

THE 2013-2023 MEEKER COUNTY COMPREHENSIVE LOCAL WATER PLAN

*WITH A FIVE-YEAR IMPLEMENTATION
PROGRAM SERVING THE YEARS 2013-2018*



Canoeing the North Fork Crow River

ADOPTED
JUNE 4, 2013

*Prepared by Meeker County and the
Mid-Minnesota Development Commission*

Meeker County

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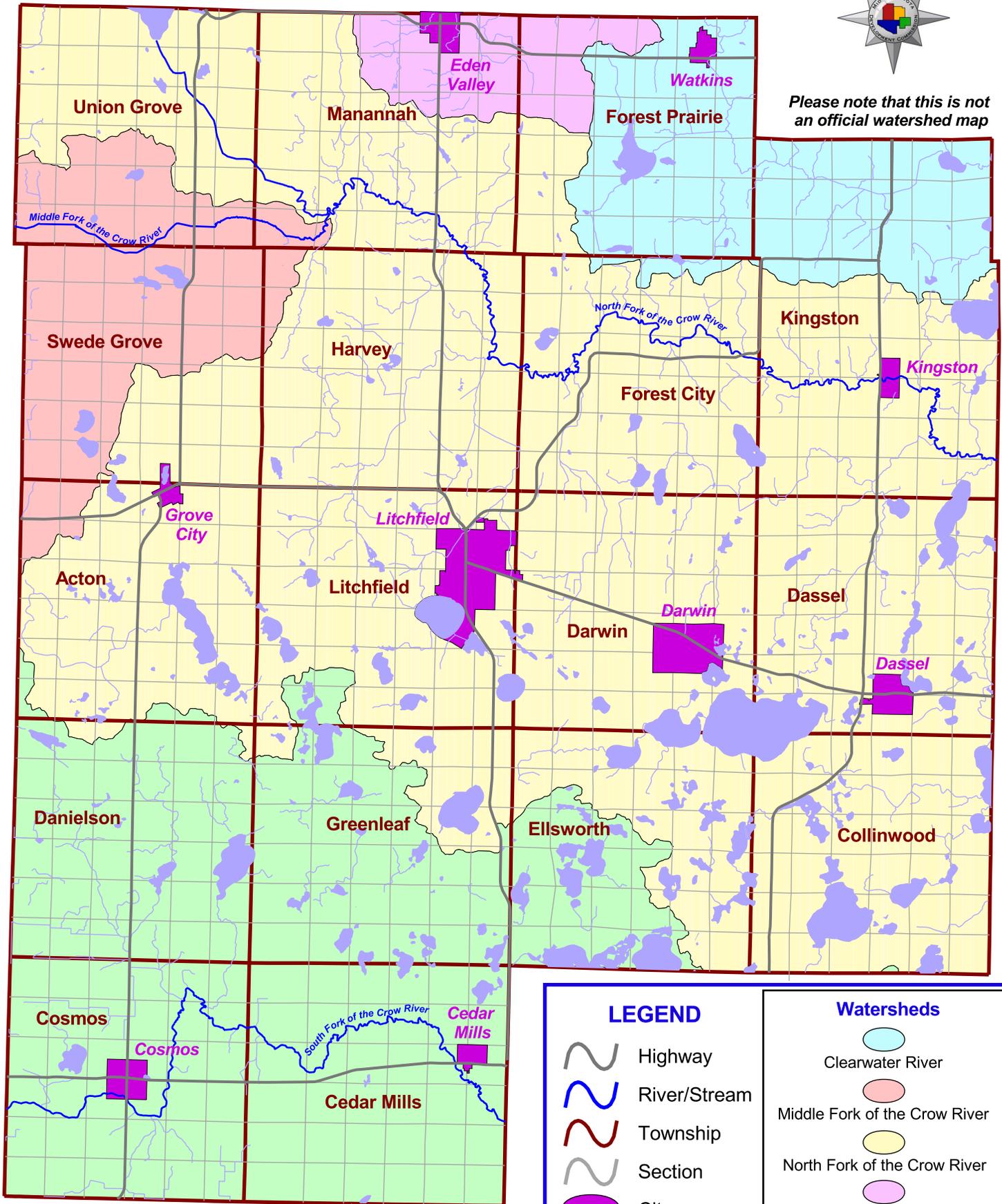
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Meeker County Watersheds



Please note that this is not an official watershed map



LEGEND		Watersheds	
	Highway		Clearwater River
	River/Stream		Middle Fork of the Crow River
	Township		North Fork of the Crow River
	Section		Sauk River
	City		South Fork of the Crow River
	Lake		



Meeker County

Comprehensive Local Water Management Plan: Executive Summary

This Meeker County Water Plan follows the provisions set forth in Minnesota State Statutes 103B.314 - Contents of Plan.

A. Purpose of the Local Water Management Plan

According to Minnesota Statute 103B, each county is encouraged to develop and implement a local water management plan with the authority to:

- Prepare and adopt a local water management plan that meets the requirements of this section and section 103B.315;
- Review water and related land resources plans and official controls submitted by local units of government to assure consistency with the local water management plan; and
- Exercise any and all powers necessary to assure implementation of local water management plans.

Pursuant to the requirements of the law, this Meeker County Water Plan:

- Covers the entire area of Meeker County;
- Addresses water problems in the context of watershed units and groundwater systems;
- Is based upon principles of sound hydrologic management of water, effective environmental protection and efficient management;
- Is consistent with comprehensive water plans prepared by counties and watershed management organizations wholly or partially within a single watershed unit or groundwater system; and
- Will serve as a 10-year water plan (2013-2023), with a 5-year implementation plan (2013-2018). In 2018, the implementation plan will be updated.

B. A Description of Meeker County’s Priority Concerns

Chapter Two provides a detailed assessment of the priority concerns. Based upon the Meeker County Water Plan Survey, comments received during the water plan public informational meeting, and the comments received by the various water plan stakeholders, the Water Plan Task Force identified the following Meeker County priority water planning issues (**note: these issues are not ranked**):

1. Protect and Improve Surface Water Quality ~ Reducing Priority Pollutants
 - a. Proactively work to get waters off the MPCA’s 303(d) list of Impaired Waters (TMDLs)
 - b. Feedlots and Nutrient Management
 - c. Subsurface Sewage Treatment Systems (SSTS) & Wastewater Management
 - d. Shoreland and Lake Management
 - e. Land Management

2. Erosion and Sediment Control

3. Surface Water Management
 - a. Agricultural Drainage
 - b. Stormwater Management
 - c. Wetlands and Water Storage/Retention

4. Groundwater Quality & Quantity
 - a. Wellhead Protection Areas
 - b. Drinking Water Quality
 - c. Groundwater Monitoring

5. Plan Administration and Coordination
 - a. Watershed Focus
 - b. Stakeholder Cooperation
 - c. Raising Public Awareness

C. Summary of Goals, Objectives, Action Steps, and Estimated Costs

To address the priority concerns identified in the scoping process, the Meeker County Water Plan Task Force met and developed four goal areas. These four goal areas are further broken down into interrelated objectives that deal with each of the priority concerns. Most importantly, each objective has a series of action steps identified which are designed to help achieve the goal area if implemented properly.

A summary of the County's Water Plan Goals, Objectives and Action Steps are provided below. Collectively they form the County's Water Implementation Plan. In addition, a summary of their annual estimated costs is provided (separated into Overall Costs and County Only Costs, which includes funds spent by the Meeker County SWCD). Please keep in mind that not all of the identified Action Items will be accomplished over the course of the Water Plan, but it is the intent to attempt to accomplish as much as money and time allows. A better detailed description of the County's Goals, Objectives, and Action Steps is contained in Chapter Three of this Water Plan. Likewise, Chapter Four provides more details on administering the Water Plan.

GOAL 1: PROTECT AND IMPROVE SURFACE WATER QUALITY

Objective A: Proactively work to delist all of Meeker County's water bodies off the MPCA's 303d List of Impaired Waters (TMDLs).

- Water Quality Monitoring. Cooperatively work with partners to continue water quality monitoring efforts. Annually review data and prioritize BMPs accordingly.
- TMDL Studies. Cooperatively work with partners to coordinate the preparation and implementation of TMDL studies and plans for impaired waters. Target impaired waters with BMP program implementation.
- Watershed Approach. Partner in MPCA's watershed approach to identifying and addressing water quality problems. Annually target BMP programs and Civic Engagement Activities with stakeholders on priority subwatersheds.
- Stressor IDs. Assist with the U.S. Environmental Protection Agency's (EPA) efforts in the development of stressor identification in aquatic ecosystems. Target BMP programs to properly mitigate the identified stressors.
- TMDL/Watershed Approach Outreach. Cooperatively work with stakeholders through educational meetings, events and social media to update citizens on the TMDL process and Watershed Approach initiatives. Target subwatersheds annually.

Objective A estimated annual Overall Costs = \$140,000; County Only Costs = \$10,000

Objective B: Work with the farming community on manure and nutrient management Best Management Practices.

- Feedlot Program. Continue to locally administer the County Feedlot Program to assist feedlot operators in obtaining and maintaining compliance with State regulations. Assist with Feedlot site evaluations, planning, design, and overall general technical assistance. Annually inspect a minimum 7% of feedlots.
- Noncompliant Feedlots. Provide educational, technical, and financial assistance, as available, to landowners/producers to upgrade noncompliant feedlots. Target impaired waters and implement one (1) priority upgrades annually.
- Manure/Nutrient Management Meeting. Sponsor annual educational meetings with the farming community, focusing on pertinent topics, including regulations and manure/nutrient management Best Management Practices (BMPs).
- Manure and Nutrient Management. Provide educational and technical assistance, as available, to landowners and producers on proper manure and nutrient management. Target impaired waters and implement two (2) projects annually.

Objective B estimated annual Overall Costs = \$167,500; County Only Costs = \$61,000

Objective C: Work with landowners on properly implementing the County's Subsurface Sewage Treatment System Ordinance and other wastewater initiatives.

- SSTS Program. Continue to provide compliance and inspection services as part of the County's SSTS Program. Target inspections in impaired waters.
- SSTS Training Program. Continue annual training for SSTS installers and septage haulers.
- Maintenance and Noncompliant SSTSs. Provide educational and financial assistance, as available, to homeowners to properly maintain and upgrade noncompliant SSTSs. Target 15 system upgrades annually.
- SSTS Database. Maintain the database of inspected and/or installed SSTSs.
- Upgrading SSTSs. Apply for and administer the MDA State Revolving Fund program and other related programs for upgrading SSTSs. Target 11 systems annually.

Objective C estimated annual Overall Costs = \$179,500; County Only Costs = \$63,500

Objective D: Enhance shoreland and lake management efforts.

- Lake Management. Conduct and/or provide technical and financial assistance, as available, to partners for the implementation of lake management efforts. Prioritize impaired waters and implement two (2) BMP projects annually.
- Aquatic Invasive Species Management. Conduct and/or provide technical and financial assistance, as available, to lake associations and other groups/organizations for the implementation of invasive aquatic species prevention and/or control efforts. Invite the DNR to host an AIS meeting annually.
- BMP Program. Provide technical and financial assistance, as available, to landowners for the implementation of shoreland BMPs, including lakescaping and the proper usage of pesticides and other chemicals. Implement two (2) projects annually.
- Shoreland Ordinance. Revise the County Shoreland Ordinance, as necessary, to ensure consistent and sustainable development. Review all Shoreland alteration projects requiring County and/or DNR approval.
- CRWD Shoreline Buffer Incentive. Provide a one-time incentive of 20% of the total cost (up to \$750) for buffering shorelines. Implement one (1) project annually.

Objective D estimated annual Overall Costs = \$130,000; County Only Costs = \$41,750

Objective E: Properly Manage Land/Wastewater Activities.

- Wastewater Treatment. Cooperatively work with partners to address wastewater treatment issues associated with unsewered communities, including lakeshore residents. Prioritize impaired waters and assist with securing funds for implementation when requested.
- Hazardous Waste Program. Hold annual Household Hazardous Waste (HHW) collection days for residents of Meeker County.
- Habitat Corridors. Support efforts to conserve, enhance and restore wildlife habitat. Secure funding to implement two (2) projects annually.
- GIS Datasets. Annually invest in the acquisition, development, and maintenance of GIS datasets, including the digital soil survey and parcel map. Utilize these datasets to make informed decisions regarding land use planning and water resource management.

- Land Use Management. Continue to implement the County’s adopted land use controls, including the floodplain, SSTS, shoreland, solid waste, and zoning ordinances. Annually review the language and make revisions accordingly.

Objective E estimated annual Overall Costs = \$325,000; County Only Costs = \$152,000

GOAL 2: PROMOTE EROSION AND SEDIMENT CONTROL ACTIVITIES

Objective F: Implement BMPs to reduce erosion and sediment loading of surface waters.

