SWCD, WCES, DNR

Timeframe: 2008-2012

Estimated Cost: Inkind

Action 7) Make irrigation operators aware of assistance in conversion to low pressure irrigation through EQIP.

Agency: NRCS, DNR

Timeframe: 2008-2012

Estimated Cost: Inkind

Objective D) Pesticide Application

Action 1) Administer Minnesota Department of Agriculture pesticide application testing. Direct custom manure applicators to appropriate county sites for testing.

Agency: WCES

Timeframe: 2008-2012

Estimated Cost: Inkind

Action 2) Use newsletters and news articles to remind producers on the importance of following label requirements for ag pesticide application.

Agency: WCES, MDA
Timeframe: 2008-2012
Estimated Cost: \$500

Action 3) Provide an opportunity to enroll in NRCS comprehensive nutrient and pest management planning through EQIP.

Agency: NRCS, WCES
Timeframe: 2008-2012
Estimated Cost: \$1000

Objective E) Well Sealing

Action 1) Provide financial assistance for the sealing of unused and abandoned wells in the county.

Agency: SWCD, WCES, Public Works
Timeframe: 2008-2012
Estimated Cost: \$40,000

■ Priority Concern 3: Drainage Management

Goal: Creation and maintenance of files containing accurate information on drainage infrastructure in Watonwan County involving rectification of existing systems and modernization of maps, profiles and records of repair and maintenance, with the goal of developing resources that will be of use as alternatives for conventional drainage are adopted. A priority goal will be to see this information used to evaluate and lead to the design and implementation of water storage and wetland restorations.

Objective A) Drainage Inventory & Information Base

Action 1) Continue the ongoing drainage mapping and information modernization effort being undertaken by the Watonwan County Public Works Department including the creation of GIS layers for all information created.

Agency: Public Works, WCES, Public Officials
Timeframe: 2008-2012
Estimated Cost: \$100,000

Action 2) Make updated information accessible to stakeholders for evaluation of potential alternative drainage solutions.

Agency: Public Works, Ditch Beneficiaries, Drainage Authority, NRCS
Timeframe: 2008-2012
Estimated Cost: Inkind

Objective B) Wetland Restoration & Water Retention

Action 1) Utilize CRP, RIM, WHIP, wetland banking and other easements to create retention storage as sites are identified through improved information systems.

Agency: Public Works, SWCD, NRCS

Timeframe: 2008-2012

Estimated Cost: \$125,000

Action 2) Inform landowners on value of water storage and retention through newspaper articles, newsletters, personal contacts and SWCD website.

Agency: SWCD, NRCS, WCES, Public Works

Timeframe: 2008-2012

Estimated Cost: \$1000

Action 3) Provide technical assistance to Wetland Technical Evaluation Panel.

Agency: SWCD, Public Works, DNR, BWSR

Timeframe: 2008-2012

Estimated Cost: Inkind

Action 4) Seek funding for water retention and wetland restorations in Watonwan County.

Agency: WCES, SWCD, GBERBA

Timeframe: 2008-2012

Estimated Cost: Inkind

■ Priority Concern 4: Sediment Control & Stream Protection

Goal: To reduce sedimentation to streams and lakes and reduction of the effects that sediment has on habitats, stream courses, transfer of pollutants and impaired downstream conditions.

Objective A) TMDL's

Action 1) Utilize pictography technology to assist in identification of potential sediment sources.

Agency: SWCD, Public Work, NRCS

Timeframe: 2010-2012

Estimated Cost: \$15,000

Action 2) Provide technical assistance for implementation of BMP's as determined for local and regional TMDL's for aquatic life as affected by turbidity, sediment, and Fish Index of Biological Integrity.

Agency: SWCD, WCES, NRCS, GBERBA, MPCA

Timeframe: 2008-2009

Estimated Cost: \$25,000

Objective B) Watersheds

Action 1) Provide technical assistance to watershed organizations and agencies in development of basin TMDL's and plans.

Agency: SWCD, GBERBA, MPCA, BWSR, WCES

Timeframe: 2008-2012

Estimated Cost: \$30,000

Objective C) Streambank Repair and Protection

Action 1) Cooperate with DNR on conditional use and other permits for shoreland development to assure compliance with local and state standards.

Agency: WCES, DNR

Timeframe: 2008-2012

Estimated Cost: \$5000

Action 2) Provide cost share opportunities for the installation of buffer strips along streams, lakeshores and ditches and monitor buffer requirement compliance along drainage ditches.

Agency: WCES, SWCD, BWSR, Drainage Officials

Timeframe: 2008-2012

Estimated Cost: \$50,000

Action 3) Assist landowners in seeking cost share funds for sediment control BMP's.

Agency: WCES, SWCD, NRCS, GBERBA

Timeframe: 2008-2012

Estimated Cost: Inkind

Action 4) Provide technical assistance for evaluation and design of BMP's

Agency: SWCD, NRCS

Timeframe: 2008-2012

Estimated Cost: \$7500

Action 5) Direct developers and contractors to obtain NPDES construction stormwater permits for projects that meet minimum affected area requirements.

Agency: WCES, Public Works, MPCA

Timeframe: 2008-2012

Estimated Cost: Inkind

Action 6) Provide financial support to townships in continuation of self determined projects for reduction of sedimentation. Provide technical assistance and financial support for culvert end, bridge abutments, ditch bank erosion and other sediment delivery sources within the townships.

Agency: WCES, Townships, SWCD, Public Works

Timeframe: 2008-2012

Estimated Cost: \$40,000

D) ONGOING ACTIVITIES

While many of the activities and actions described and proposed in this plan as responses to the priority concerns are extensions of ongoing activities, there are other efforts ongoing that serve the goals of sound water management. Among them are:

- ▶ County administration of hazardous waste and recycling programs
- ▶ Collection of pesticide containers and used electronic equipment and appliances
- ▶ Technical Assistance through the SWCD for conservation programs
- ▶ Continuation of the SWCD tree program
- ▶ Administration of the Wetland Conservation Act
- ▶ Environmental Services general permitting of land use through the Watonwan County Zoning Ordinance and the Planning and Zoning Commission
- ▶ Working with MDA and townships on the noxious weed program
- ▶ Active Citizens Stream Monitoring Program and rain gauge readers network
- ▶ Assisting with testing for commercial pesticide application certification
- ▶ Provide seed and equipment for establishing conservation acreage
- ▶ Cooperate with landowners, Watonwan County Highway Department and Minnesota Department of Transportation on living snow fence projects
- ▶ Participate in youth programs in the county
- ▶ Seeking of funds for cost share assistance for conservation and environmental efforts
- ▶ Utilization of GIS to plot conservation and land use activities and developments
- ▶ Provisions of local well water screening and testing materials

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