- ✓ Erodible Land. Target 75 acres of highly erodible land annually for enrollment in conservation easement programs, such as CRP, and easements as part of upland buffers under RIM and USFWS programs.
- ✓ BMP Program. Provide educational, technical, and financial assistance, as available, to landowners for the implementation of water quality-related BMPs. Target impaired subwatersheds and implement five (5) projects annually.
- ✓ Cost-Share. Seek funding in the form of State cost-share, Federal EQIP, and Clean Water Funds for the installation of BMPs. Prioritize impaired subwatersheds.
- ✓ BMP Site Evaluations. Conduct site inspections and provide technical assistance to interested landowners. Target 25 evaluations annually.
- ✓ Clearwater River Watershed District (CRWD) CRP Incentive. Provide a one-time incentive of \$200/acre on new CRP enrollments. Implement 80 acres annually.
- ✓ CRWD Seeded Buffer. Provide a one-time payment of \$350/acre for the establishment of a buffer that can be harvested for hay along rivers, streams, and county ditches. Implement 40 acres annually.
- ✓ CRWD Tile Intakes. Provide an incentive to establish a grass buffer around tile intakes, or replace open intakes with underground rock inlets. Assist with identifying two (2) projects annually.
- ✓ Sauk River Watershed District (SRWD) BMP Incentive. Promote the use of BMPs through SRWD’s incentive program. Implement one (1) project annually.
- ✓ CROW BMP Implementation and Education Initiatives. Cooperatively work with CROW to implement BMP implementation and education initiatives to reduce Fecal coliform, E.coli, turbidity, dissolved oxygen and chloride.

Objective F estimated annual Overall Costs = \$310,000; County Only Costs = \$64,500

GOAL 3: ENHANCE SURFACE WATER MANAGEMENT

Objective G: Ensure long-term agricultural production by maintaining and improving the public drainage system.

- Public Drainage Systems. Ensure that public drainage systems are operated and maintained in accordance with the State Drainage Law (M.S. Chapter 103E) and other applicable regulations, such as WCA.
- Comprehensive Drainage Management Plan. Pursue funding to develop a comprehensive drainage management plan for two (2) public drainage systems (2015).
- Redetermination of Benefits. Redetermine the benefits on drainage systems as requested.
- Conservation Drainage Practices. Provide educational, technical, and financial assistance, as available, to landowners for the demonstration of conservation drainage practices. Establish two (2) demonstration sites.
- Drainage Workshop. Host a workshop to proactively educate stakeholders on drainage management issues and regulations (2015).
- Two-Stage Ditch Systems. Examine the use of two-stage ditch systems. Apply for funding to assist with problem areas. Establish a research/demonstration site (2014).

Objective G estimated annual Overall Costs = \$302,500; County Only Costs = \$42,500

Objective H: Manage surface waters to minimize Stormwater pollution and runoff.

- Stormwater Management Plans. Participate in the development and implementation of Comprehensive Stormwater Management Plans. Target 2 plans annually.
- Stormwater/Wastewater Discharges. Regulate stormwater and wastewater discharges into water resources. Annually review ordinance language.
- Stormwater BMPs. Provide technical assistance to citizens on stormwater BMPs (i.e., rain gardens, bio-retention, etc.), and assist with proper implementation. Implement five (5) projects annually.
- Stormwater Storage. Work with municipalities to utilize storage basins and holding ponds for runoff retention and water quality treatment. Implement two (2) projects annually.

- Drainage Plans. Continue to require surface water drainage plans on development in rural areas (i.e., feedlots, gravel pits, etc.). Annually review ordinance provisions.
- CRWD Rain Gardens. Provide a one-time \$2.50 per square foot incentive for installation and maintenance of a rain garden on private property where installation will provide a benefit to cleaner water. Assist with identifying two (2) project sites annually.

Objective H estimated annual Overall Costs = \$215,000; County Only Costs = \$15,250

Objective I: Preserve and Restore Wetlands and other Water Retention Opportunities.

- WCA Administration. Continue to locally administer the Minnesota Wetland Conservation Act.
- Public Drainage Systems. In conjunction with wetland restorations, examine opportunities to abandon or relocate public drainage systems.
- Preservation and Restoration Programs. Provide educational, financial, and technical assistance to landowners regarding State and Federal programs to preserve and restore wetlands, including drained lakebeds. The entire County shall be identified as a high priority area for wetland restorations. Pursue funding to implement one wetland restoration annually.
- Wetland Banking. Provide information to landowners who inquire about the State wetland-banking program.
- Lake Level Conflicts. Work with the DNR and other stakeholders to resolve lake level conflicts. Annually review concerns.

Objective I estimated annual Overall Costs = \$134,500; County Only Costs = \$36,500

GOAL 4: PROTECT GROUNDWATER SUPPLIES

Objective J: Protect Groundwater from Contamination by implementing Best Management Practices.

- BMP Program. Provide educational, technical and financial assistance, as available, to landowners for the implementation of groundwater protection BMPs, including the

proper decommissioning of wells and storage tanks and correct application of pesticides and other chemicals. Prioritize sensitive recharge areas and pursue funds to implement two (2) projects annually.

- Wellhead Protection. Participate in the preparation and implementation of wellhead protection plans for public water suppliers. Prioritize BMPs in Wellhead Protection Areas.
- Solid Waste Management. Provide educational assistance to landowners to discourage the burning and burying of solid waste. Annually publish information in local newspapers.
- Abandoned Wells. Provide educational, technical, and financial assistance, as available, to landowners on the importance of properly sealing abandoned wells. Assist with sealing three (3) abandoned wells annually.

Objective J estimated annual Overall Costs = \$50,500; County Only Costs = \$7,000

Objective K: Ensure Adequate Groundwater Supplies for Multiple Uses.

- Ground Water Level Monitoring. Cooperatively work with partners on groundwater permitting, monitoring, and testing efforts. Annually review data and prioritize BMPs accordingly.
- Hydrogeologic Atlas. Learn how to best use hydrogeologic information for the County to evaluate the impact of land use activities on ground water supplies. Host a groundwater workshop with key stakeholders (2015).
- Water Conservation Program. Consider creating a Water Conservation Program, with low-flow conservation kits and a Drought Contingency Plan. Pursue funding to establish the program (2016).
- Conservation Irrigation. Promote the use of conservation irrigation practices and provide cost-share incentives, when feasible. Convert one conventional system annually.

Objective K estimated annual Overall Costs = \$85,000; County Only Costs = \$11,500

GOAL 4: EFFECTIVE PLAN ADMINISTRATION & COORDINATION

Objective L: Expand our knowledge and partnerships on identifying and addressing key water planning issues.

- Water Quality Monitoring. Cooperatively work with partners to continue and expand surface and ground water quality monitoring efforts. Annually review data and prioritize BMPs accordingly.
- Surface Water Flow Monitoring. Cooperatively work with partners to continue and expand surface water flow monitoring efforts. Annually review data and prioritize BMPs accordingly.
- Water Quality Studies. Conduct and/or provide technical and financial assistance, as available, to partners for the completion of water quality studies. Annually review data and prioritize subwatersheds and BMPs accordingly.

Objective L estimated annual Overall Costs = \$205,000; County Only Costs = \$11,000

Objective M: Provide and participate in Outreach and Educational efforts on key water planning issues.

- Stakeholder Meetings. Hold and/or attend annual meetings with stakeholders to discuss water resource management issues and potential partnership opportunities.
- Meeker County Water Plan Stakeholder Workshop. Organize and host a workshop for the County's key water plan stakeholders. Discuss local issues, current activities, and potential projects (years 2014, 2016).
- Outreach. Use available outreach tools, including the Internet, to disseminate information to the public regarding water resource management activities and issues. Annually publish information in local newspapers.
- Runoff Education. Implement educational efforts to control or reduce the effects of accelerated runoff from urban, industrial and agricultural areas. Establish two (2) demonstration sites.
- Greenleaf Recreation Area. Support the Greenleaf Recreation Area and Greenleaf, Cedar, and Sioux Lakes Recreation Complex and similar recreational opportunities.

- Aquatic Invasive Species. Work with State and local efforts to raise awareness aquatic invasive species. Invite the DNR to host an AIS public meeting (2014).
- Funding Opportunities. Provide information to landowners on available funding sources for water resource management activities and projects. Annually review funding sources and educational materials.

Objective M estimated annual Overall Costs = \$74,900; County Only Costs = \$20,900

Objective N: Properly Administer the Water Plan to help ensure it achieves success.

- Plan Administration. Continue to administer the County’s Water Plan initiatives. Annually review and prioritize projects.
- Funding Sources. Pursue additional funding sources, such as the Clean Water Legacy Act, in order to fund the implementation of initiatives. Seek partnerships and cooperative agreements to finance initiatives, when appropriate. Annually prioritize projects and apply for available funds.
- Joint Powers Board Membership. Continue active membership in water plan stakeholder’s Joint Powers Boards.
- Water Planning Taskforce Meetings. Hold annual Water Planning Taskforce meetings to discuss issues, review funding requests, and implement the Water Plan.
- Update Water Plan Action Steps. This Chapter of the Water Plan identifies Action Steps for the years 2013-2018. In 2018, the Water Plan Task Force will identify new Action Steps for the years 2018-2023.

Objective N estimated annual Overall Costs = \$17,300; County Only Costs = \$14,800

Total Estimated annual Overall Costs = \$2,336,700*

Estimated County Only Costs = \$552,200*

***Note:** Please refer to Chapters Three and Four of this Water Plan for a more detailed description of the estimated costs overall and to Meeker County. Although these costs may seem exaggerated at first, there are numerous stakeholders involved with their corresponding activities and budgets. In addition, many of the Action Steps identified overlap with multiple other Action Steps with their scope and functionality. Furthermore, this Water Plan is intended to set high water resource planning goals, with the realization that it may not be feasible to accomplish everything that has been identified.

D. Relationship to other Plans

The Meeker County Water Plan Task Force represents a diverse group of people representing a number of key water plan stakeholders (the members are listed on the inside cover page). This helped to ensure the Water Plan, and its corresponding Goals, Objectives and Action Steps, was developed to be consistent with existing plans and official land use controls. In addition, many of the identified Action Items were simply revised from previous versions of the Meeker County Water Plan. **As a result, this updated Meeker County Water Plan is believed to be consistent with the plans and official controls of the other pertinent local, State and regional plans and controls.** This should be confirmed by the vast amount of stakeholders who participated throughout the planning process. **In conclusion, there are no recommended amendments to other plans and official controls to achieve consistency with this Water Plan.**

Chapter One:

Meeker County Priority Concerns Scoping Document

~ This Chapter and Appendices A & B made up the County's Priority Concerns Scoping Document ~

Section One:

Introduction to the Water Plan & Meeker County

A. Water Plan Background

In 1990, the Meeker County Board of Commissioners adopted a resolution to develop a Comprehensive Local Water Plan, according to Minnesota Statutes 110B. The plan was to serve two purposes. The first was to identify existing and potential problems and opportunities for the protection, management and development of water and related land resources. The second purpose was to develop goals, objectives and a work plan to implement programs and strategies to promote the sound management of water and land resources for effective environmental protection. The plan focused on surface water, groundwater, related land resources and land use. The original Comprehensive Local Water Plan was approved by the Board of Soil and Water Resources (BWSR) and officially adopted by the Meeker County Board of Commissioners in 1991. Since then, Meeker County has revised its Water Plan in 1996, 2002, and 2007 (which expires in December 2012). The Meeker County Planning and Zoning Department and the Meeker County Administrator's Office are jointly responsible for administering the County's Water Plan.

According to Minnesota Statute 103B, each county is encouraged to develop and implement a local water management plan with the authority to:

- (1) Prepare and adopt a local water management plan that meets the requirements of this section and section 103B.315;
- (2) Review water and related land resources plans and official controls submitted by local units of government to assure consistency with the local water management plan; and
- (3) Exercise any and all powers necessary to assure implementation of local water management plans.

Pursuant to the requirements of the law, this Meeker County Water Plan:

- Covers the entire area of Meeker County;

- Addresses water problems in the context of watershed units and groundwater systems;
- Is based upon principles of sound hydrologic management of water, effective environmental protection and efficient management;
- Is consistent with comprehensive water plans prepared by local watershed management organizations and neighboring counties; and
- Will serve as a 10-year water plan (2013-2023), with a 5-year implementation plan (2013-2018). In 2018, the implementation plan will be updated.

B. Meeker County Profile

Founded in 1856, Meeker County is located in central Minnesota, approximately 40 miles west of the Minneapolis-St. Paul Metropolitan Area. As Map 1A shows, there are 9 cities and 18 townships in the County. The City of Litchfield, located near the center of the County, is the County Seat. Meeker County is characterized by numerous lakes, rolling hills and vast agricultural land. Agricultural is currently and will remain the dominant land use. The County shares borders with Stearns County to the north, Wright County to the east, McLeod County and Renville County to the south, and Kandiyohi County to the west.

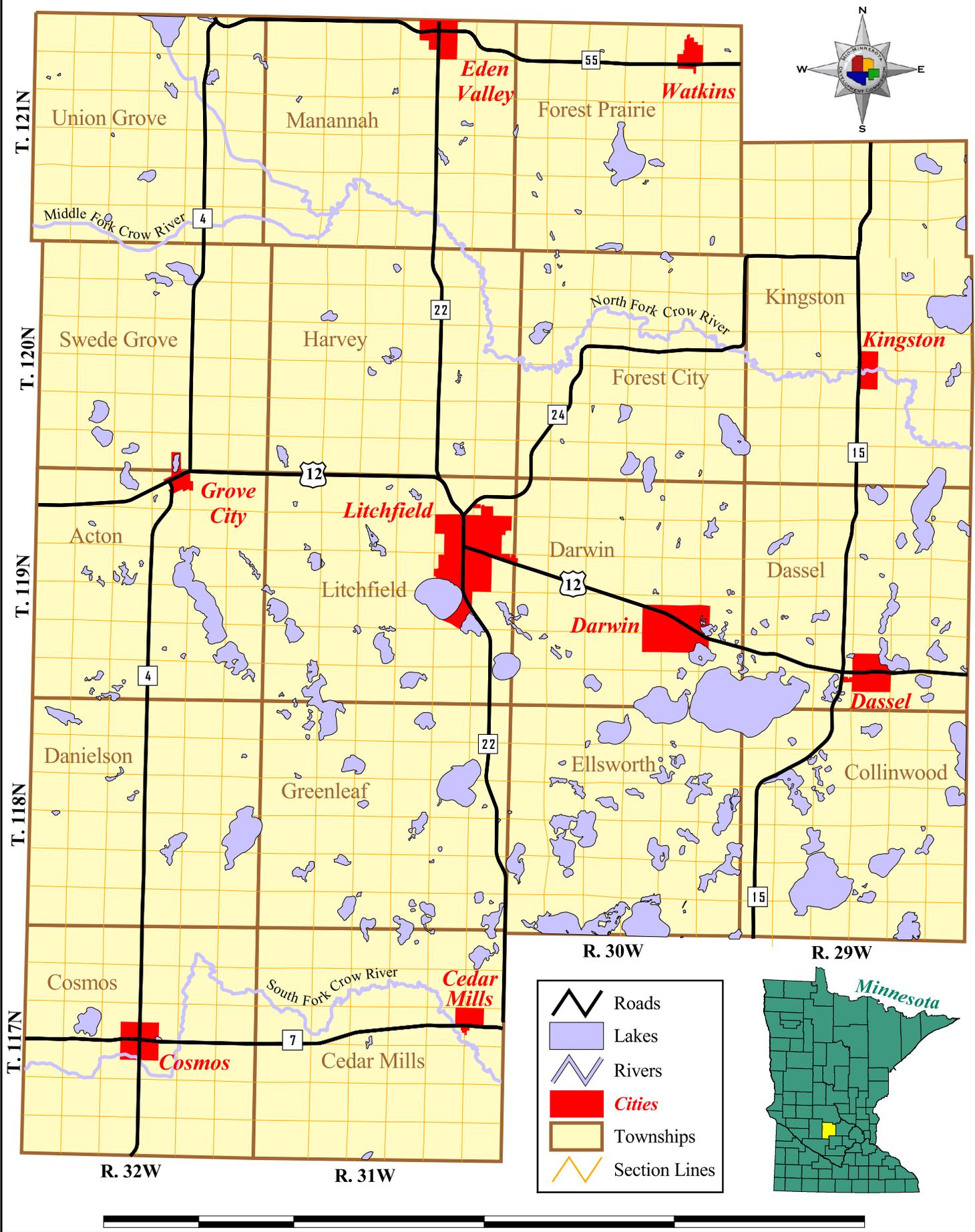
The Map following the Table of Contents shows there are five major watersheds in Meeker County: North Fork Crow River, Middle Fork Crow River, South Fork Crow River, Sauk River, and the Clearwater River Watersheds. Table 1 shows Meeker County's population is currently around 23,265 residents (2010 Census). Meeker County has steadily gained population since 1970 and is projected to continue this trend over the next 10 years.

Table 1: Meeker County's Population since 1970*

Area	U.S. Census Year					Change since 1970	
	1970	1980	1990	2000	2010	#	%
Cedar Mills	81	73	80	53	45	-36	-44%
Cosmos	570	571	610	582	473	-97	-17%
Darwin	361	282	252	276	350	-11	-3%
Dassel	1,058	1,066	1,082	1,233	1,469	411	39%
Eden Valley	776	763	732	866	1,042	266	34%
Grove City	531	596	547	608	635	104	20%
Kingston	115	141	131	120	161	46	40%
Litchfield	5,262	5,904	6,041	6,562	6,715	1,453	28%
Watkins	785	757	849	880	962	177	23%
Meeker County	18,387	20,594	20,846	22,644	23,265	4,878	27%
State of Minnesota	3,804,971	4,075,970	4,375,099	4,919,479	5,303,925	1,498,954	39%

*Source: U.S. Census

Map 1A: Meeker County's Location, Cities and Townships



**Section Two:
Priority Concerns Scoping
Document Planning Process**

C. Resolution to Update the Meeker County Water Plan

The first step in the Water Planning Process was for the Meeker County Board of Commissioners to approve a resolution indicating the County was officially updating its Water Plan. This action took place on November 1, 2011, at the regularly scheduled County Board meeting. A copy of the resolution appears in Appendix A.

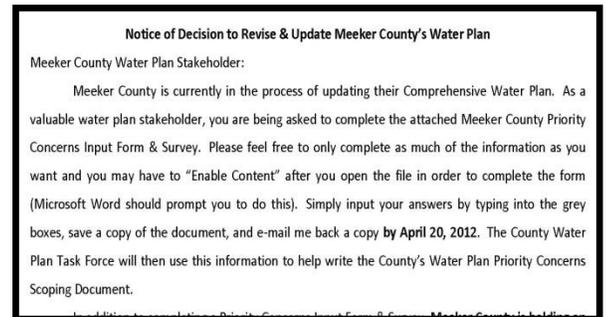
D. Notice of Plan Update

An official “Notice of Plan Update” for the Meeker County Water Plan was sent on March 23, 2012, to contacts as prescribed by Minnesota Statutes 103B (www.revisor.mn.gov/statutes) and according to the “Routing Information” contained on BWSR’s website under the Resource Management and Planning tab:

www.bwsr.state.mn.us/planning/routing.html

A copy of the Notice of Plan Update can be found in Appendix A.

*Figure 1:
Notice of Plan Update
~ Found in Appendix A ~*



E. Water Plan Open House Comments

Meeker County hosted a Public Informational Meeting to kick off the water planning process and to solicit the public’s priority issues. The meeting took place on April 9, 2012, from 4:00 to 6:00 p.m. at the Meeker County Courthouse. A press release was sent to all of the local media sources. A copy of the press release, meeting summary and the list of attendees can be found in Appendix A.

The following water plan issues were identified and discussed:

- 1) **Aquatic Invasive Species (AIS)**
 - a) County Lake Associations top issue
 - b) Need strong statewide educational effort
 - c) The County should help with educational efforts
 - d) Could use proper signage

- 2) **Surface Water Management**
 - a) Stormwater management and wetland restoration is needed
 - b) Redetermination of drainage benefits are needed countywide
 - c) Need both urban and rural emphasis
 - d) Drainage needs to be properly maintained
 - e) Buffer strips are needed after redetermination of benefits
 - f) Protect multiple recreational uses

- 3) **Plan/Stakeholder Coordination**
 - a) Natural Habitat
 - b) Watershed emphasis

- 4) **Miscellaneous Issues**
 - a) Groundwater - Wellhead Protection Areas
 - b) Lawn/Ag Chemicals
 - c) TMDL Implementation
 - d) Feedlots and Septics

F. Water Plan Survey Results

Meeker County created an online Water Plan Survey through Survey Monkey (www.surveymonkey.com). The link to the online survey was e-mailed to Meeker County’s cities, townships, and key water plan stakeholders. The survey link was also promoted in countywide newspapers and newsletters. A paper copy of the survey was also made available through the Meeker County Environmental Services

Twenty-one people completed Meeker County’s Water Plan Survey. The survey results are presented below, along with any written comments that were submitted by the participants.

Figure 2:
Water Plan Online Survey
~ Found in Appendix A ~

Meeker County Local Water Plan Citizen's Survey Exit this survey

1. Overall, which of the following needs to be protected or improved the most in Meeker County? Please select one...

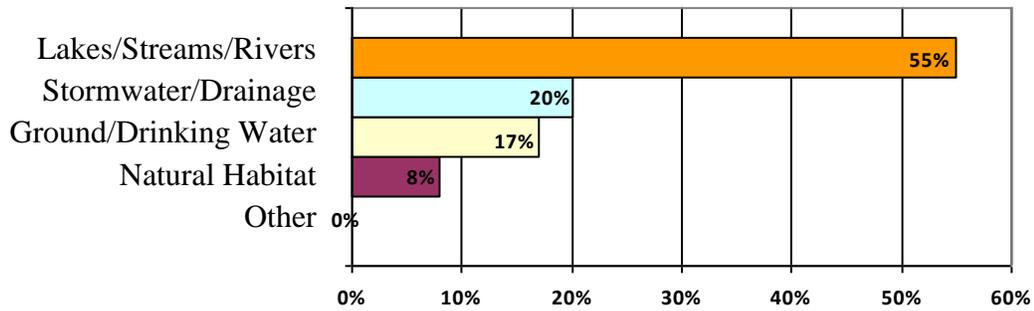
- Ground/Drinking Water
- Stormwater/Drainage Systems
- Lakes/Streams/Rivers
- Natural Habitat (i.e., prairie, wetlands, etc.)
- Other

Other (please specify)

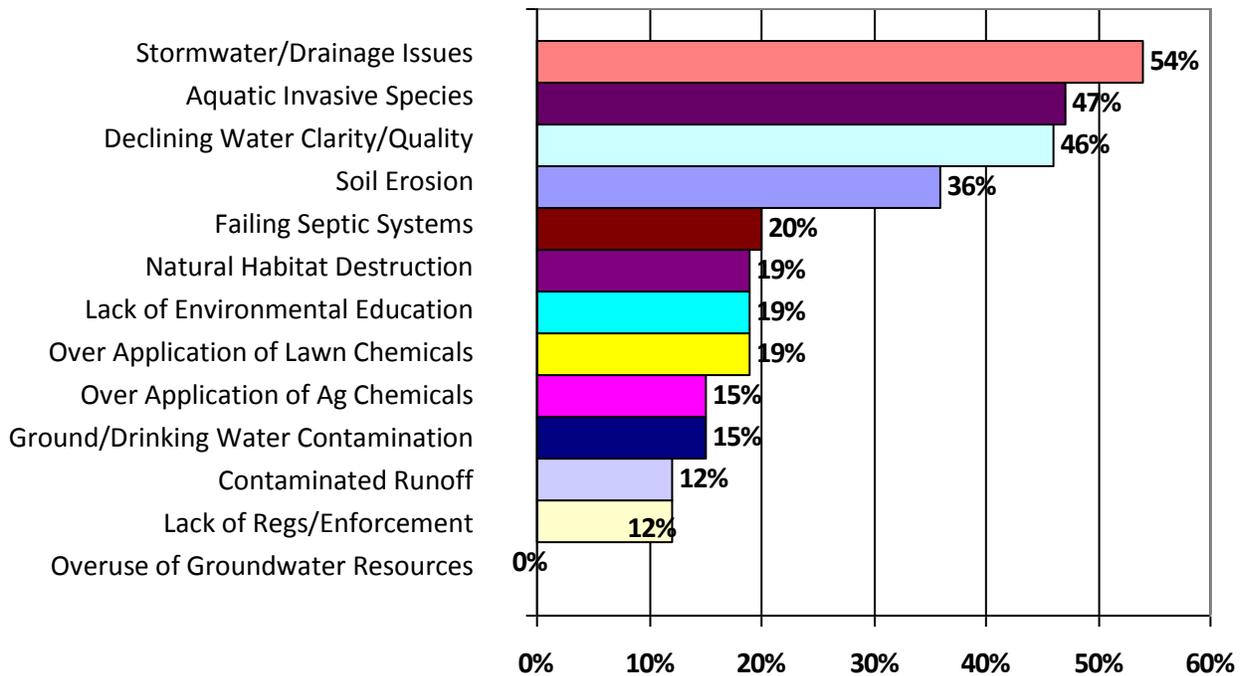
2. What are the top THREE issues/threats to water resources in Meeker County? Please check up to three issues...

Lakes, Streams, and River issues were the top priority concerns identified in Question 1, with Stormwater and/or Drainage issues being the top issue identified in Question 2. Appendix A contains a copy of the actual survey used.

1. Overall, which of the following needs to be protected or improved the most in Meeker County? Please select one...



2. What are the top THREE issues/threats to water resources in Meeker County? Please select three issues...



3. Please explain what can be done to assist with the issues/threats you identified.

- Better education, better enforcement
- Don't let irrigation occur when its not needed
- Come up with a full approach for both farming and cities
- Too much oversight
- What's the point of septic systems if we get to apply them to farmfields?
- Problems need a cooperative approach. All parts should pay and take responsibility
- Lack of importance placed on ditch cleaning by government
- Prosperous
- Private land owner rights
- Field/Soil Runoff
- Lake Management
- Monitor the aquifer – depletion because of irrigation

4. *What other water resource concerns do you have?*

- Farming is disappearing
- RESPONSIBLE PARTIES SHOULD BE HELD ACCOUNTABLE!
- Same problems, same lack of effort
- Government should not be a part of the problem but too often they just make it worse
- Develop cost-share programs without too many strings attached
- Find ways to make people do the right thing with needing compensation
- Not always answers but need to keep trying
- Set a base line for the aquifer
- Need redetermination of benefits on all County and Judicial ditches

G. State & Local Stakeholder Comments

At the beginning of Meeker County's water planning process, the County's key water planning stakeholders were asked to submit comments on priority water planning issues and suggested implementation activities. This was accomplished by completing either a Meeker County Priority Concerns Input Form, or by simply submitting a letter. The following stakeholders submitted comments:

- The Minnesota Department of Agriculture
- The Minnesota Pollution Control Agency
- The Minnesota Board of Water and Soil Resources
- The Minnesota Department of Natural Resources
- The Minnesota Department of Health
- The Crow River Organization of Waters
- Meeker County Soil and Water Conservation District
- Natural Resources Conservation Service
- City of Cedar Mills

Table 2 summarizes the priority concerns identified by each of the stakeholders. The "Other" column in Table 2 combines the response from the Minnesota Department of Health, the Crow River Organization of Waters, the Meeker County Soil and Water Conservation District. Based upon the stakeholders comments received, Meeker County's top three priority issues are:

- 1) Drainage/Stormwater Management
- 2) Wetlands/Water Retention
- 3) Soil Erosion/Sediment Control

Minnesota Department of Agriculture (MDA)

The MDA submitted a Priority Concerns Input Form for Meeker County. A copy of the form, dated April 20, 2012, is contained in Appendix B. The MDA's identified the following five priority water planning concerns:

1. Agricultural Drainage, Wetlands and Water Retention
2. Groundwater and Surface Water Protection: Agricultural Chemicals and Nutrients/Water Use/Land Management in Wellhead Protection Areas
3. Manure Management and Livestock Issues
4. Agricultural Land Management
5. Targeting of BMPs, Aligning Local Plans and Engaging Agriculture

The MDA also created a webpage which communicates and profiles their top five priority water planning concerns. The webpage provides links to each of the five priority concern areas, including information on why the issue is important, what actions need to be taken, and links to more information on the subject. For more information, please visit the following MDA link:

www.mda.state.mn.us/protecting/waterprotection/waterplanning.aspx

Minnesota Pollution Control Agency (MPCA)

The MPCA submitted a letter outlining their top four priority concerns for Meeker County. A copy of the map and letter, dated April 3, 2012, can be found in Appendix B. In The MPCA submitted the following four priority concerns for Meeker County:

1. Impaired Waters/Total Maximum Daily Loads (TMDL)
2. Watershed Approach
3. Current LWM Plan and MPCA Programs
4. Agricultural Drainage Management

In addition to listing the MPCA's top four priority concerns, the letter contains the list of Meeker County's waters found on the MPCA's 303d list of Impaired Waters.

Minnesota Board of Water and Soil Resources (BWSR)

The BWSR submitted a Meeker County Priority Concerns Input Form on March 4, 2012. A copy of the correspondence can be found in Appendix B. BWSR identified the following four top priority concerns:

1. Feedlot Program Management and Non-Conforming Subsurface Septic Treatment Systems
2. Wetland Protection and Enhancement
3. Impact of Development on Lake and Stream Water Quality
4. Erosion and Sediment Control; Nutrient Management on Agricultural Land
5. Drainage System Maintenance and Repair; Drainage System Management Plan

**Table 2: Meeker County Water Plan
Summary of Stakeholder’s Priority Concerns
(Please refer the text)**

Priority Concern/Issue	Stakeholder					
	BWSR	Dept. of Ag	MPCA	DNR	NRCS	Other**
1. Drainage Management	Yes	Yes*	Yes	Yes*	Yes	Yes
2. Wetlands/Water Retention	Yes	Yes*		Yes		Yes
3. Soil Erosion/Sediment Control	Yes	Yes		Yes	Yes	Yes
Feedlots/Nutrient Management	Yes*	Yes		Yes		
Septic Systems/Wastewater	Yes*			Yes		Yes
Groundwater quality/quantity	Yes		Yes		Yes	Yes
Surface Water Quality	Yes		Yes		Yes*	
Best Management Practices		Yes				Yes
Impaired Waters		Yes*			Yes	
Watershed Approach		Yes				
Natural Habitat				Yes	Yes	Yes
Aquatic Invasive Species				Yes		
Public Education					Yes	

* = Stakeholder’s Top Priority Concern

Other** = Comments received from MDH, CROW, SWCD,

1-3 = County’s top three priority concerns based upon stakeholder’s feedback

Minnesota Department of Natural Resources (DNR)

The DNR submitted a Priority Concerns letter for Meeker County (a copy is contained in Appendix B). The information submitted identifies eight priority concerns and includes a variety of suggested implementation ideas. The DNR eight priority water planning concerns are as follows:

1. The cumulative impacts of excessive/accelerated runoff due to loss of available surface water storage in wetlands.
2. Unstable/highly altered hydrology leading to degraded surface water systems.
3. Groundwater Sustainability/Supply.
4. Degraded Habitat related to isolation/discontinuity of riparian habitat.
5. Aquatic Invasive Species.
6. Protection of existing high quality riparian/aquatic/lakeshore habitat.
7. Excessive erosion related increased supply and hydrologic alteration.
8. Feedlots/Manure/Fertilizer/Nutrient Management/Chemicals/Septic Systems.

Minnesota Department of Health (MDH)

The MDH submitted a Meeker County Priority Concerns Input Form, identifying the following three priority concerns:

1. Protection of groundwater as a drinking water source
2. Promote wellhead protection
3. Promote sealing of unused, unsealed wells

Crow River Organization of Waters (CROW)

The CROW submitted a Meeker County Priority Concerns Input Form and identified the following three water planning issues:

1. Lakes/Streams/Rivers
2. Wetlands/Natural Habitat
3. Ground/Drinking Water

Natural Resources Conservation Service (NRCS)

The Natural Resources Conservation Service is a very active stakeholder on Meeker County's Water Plan Task Force. The NRCS submitted the following three issues in a Priority Concerns Input Form:

1. Surface Water Quality
2. Ground and Drinking Water
3. Erosion and Loss of Wetlands/Habitat and Drainage

Meeker County Soil and Water Conservation District (SWCD)

The Meeker County SWCD submitted a Meeker County Priority Concerns Input Form and identified the following main priority water planning issue:

1. Soil Erosion
~ although the entire County is a priority, there are slightly more erosion problems in the NE part of the County.

City of Cedar Mills

The City of Cedar Mills wrote a letter indicating they had the following two priority water planning concerns:

1. Ground/Drinking Water – residents still have private wells
2. Sanitary Sewer System – the new system the City constructed eight years ago is failing. With 29 paying units and a ballpark price of \$250,000 to correct some of the problems, the community needs some help.

**Section Three:
Meeker County
Priority Water Planning Issues**

H. Water Plan Task Force

Meeker County maintains a Water Plan Task Force which meets regularly on water plan initiatives (the members are listed on the inside cover of this document). In addition, the Task Force is used throughout the water planning process to help identify priority issues and to develop the water plan's Goals, Objectives and Action Steps.

I. Priority Water Planning Issues

The Meeker County Water Plan Task Force met on April 27, 2012, to review the Water Plan Survey results and the Priority Concerns Input Forms received. Based upon the survey results and the comments received in the Priority Concerns Input Forms, the Water Plan Task Force identified the following as Meeker County's priority water planning issues (note: these issues are not ranked):

1. Protect and Improve Surface Water Quality ~ Reducing Priority Pollutants
 - a. Proactively work to get waters off the MPCA's 303(d) list of Impaired Waters (TMDLs)
 - b. Feedlots and Nutrient Management
 - c. Subsurface Sewage Treatment Systems (SSTS) & Wastewater Management
 - d. Shoreland and Lake Management
 - e. Land Management

2. Erosion and Sediment Control

3. Surface Water Management
 - a. Agricultural Drainage
 - b. Stormwater Management
 - c. Wetlands and Water Storage/Retention

4. Groundwater Quality & Quantity
 - a. Wellhead Protection Areas
 - b. Drinking Water Quality
 - c. Groundwater Monitoring

5. Plan Administration and Coordination
 - a. Watershed Focus
 - b. Stakeholder Cooperation
 - c. Raising Public Awareness

J. Priority Issues Not Addressed by this Water Plan

All of the priority issues identified in the Meeker County Water Plan Survey and received in Meeker County's Priority Concerns Input Forms, will either directly or indirectly be addressed in Meeker County's updated Water Plan. This is particularly important to Meeker County, since BWSR and the other State agencies have indicated that projects are less likely to receive grant money unless they are mentioned in Local Water Management Plans.

As a result of not excluding any priority concern identified by a water plan stakeholder, Meeker County does not anticipate needing to resolve any differences between Meeker County's Priority Water Plan Issues and other state, local and regional concerns.

**Section Four:
Meeker County
Ongoing Water Plan Activities**

Meeker County has numerous ongoing programs and land use controls that are directly linked to the County's Water Plan. These ongoing activities include educational efforts on key water planning issues, stream monitoring, and Best Management Practices (BMPs) implementation. In addition, County staff regularly attends water management meetings, educational conferences, and promotes water protection projects. The County also annually provides cost-share to fund various watershed groups (i.e., Crow River Joint Powers and MN River Joint Powers Boards) and similar organizations. All of these activities directly are related to implementing the Local Water Management Program (i.e., Water Plan).

In addition to implementing the County's Water Plan, the County also accomplishes numerous water plan initiatives through implementing the following County programs. **Table 3 shows that Meeker County has spent nearly \$1.5 million in funds on all of these ongoing activities between the five-year period of 2007 and 2011.**

County Feedlot Program – Meeker County has a county feedlot program, administered through the Minnesota Pollution Control Agency (MPCA). This means the county works with producers on registration, permitting, inspections, education, and complaint follow-up.

Subsurface Sewage Treatment System (Program SSTS) –Meeker County enforces MN Rules Chapter 7080-7083 through the Meeker County SSTS Ordinance. This Ordinance helps ensure that septic systems are designed and maintained properly, and includes a compliance inspection requirement when property is transferred (seller's responsibility).

Shoreland Management Program –Meeker County assists the Minnesota Department of Natural Resources (DNR) with administering the Shoreland Management Act. This Act regulates land use development within 1,000 feet of a lake and 300 feet of a river and its designated floodplain.

Wetland Conservation Act Program (WCA) – Meeker County assist the Minnesota Board of Water and Soil Resources (BWSR) with administering the Minnesota Wetland Conservation Act of 1991. The goals of the Act are to maintain a “no-net-loss of wetlands”, minimize any impacts on wetlands, and to replace any lost wetland acres affected by development.

Table 3:
Meeker County's
Natural Resource Block Grant Expenditures
~ 2007 – 2011 ~

Year - Category	2007		2008		2009		2010		2011		5-Year Totals		
	State	Match	State	Match	Overall								
Feedlot¹	\$38,183	\$23,000	\$38,163	\$24,991	\$35,363	\$37,554	\$31,280	\$29,916	\$28,051	\$33,145	\$171,040	\$148,606	\$319,646
SSTS²	\$9,885	\$39,304	\$10,000	\$37,543	\$10,000	\$40,552	\$9,931	\$38,206	\$9,931	\$19,466	\$49,747	\$175,071	\$224,818
LWM³	\$18,419	\$39,571	\$18,419	\$63,945	\$18,419	\$59,827	\$19,156	\$103,395	\$13,754	\$110,824	\$88,167	\$377,562	\$465,729
Shoreland⁴	\$5,394	\$30,039	\$5,394	\$26,438	\$5,394	\$28,012	\$5,394	\$26,669	\$4,655	\$27,336	\$26,231	\$138,494	\$164,725
WCA⁵	\$21,696	\$23,696	\$21,696	\$25,330	\$21,696	\$41,780	\$21,696	\$21,696	\$18,724	\$65,100	\$105,508	\$177,602	\$283,110
Sub-Total	\$93,577	\$155,610	\$93,672	\$178,247	\$90,872	\$207,725	\$87,457	\$219,882	\$75,115	\$255,871	\$440,693	\$1,017,335	\$1,458,028
Totals	\$249,187		\$271,919		\$298,597		\$307,339		\$330,986		\$1,458,028		

Feedlot¹ – Refers to the County's Feedlot Program

SSTS² – Refers to the County's Subsurface Sewage Treatment Systems Program

LWM³ – Refers to the County's Local Water Management Program

Shoreland⁴ – Refers to the County's Shoreland Program

WCA⁵ – Refers to the County's Wetland Conservation Act Program

Chapter Two: Assessment of Priority Concerns

This Chapter provides an assessment of the priority concerns identified throughout the Water Plan’s priority concerns scoping process. These concerns were identified by a variety of stakeholders and were selected by the Meeker County Water Plan Task Force. Please refer to Chapter One of this Water Plan for more information.

The priority concerns scoping process identified numerous priority issues that can be categorized into four larger topic areas; Surface Water Quality (or Reducing Priority Pollutants); Erosion and Sediment Control; Surface Water Quantity/Management; Groundwater Quality & Quantity; and Plan Administration. The Task Force acknowledges the priority issues could’ve been organized differently and they also realize that some priority issues pertain to more than one of the larger topic areas. This Chapter provides assessments for the first four categories. The fifth category, Plan Administration, is profiled in Chapter Four. As a result, this Chapter contains assessments on the following water resource topics:

- Surface Water Quality ~ Reducing Priority Pollutants
- Erosion and Sediment Control
- Surface Water Quantity ~ Management
- Groundwater Quality & Quantity

Section One: Surface Water Quality ~ Reducing Priority Pollutants Assessment

This section of the Water Plan provides an assessment of Meeker County’s surface water quality. To begin with, a brief profile of Meeker County’s Impaired Waters is provided. Following are subsections on Erosion and Sediment Control; Feedlots and Livestock Management; Subsurface Sewage Treatment Systems; and Aquatic Invasive Species.

A. Impaired Waters Assessment

Why are Impaired Waters a Priority Concern? The Federal Clean Water Act requires states to adopt water quality standards to protect the nation’s waters. These standards define how much of a pollutant can be in a surface and/or groundwater while still allowing it to meet its designated uses, such as for drinking water, fishing, swimming, irrigation or industrial purposes. When a water body cannot meet its designated uses due to pollution, it is considered an Impaired Water.

The Minnesota Pollution Control Agency (MPCA) produces a List of Minnesota's Impaired Waters every two years, referred to as the 303d List of Impaired Waters. The List identifies impaired water bodies and identifies the types of pollutants that exceed the State's minimum water quality standards, ranging from high Mercury levels, to Turbidity (suspended solids), to Fecal Coliform (bacteria).

What are the Risks and Who is Impacted? The various pollutants listed on the 303d List of Impaired Waters each pose a unique threat to aquatic life, human life, and/or wildlife. The major risk areas of concern can be summarized into the following categories:

- **Protection of Aquatic Life**
 - Main pollutants include trace metals, un-ionized ammonia, chloride, low dissolved oxygen, pH levels, turbidity, temperature, and various biological indicators.
- **Protection of Aquatic Consumption & Drinking Water**
 - Main pollutants include mercury, polychlorinated biphenyls, dioxins and chlorinated pesticides
- **Wildlife-Based Water Quality**
 - Main pollutants include DDT, Mercury and PCBs (human health standards are more stringent than for wildlife)
- **Protection of Aquatic Recreation**
 - Main pollutants include E. coli bacteria and lake eutrophication

Where are Meeker County's Impaired Waters Located? The MPCA submitted a Priority Concerns Input Form that was profiled in Chapter One. The key component of the Input Form was a listing of the Impaired Waters found in Meeker County. A copy of the correspondence and the list of Impaired Waters can be found in Appendix B. The submitted list identifies seven impaired streams (some with multiple segments each) and twenty-two lakes. The MPCA publishes the list on their website (www.pca.mn.us). Once a water body is identified on the list of Impaired Waters, a TMDL Study is conducted. TMDL stands for Total Maximum Daily Load, which is the maximum amount of any pollutant, contaminant, or impairment that can enter a body of water before the quality of the water is deemed unfit for its designated use. Therefore, a TMDL is a target or threshold which defines the upper limit for each pollutant in each water body. After the study is approved through a public review process, a TMDL Plan is formed to reduce the impairments to acceptable levels. Most of the implementation items identified in a TMDL Plan channel existing plans and programs to focus on the impaired water body. For example, once a stream segment is identified as impaired for Turbidity, a TMDL Plan would encourage stakeholders to target their conservation efforts on implementing projects directly benefiting the impaired water. Additional funding sources are also generated once a water body is listed as impaired.

Who are the Key Stakeholders Addressing Impaired Waters? The Minnesota Pollution Control Agency is the key Impaired Waters stakeholder, as they are the agency responsible for generating the 303d List of Impaired Waters and also have oversight on the TMDL process. Locally, the various watershed organizations are the primary stakeholders involved with implementing TMDL activities. Due to the varying types of pollutants, however, nearly all of Meeker County’s water plan stakeholders play some role in properly addressing Impaired Waters.

What actions are needed to properly address Impaired Waters? By definition, being listed as an Impaired Water for a pollutant means the water body cannot sustain itself naturally. As a result, collaborative measures need to be taken in order to give the water body a chance to become healthy again. Although addressing Impaired Waters in County Water Plans is voluntary, the Meeker County Task Force created a separate Objective in Chapter Three aimed at assisting with MPCA’s TMDL process. Figure 4.1 of the *Environmental Protection Agency’s Handbook for Developing TMDLs (2008)* shows the process involved with developing a TMDL. The Action Items include continuing water quality monitoring efforts, assisting with the TMDL studies, and partnering with the MPCA on their Watershed Approach. For more information on Meeker County’s Impaired Waters, refer to MPCA’s correspondence in Appendix B, or visit MPCA’s website at www.pca.state.mn.us.

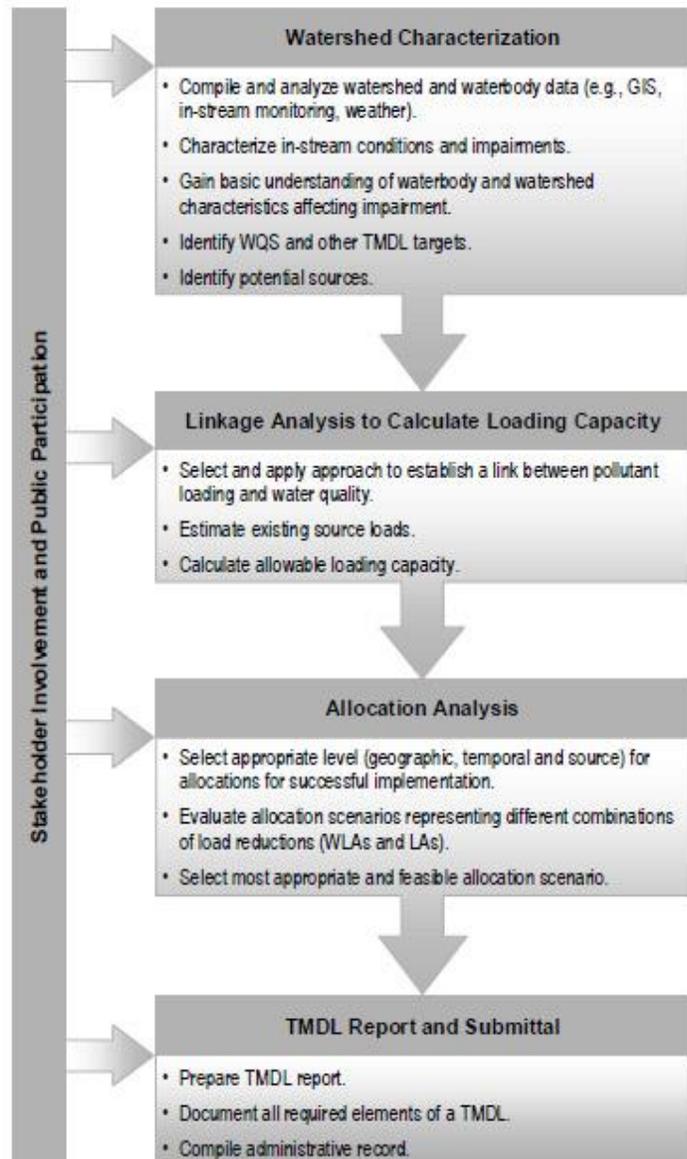


Figure 4-1. General steps in developing a TMDL.

B. Feedlots and Livestock Management Assessment

Why are Feedlots and Livestock Management a Priority Concern? The Minnesota Pollution Control Agency (MPCA) regulates and controls pollution created by animal feedlots. The MPCA's feedlot rules were first adopted in 1971 and were amended in 1974, 1978 and again in 2000. The trend in agriculture has been toward fewer but larger livestock and poultry facilities. There has also been a trend of increasing awareness about the *potential* environmental effects of feedlots. In accordance with MPCA feedlot regulations, the owner(s) of an animal feedlot or manure storage area with 50 or more animal units, or 10 or more animal units if in shoreland (less than 300 feet from a stream or river, less than 1,000 feet from a lake) needed to register with the MPCA.

Definition of an Animal Unit

A standardized measure to compare differences in the production of animal manure for an animal feedlot or manure storage area. A mature cow of about 1000 pounds (455 kg.) is the standard unit.

What Risks do Feedlots and Livestock Management Issues Pose? Feedlot and livestock environmental issues are mostly concerned with manure management. Specifically, phosphorus and nitrogen runoff from manure can lead to water quality problems if not handled properly. In addition, livestock grazing can substantially increase erosion and sedimentation rates when best management practices are not followed.

Where are Meeker County's Feedlots Located? Meeker County is currently delegated to administer the MPCA feedlot program. The County has completed a Level One and Level Two Feedlot Inventory. The Level One Inventory was done to identify the location of existing feedlots. The Level Two Feedlot Inventory, contains specific information, such as size and type of manure storage, on each feedlot within the County. The location of Meeker County's feedlots are spread throughout the County. For more information, contact the Meeker County Planning and Zoning Office.

What would happen if Feedlots and Livestock Management issues are not addressed?

In addition to the MPCA, the Minnesota Department of Agriculture (MDA) is also a key stakeholder in feedlot/livestock management issues. Rob Sip from the MDA submitted a Priority Concerns Input Form during the Water Plan's scoping process (contained in Appendix B). The main comments concerning feedlots and livestock issues are as follows:

“Livestock manure used as fertilizer has benefited farmers for decades and if applied properly can meet crop nutrient requirements, build up soil organic material and decrease dependence on commercial fertilizers, increase soil fertility, and in some cases, reduce soil erosion. Manure as fertilizer is a constant reminder that we can reuse and recycle a product that was once thought of as a waste product with insignificant value. However, if manure is not properly applied it can lead to negative environmental impacts.

Manure, feed/silage leachate and milkhouse waste can be high in nutrient values, specifically pertaining to nitrogen and phosphorous. If improperly applied, manure does have the potential to contribute to nutrient loading and bacteria/viral levels of water sources. It is important for counties in the state to encourage the development of manure/nutrient management plans for the livestock producers within their borders. These plans address agronomic application rates for crops planted, buffered or protection areas around sensitive features, and reduce the potential of impacting surface or ground water.

Pasturing livestock is a common practice among livestock producers. Several studies and research through the University of Minnesota show that livestock grazing, if done properly, can enhance the quality of grazing lands. As your county is aware, pasture areas are often those areas that are not conducive to farming and generally contain sensitive landscape and surface water features. Nutrients left by livestock serve as a fertilizer source to pasture plant species, which then utilize and filter the nutrients rather than the nutrients being in excess and exiting the area in the form of runoff.

Types of vegetation, length of time in a pasture, stocking density and water availability are all issues livestock producers must be continued to be educated, in order to produce and utilize a productive, environmentally sound pasture or grazing system. Pastures or grazing systems not managed properly can restrict or eliminate vegetative growth and cover, which in turn can result in potentially negative water quality issues” (MDA, April 20, 2012).

What actions are needed in order to properly address Meeker County’s Feedlot issues?

The Water Plan Task Force, through the Action Steps identified in Chapter Three, reinforced Meeker County’s commitment to working with feedlot operators by developing a number of producer-friendly initiatives. To begin with, the first Action Step simply communicates the desire for Meeker County to continue locally administering MPCA’s Feedlot Program by being a delegated County. In addition, the County is committed to providing educational, technical, and financial assistance, as available, to noncompliant feedlots. The County is also planning to sponsor manure/nutrient management meetings. The SWCD is also committed to being fully engaged on assisting with feedlot issues.

C. Subsurface Sewage Treatment Systems Assessment

Why are Subsurface Sewage Treatment Systems a Priority Concern? Subsurface Sewage Treatment Systems (SSTS), commonly known as septic systems, pose a threat to public health and the environment if not properly installed and maintained. They are regulated by Minnesota Statutes 115.55 and 115.56. These regulations detail:

1. Minimum technical standards for individual and mid-size SSTS (Chapter 7080 and 7081);
2. A framework for local administration of SSTS programs (Chapter 7082) and;
3. Statewide licensing and certification of SSTS professionals, SSTS product review and registration, and establishment of the SSTS Advisory Committee (Chapter 7083).

What Risks do SSTS's Pose and Who/What is at Risk? According to the MPCA, "Expose to sewage through ingestion or bodily contact can result in disease, severe illness, and in some instances death from bacteria, viruses and parasites contained in waste. Therefore, it is important for sewage to be properly treated" (***Facts About Subsurface Sewage Treatment Systems, MPCA-June 2008***). In addition, high phosphorus levels normally found in sewage can also lead to excessive aquatic plant growth, causing a number of corresponding water quality problems.

Where are Meeker County's SSTS Located?

Although SSTS's are sometimes located within incorporated areas, SSTS's are commonly located throughout the rural areas of the County. They are the primary means of treating sewage on farmsteads, rural homesteads, and for lakeshore properties. Due to Meeker County's vast amount of lakes, SSTS issues are a very important part of the County's Water Plan.

What actions are required to properly address SSTS issues?

SSTS concerns need to be properly addressed in the Water Plan to minimize the potential for them to have negative effects on public health and/or the environment. In addition, proper SSTS management will also help to protect overall water quality and will help address some of the problems listed in the County's Impaired Waters. Meeker County enforces MN Rule Chapter 7080-7083 through the Meeker County SSTS Ordinance. The Water Plan Task Force also identified a number of SSTS Action Steps, including providing educational and financial assistance (as available) to homeowners to properly maintain and upgrade noncompliant SSTSs. The County is also offering to maintain a database of inspected and/or installed SSTSs and apply for and administer MDA's State Revolving Fund Program for low-interest loans for SSTS improvements.

D. Shoreland and Lake Management Assessment

Why are Shoreland and Lake Management Issues a Priority Issue? Due to the vast amount of lakes in Meeker County, shoreland and lake management issues were identified as a priority issue in Meeker County’s Water Plan. The numerous lakeshore properties collectively depend upon each other, the County, and the various lake associations to take the necessary steps to ensure the lakes are clean, swimmable, and can support desirable aquatic life.

What are the Key Issues with Shoreland and Lake Management? Currently, there are two main categories of shoreland and lake management issues facing lakeshore communities: Shoreland Management and Aquatic Invasive Species. Assessment profiles are provided for both categories.

Shoreland Management

What Risks do Shoreland Management Pose to Meeker County? According to the Minnesota Department of Natural Resources:

The consequences of uncontrolled and unplanned development can be disastrous to our land and water resources. Overbuilt and poorly designed shoreland areas degrade the value of the entire water body. Increasing demand for shoreline building sites has led to skyrocketing land costs. Without controls, land with water frontage tends to be divided into smaller parcels. Scattered cottages, homes, and resorts merge to form a continuous ribbon of buildings and structures along shores of lakes and rivers, resulting in the destruction of natural vegetation and scenic beauty. A first row of crowded structures may be followed by a second and third until the entire watershed is overbuilt. Marginal lands with high water tables, severe flooding hazards or steep slopes fall under increasing development pressure after suitable lands are taken.

The consequences of overdevelopment are increased risks of flooding, pollution and scenic degradation. Nutrients like nitrogen and phosphorous, other pollutants, and improperly designed sewage treatment systems can contaminate wells and surface waters. Development in or near floodplains can reduce the natural storage capacity of the watershed, causing increased flooding threats to life and property. Degraded property values, polluted lakes and wells, flood damages, and increased public service costs result when short-sighted thinking places immediate profits above long-term impacts and goals” (www.dnr.state.mn.us/shorelandmgmt/guide/watersheds.html).

What Needs to be Done to Adequately Manage Shorelands? In addition to enforcing the County’s Shoreland Ordinance, the Water Plan Task Force established an Action Step to provide technical and financial assistance, as available, to landowners for the implementation of shoreland BMPs, including lakescaping and the proper usage of pesticides and other chemicals. In addition, the Clearwater River Watershed District is providing a one-time incentive of 20% of the

total cost (up to \$750) for buffering shorelines. The Meeker County Association of Lakes, which is one of the key stakeholders in addressing shoreland and lake management issues, is briefly profiled in Chapter Four. They meet annually in Meeker County and normally submit requests for Water Plan funds.

Aquatic Invasive Species

What Risks do Aquatic Invasive Species Pose to Meeker County? Aquatic Invasive Species (AIS) are species that are not native to Minnesota and cause economic or environmental harm or harm to human health. It is illegal to transport any aquatic plants, such as zebra mussels, New Zealand mudsnails, or other prohibited invasive species, or to launch a boat or trailer with these species attached.

Where are AIS Located in Meeker County? The Minnesota Department of Natural Resources (MDNR) is the primary stakeholder responsible for providing educational efforts, establishing local grant programs, and for initiating Statewide legislation on AIS. They maintain a website that profiles each of the AIS. In addition, they maintain a list of where each type of AIS is known to be found throughout the State. As of July 30, 2012, the following Meeker County water bodies were infected with *Eurasian water milfoil* (note: no other AIS was identified in Meeker County):

- Lake Manuella (47-0050-Lake Id#)
- Lake Minnie-Belle (47-0119)
- Little Mud (47-0096)
- Ripley Lake (47-0134)
- Stella Lake (47-0068)
- Lake Washington (47-0046)
- Wolf Lake (47-0016)

For more information on AIS, visit the following MDNR website:

http://www.dnr.state.mn.us/invasives/index_aquatic.html

What would happen if AIS issues are not addressed? Meeker County fully recognizes the significance of what AIS can do to the local economy. To do their part, the Water Plan Task Force created an Action Step to conduct and/or provide technical and financial assistance, as available, to lake associations and similar groups for the implementation of AIS prevention and/or control efforts. In addition, they are committed to assisting with placing proper signage on accesses and assisting with enforcement activities. Outside of the County's Water Plan, a Task Force was created to address local AIS issues, referred to as the Meeker County Aquatic Invasive Species Task Force. Their primary goal is to keep zebra mussels out of Meeker County's lakes through education, communication, and making decontamination for boats easy.

E. Land Management Assessment

Why is Land Management a Priority Issue in Meeker County's Water Plan?

All of the County's Priority Water Planning issues are impacted if land management activities are not sustainable. The County's Water Plan Task Force fully recognizes that properly addressing water management issues begins with establishing good land management practices. This includes both urban and rural Best Management Practices (BMPs).

What are the Risks/Issues in Land Management?

Although most of the other priority water planning issues are essentially land management issues since they all either directly or indirectly are affected by land management activities, there were a couple of issues that were categorized better under "land management." These include properly addressing Hazardous Waste, Habitat Corridors, and Wastewater Treatment.

- ***Hazardous Waste:*** establishing a means for citizens to properly dispose of the multiple sources of hazardous waste is important to protecting both surface and groundwater.
- ***Habitat Corridors:*** the main goal of protecting and enhancing habitat corridors is to maintain or increase biodiversity and wildlife.
- ***Wastewater Treatment:*** The Minnesota Pollution Control Agency (MPCA) oversees municipal wastewater operations. According to the MPCA, "wastewater treatment and disposal is an important part of our need to protect and preserve Minnesota's water resources." For more information, visit MPCA's wastewater website:

<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/wastewater/index.html>

What Needs to be Done to Properly Address Land Management Issues?

The Water Plan Task Force established Action Steps to continue the County's Hazardous Waste Program; to support efforts to conserve, enhance and restore wildlife habitat; and to cooperatively work with partners to address wastewater treatment issues associated with unsewered communities, including lakeshore residents. In addition, the Task Force identified investing in the acquisition, development, and maintenance of GIS datasets to assist with making informed decisions regarding land use planning and water resource management. Finally, the Task Force identified continuing to implement the County's adopted land use controls, including the floodplain, SSTS, shoreland, solid waste, and zoning ordinances.

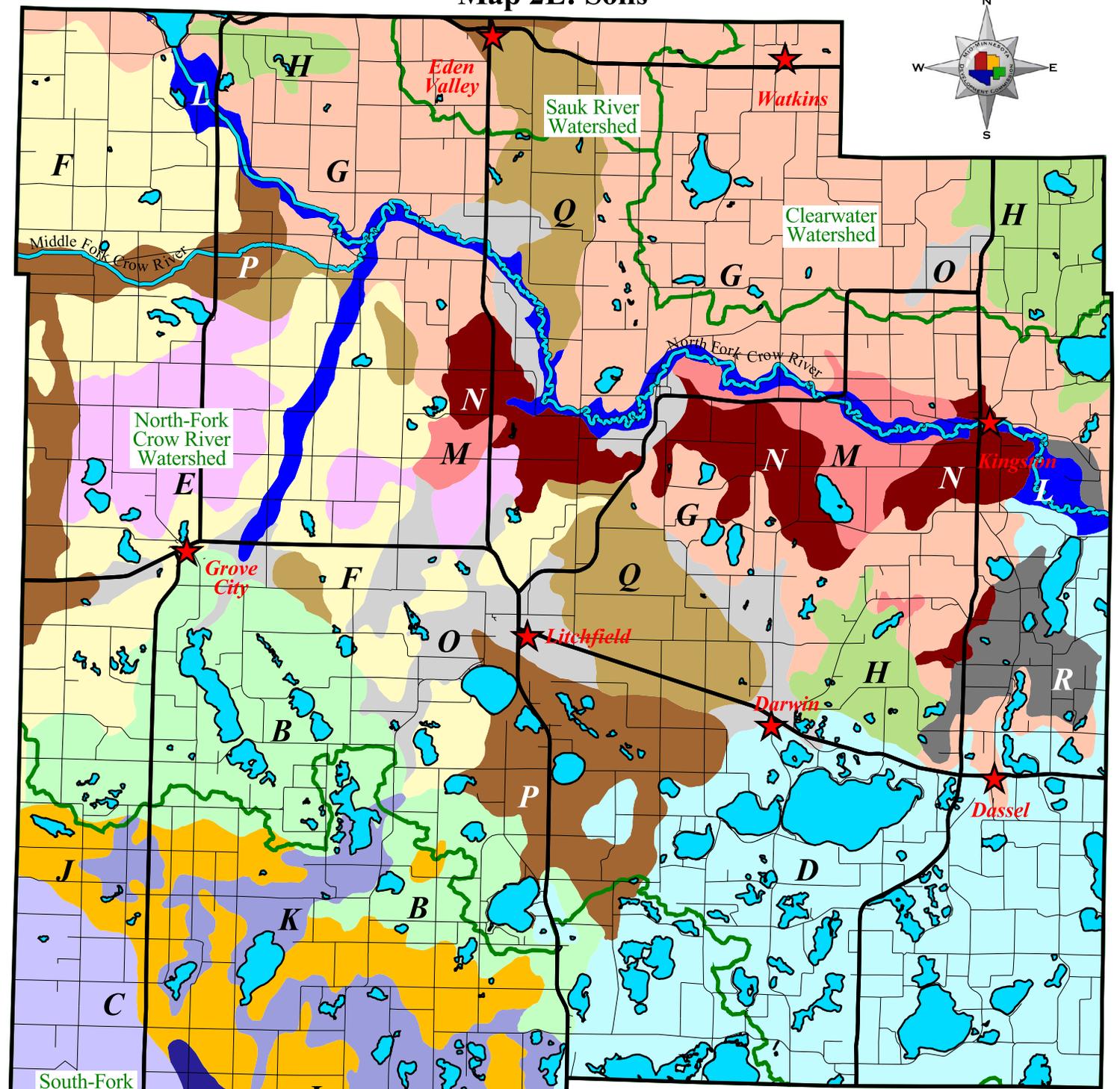
Section Two: Erosion and Sediment Control Assessment

As an agricultural county, soils are one of Meeker County's most valuable resources. Soils develop from the breakdown of rock minerals, intermixed with plant and animal remains. The formation of a soil is an extremely long process, taking place over hundreds to thousands of years. Meeker County's soils were formed from deposits originally left by glaciers more than 10,000 years ago. The County has a wide variety of soil types due to the wide variety of parent material from which they were formed. Also important in the formation of the County's soils are factors such as climate, vegetation and topography.

Meeker County's ten major soil associations are displayed in Map 2E. A brief description of each association is provided below:

1. **Regal-Osakis Association.** Soil texture for the association is a loam. Infiltration rates generally range from fair to poor. The common landform setting for soils classified in the Regal-Osakis Association is outwash plains. Slopes generally range from 0 to 3 percent. The Regal-Osakis Association comprises 2 percent of the area in Meeker County and is primarily found in the northeastern portion of the County.
2. **Estherville-Hawick-Lena Association.** Soil textures for the association include loam and sandy loam. Infiltration is generally poor. The common landform setting for soils classified in the Estherville-Hawick-Lena Association is moraines and outwash plains. Slopes generally range from 0 to 18 percent. The Estherville-Hawick-Lena Association comprises 11 percent of the area in Meeker County and is found scattered throughout the northern half of the County.
3. **Koronis-Hawick-Sunburg Association.** Soil textures for the association include loam and sandy loam. Infiltration is generally good. The common landform setting for soils classified in the Koronis-Hawick-Sunburg Association is outwash plains. Slopes generally range from 2 to 35 percent. The Koronis-Hawick-Sunburg Association comprises 7 percent of the area in Meeker County and is found in the northern portion of the County.
4. **Wadenill-Sunburg-Delft Association.** Soil texture for the association is a loam. Infiltration ranges from good to poor. The common landform setting for soils classified in the Wadenill-Sunburg-Delft Association is moraines and till plains. Slopes generally range from 2 to 35 percent. The Wadenill-Sunburg-Delft Association comprises 28 percent of the area in Meeker County and is primarily found in the northern half of the County.

Map 2E: Soils



Nearly Level to Steep Loamy and Clayey Soils Formed in Glacial Till on Uplands	Nearly Level to Gently Sloping, Clayey and Silty Soils in Lake Basins
A Association 1	M Association 12
B Association 2	N Association 13
C Association 3	
D Association 4	Nearly Level to Rolling Loamy and Sandy and Organic Soils on Outwash Plains, Stream Terraces.
E Association 5	O Association 14
F Association 6	P Association 15
G Association 7	Q Association 16
H Association 8	R Association 17
I Association 9	
J Association 10	
K Association 11	
Soils On Floodplains and Stream Terraces.	L Association 18
	Lakes
	Rivers
	Major Roads
	Minor Roads
	Cities
	Watershed



5. **Guckeen-Marna Association.** Soil textures for the association include loam and clay loam. Infiltration rates range from good to poor. The common landform setting for soils classified in the Guckeen-Marna Association is moraines and till plains. Slopes generally range from 0 to 18 percent. The Guckeen-Marna Association comprises 7 percent of the area in Meeker County and is found in the central portion of the County.
6. **Harps-Okoboji-Seaforth Association.** Soil textures for the association include loam and silt loam. Infiltration ranges from good to poor. The common landform setting for soils classified in the Harps-Okoboji-Seaforth Association is moraines and till plains. Slopes generally range from 0 to 18 percent. The Harps-Okoboji-Seaforth Association comprises 7 percent of the area in Meeker County and is found in the southern portion of the County.
7. **Normania-Canisteo-Harps Association.** Soil texture for the association is a loam. Infiltration rates range from fair to poor. The common landform setting for soils classified in the Normania-Canisteo-Harps Association is till plains. Slopes generally range from 0 to 5 percent. The Normania-Canisteo-Harps Association comprises 12 percent of the area in Meeker County and is found in the southern portion of the County.
8. **Ves-Normania-Webster Association.** Soil textures for the association include loam and silt loam. Infiltration is generally good to poor. The common landform setting for soils classified in the Ves-Normania-Webster Association is till plains. Slopes generally range from 0 to 18 percent. The Ves-Normania-Webster Association comprises 5 percent of the area in Meeker County and is found scattered throughout the eastern half of the County.
9. **Fieldon-Coriff Association.** Soil texture for the association is a loam. Infiltration is generally poor. The common landform setting for soils classified in the Fieldon-Coriff Association is moraines and outwash plains. Slopes generally range from 0 to 2 percent. The Fieldon-Coriff Association comprises 1 percent of the area in Meeker County and is found just east of Big Meeker Lake and Lake Kasota.
10. **Canisteo-Nicollet Association.** Soil textures for the association include loam and silt loam. Infiltration rates range from fair to poor. The common landform setting for soils classified in the Canisteo-Nicollet Association is till plains. Slopes generally range from 0 to 5 percent. The Canisteo-Nicollet Association comprises 7 percent of the area in Meeker County and is found in the southeastern portion of the County.

Reference: USDA, Soil Survey of Meeker County, Minnesota

Why is Soil Erosion and Sediment Control a Priority Concern and What/Who is at Risk?

The Priority Concerns Scoping Document (Chapter One) identified that cultivated agricultural land is the single largest land use in the County. The Priority Concerns Input Form submitted by the Minnesota Board of Water and Soil Resources (BWSR) best summarizes the significance of having erosion and sediment control as a priority issue addressed in the Meeker County Water Plan. As Tom Fischer, BWSR Board Conservationist writes (see Appendix B):

“According to the 2003 – 2012 Meeker County Comprehensive Local Water Plan, the largest land use in the County is cultivated land--approximately 70.9%, much of which is classified as erosion prone. This land use can and does impact the quality and quantity of surface and ground water resources. The rivers, lakes and streams of the County (and Minnesota) depend on best management practices to be implemented on these lands so water quality degradation from sediment of eroding lands does not occur. And, these agricultural soils need to be protected in order to provide for the long-term productive capacity of the County’s soil resource base.

Agricultural runoff is also a significant source of nutrient loading to surface and ground waters. Commercial fertilizers as well as animal waste (manure) from livestock and hog producers are utilized for crop production on agricultural land. Proper application of commercial fertilizer and animal waste is critical in reducing loss of these nutrients to receiving waters. Preventing soil loss due to erosion and attached phosphorous from entering receiving waters will help to improve water quality.

The Minnesota Pollution Control Agency continues to update its Impaired Waters listing, which includes specific reaches of surface waters in the county. Implementation of best management practices is needed to protect and keep the productive soils in place, provide for proper utilization of chemical fertilizers and animal waste, and to retain precipitation on the land that aids in the control of flood waters.” (Submitted BWSR Priority Concerns Input Form, found in Appendix A).

Where are Meeker County’s Erosion Prone Soils Located?

The beginning of this section provided a generalized description of the 10 soil associations found in Meeker County. The following section analyzes the erosion potential of those soil associations. Meeker County is adversely affected by both wind and water erosion.

Water Erosion - Water erosion results from soil being moved from its original location by the force of water to the convex lower slopes and flats. Average tolerable soil loss for the County is three to five tons per acre per year. Erosion types are classified as sheet, rill, ephemeral and gully. Soil erosion affects cropland, urban areas, roadsides, lakeshores, streambanks and drainage systems.

Water erosion impacts the water quality of the County’s waterbodies, as well as develops detrimental conditions in the uplands and steeper slopes of the soil associations with erosion prone characteristics. Water erosion in Meeker County generally occurs most often between the months of April and June, when fields have been tilled and planted, but a crop canopy has not developed to protect the soil surface.

The USDA developed the Universal Soil Loss Equation (USLE) to effectively predict the average rate of soil loss by sheet and rill erosion in tons per acre per year. One of the six factors used in the equation, erosion factor K, indicates the susceptibility of a soil to sheet and rill erosion. Values of K range from 0.02 to 0.69. The higher the value, the more susceptible the soil is to sheet and rill erosion. Map 2F identifies the water erosion prone Meeker County soil associations that have K factors equal to or greater than 0.28. Table 2A details the Meeker County soil associations that are classified as erosion prone. Notice that water erosion prone soils cover approximately 36 percent of Meeker County.

**Table 2A:
Water Erosion Prone Soil Associations**

Soil Association	Percent of County
01 - Regal-Osakis	2%
05 - Guckeen-Marna	7%
06 - Harps-Okoboji-Seaforth	7%
07 - Normania-Canisteo-Harps	12%
09 - Fieldon-Coriff	1%
10 - Canisteo-Nicollet	7%
Total	36%

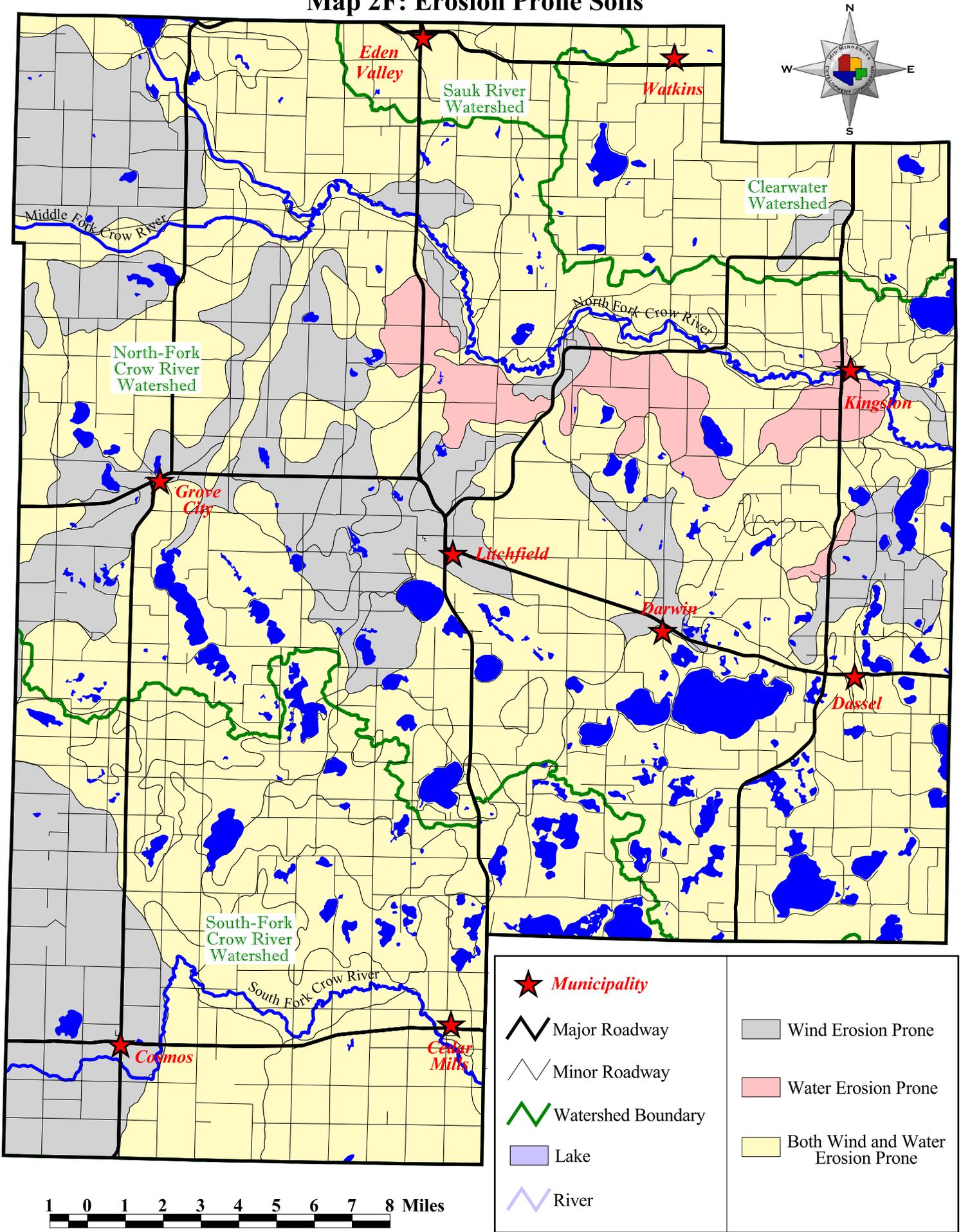
Wind Erosion - The potential for wind erosion occurs when wind velocities increase above 12 miles per hour. Wind speeds above this mark overcome the force of gravity and dislodge soil particles. Soil is most vulnerable when unprotected by vegetative cover. Soils with fine granulated structure are most susceptible to erosion, including sandy loam, loamy sand and sand. November through June, when field surfaces may be dry and strong northwest winds are prevalent, is the worst time period for wind erosion.

The USDA has classified soils into Wind Erodibility Groups, according to their susceptibility to wind erosion in cultivated areas. Wind Erodibility Groups range from 1-8. The lower the group number, the higher the vulnerability to wind erosion. Groups 4L or less are classified as highly susceptible to wind erosion. Map 2F displays the Meeker County soil associations that are classified as wind erosion prone. Table 2B indicates that 75 percent of Meeker County’s soils are vulnerable to wind erosion.

**Table 2B:
Wind Erosion Prone Soil Associations**

Soil Association	Percent of County
01 - Regal-Osakis	2%
02 - Estherville-Hawick-Lena	11%
03 - Koronis-Hawick-Sunburg	7%
04 - Wadenill-Sunburg-Delft	28%
06 - Harps-Okoboji-Seaforth	7%
07 - Normania-Canisteo-Harps	12%
08 - Ves-Normania-Webster	5%
09 - Fieldon-Coriff	1%
10 - Canisteo-Nicollet	7%
Total	75%

Map 2F: Erosion Prone Soils



Municipality	Wind Erosion Prone
Major Roadway	Water Erosion Prone
Minor Roadway	Both Wind and Water Erosion Prone
Watershed Boundary	
Lake	
River	

What Actions are Needed to Properly Address Soil and Sediment Control problems and Who are the Key Stakeholders?

The loss of prime farmland through soil erosion impacts the farming community's ability to produce the high quality crops over the long-term. In addition, soil erosion and sedimentation in water (referred to as turbidity) is one of the pollutants identified in Meeker County's List of Impaired Waters.

The Meeker County Soil and Water Conservation District (SWCD) is the primary water plan stakeholder dealing with preventing soil loss in Meeker County. As a result, the SWCD was included in a number of Action Steps found in Chapter Three, including targeting highly erodible land for conservation easements and providing technical and financial assistance for the implementation of water quality-related Best Management Practices (BMPs). Additional Action Steps include promoting conservation tillage and reviewing erosion control standards to ensure water quality is protected during and after development.

The Natural Resource Conservation Service (NRCS), the Minnesota Department of Agriculture (MDA), and the various watershed management like organizations (i.e., Watershed Districts, Lake Associations, etc.) are also key stakeholders in properly addressing this priority issue. For more information, please review the letters submitted from the various stakeholders contained in Appendix B and visit the following MDA website:

www.mda.state.mn.us/protecting/soilprotection.aspx

Section Three: Surface Water Quantity ~ Management Assessment

This section of the Water Plan provides an assessment of Meeker County's surface water quantity and/or surface water management issues. Following are subsections on Agricultural Drainage, Stormwater Management, and Wetlands/Water Retention. It is important to remember, however, that all three of these subsections are interrelated. Consequentially, many points made as part of one resource assessment also pertains to the resource assessments for the other two categories.

A. Agricultural Drainage Assessment

Why is Agricultural Drainage a Priority Concern?

Drainage ditches were installed to provide drainage for agricultural lands, at a time when Federal and State policies were to increase agricultural production. Having adequate drainage for agricultural production is an essential component of our economy, however, most of the drainage systems installed in the past were designed primarily to remove water as rapidly as possible, without regard to effects on surface water quality and quantity.

Best management practices (BMPs), such as filter strips and alternative drainage methods, need to be targeted on drainage systems to prevent exacerbating current water quality and quantity problems. Implementation of such practices would not only improve the quality of the County's surface water, but it would also reduce the need for expensive ditch cleanout and repair.

The Minnesota Department of Natural Resources (DNR) has observed more "flashy" stream flows throughout the State, meaning that both high and low flows are exaggerated. Because many drainage ditch systems were designed to remove large quantities of water in a short duration, flooding problems are occurring more frequently, especially following major storm events and during the spring snowmelt. To minimize flooding impacts, upland storage needs to be increased to reduce the overall volume of water transported by the drainage system.

Due to recent high crop prices, an increasing amount of farmland is being tilled. This presents itself the opportunity to install new conservation drainage systems and to make improvements to the existing system. The newer systems can be designed to reduce nutrient losses and also positively affect the timing of flows into surface waters.

Where are Drainage Systems Located in Meeker County?

Map 2D details Meeker County’s drainage ditch system. A breakdown of the miles of drainage ditch per Meeker County watershed is given in Table 2D. The two largest watersheds within Meeker County, the North Fork of the Crow River (132.5 mi.) and South Fork of the Crow River (55.2 mi.) watersheds, have moderate to extensive drainage ditch systems. Fine textured soils, with low to moderate infiltration rates, are found throughout the area, making drainage critical to agricultural production. The remaining two watersheds, the Clearwater River (22.1 mi.) and Sauk River (4.2 mi.), have slightly less extensive drainage systems. Soils in the northern portion of Meeker County are generally coarser in texture, resulting in higher infiltration rates and a reduced need for drainage for agricultural production. For detailed ditch maps and related information, please contact the Meeker County Soil and Water Conservation District or the Meeker County Highway Department.

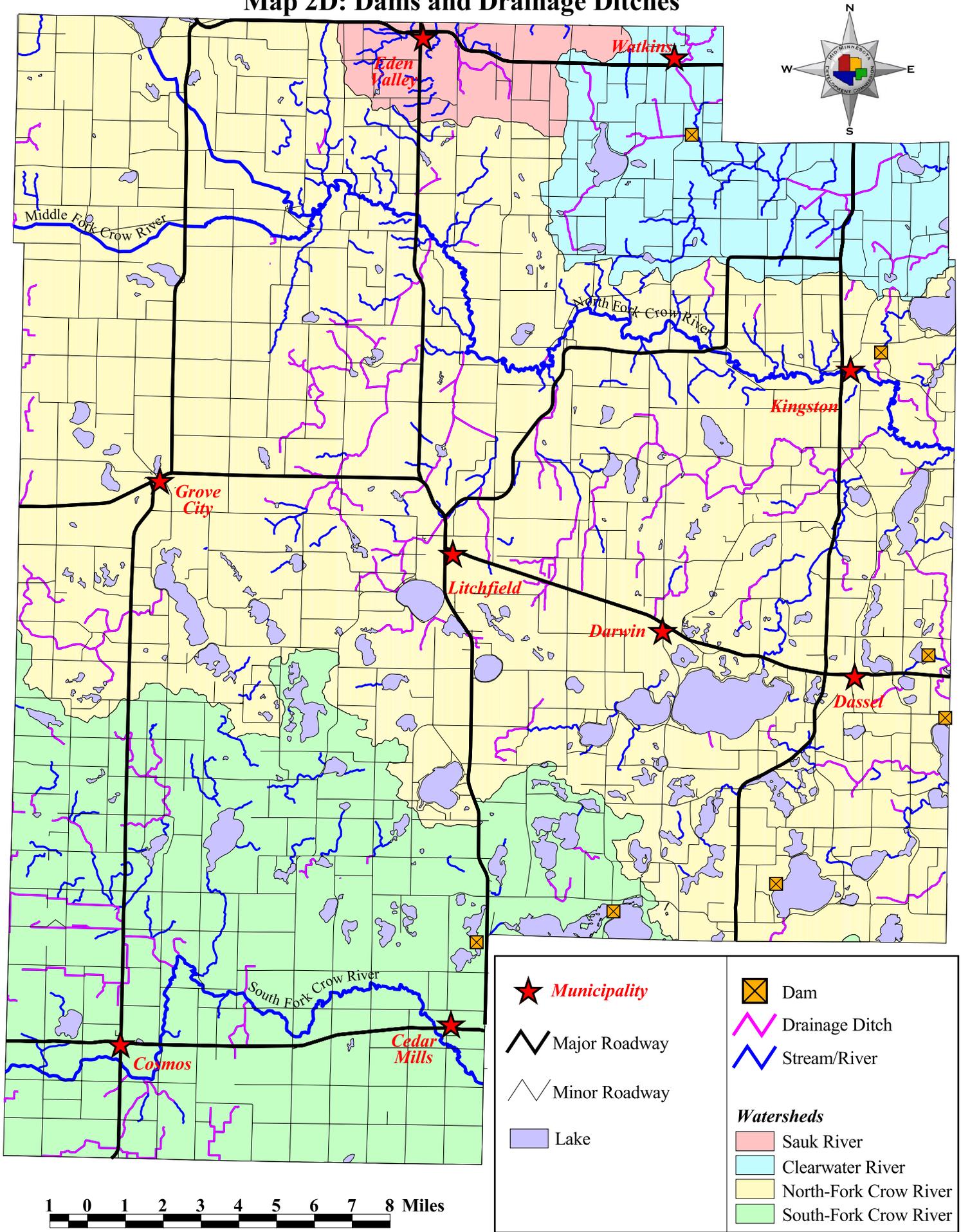
**Table 2D:
Meeker County Drainage Ditches by Watershed**

Watershed	Miles of Drainage Ditches
Clearwater River	22.1
North Fork of the Crow River	132.5
Sauk River	4.2
South Fork of the Crow River	55.2
Total	214.0

What are the Risks Associated with Agricultural Drainage? Although proper agricultural drainage is a necessary component in a healthy farming community, some negative environmental risks do exist if best management practices are not implemented properly. These sometimes include the following water-related problems:

- Loss of wetlands and water storage
- Increased flooding (due to loss of wetlands and water storage)
- Increased loss of nitrates through tile drains; increased phosphorus levels
- Increased soil erosion and turbidity
- Increased pesticides and farm chemicals in public waters

Map 2D: Dams and Drainage Ditches



Municipality	Dam	
Major Roadway	Drainage Ditch	
Minor Roadway	Stream/River	
Lake	Watersheds	
	Sauk River	
	Clearwater River	
	North-Fork Crow River	
	South-Fork Crow River	

What actions are needed to properly address Agricultural Drainage issues in Meeker County?

A number of drainage authorities in Minnesota have undertaken a systematic redetermination of benefits and damages for all of the Chapter 103E drainage systems under their jurisdiction, including surface ditches and subsurface tile systems. Meeker County is one of counties going through this process, along with Freeborn, Martin, Steele, Sibley, and Faribault Counties. According to a BWSR (www.bwsr.state.mn.us/drainage), in a publication titled “Redetermination of Benefits and Damages for Drainage Systems:”

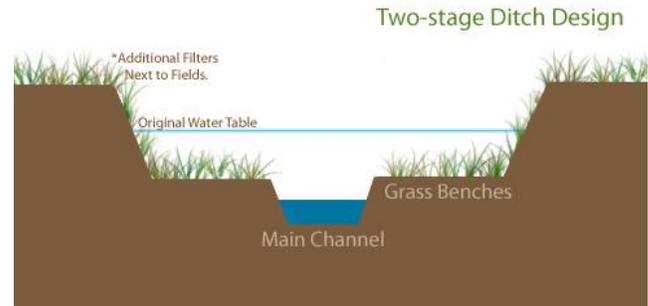
- Benefited lands and benefits of many public drainage systems have not been updated for decades, some for over a century.
- Drainage system benefits are determined at one point in time, with no provision in Chapter 103E to index for inflation over time. The cost of a repair cannot exceed the total value of benefits of the drainage system on record.
- The drainage system repair fund limit is 20% of the total assessed benefits of the system, or \$100,000, whichever is greater.
- Chapter 103E projects that require right-of-way (establishment, improvement, or repair by resloping of ditch side slopes) must have viewers appointed to determine associated benefits and damages. Partial system projects can create benefit inequities.
- As new private drainage is outlet into a public drainage system, the total benefits of the system and the relative benefits to land parcels and other infrastructure change. These benefits and associated assessments for repairs can only be updated via a redetermination of benefits and damages.

Due to the recent success of the Redetermination of Benefits in the various counties mentioned, the Meeker County Water Plan Task Force established an Action Step to continue the redetermination process locally when requested by the landowners.

One of the alternative drainage practices identified in the Action Steps is to promote the use of two-stage ditch systems. The Nature Conservancy explains the two-stage ditch concept:

“Researchers have developed a drainage design by observing the natural processes of stable streams and rivers that could relieve the erosion, scouring and flooding that conventional ditches may cause. This design, known as the two-stage ditch, is a drainage channel that will benefit both agriculture and the environment.

The concept of the two-stage ditch is simple. The design incorporates a floodplain zone, called benches, into the ditch by removing the ditch banks roughly 2-3 feet above the bottom for a width of about 10 feet on each side. This allows the water to have more area to spread out on and decreases the velocity - or energy - of the water. The flow of that water is a function of the velocity and area of the water.



And since flow can be considered as the amount of water moving through the ditch, the design has actually increased the amount of water that the ditch can process by constructing the benches, or floodplain area. This not only improves the water quality, but also improves the biological conditions of the ditches where this is located” (<http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/indiana/howwework/two-stage-ditches.xml>).

The Water Plan Task Force also created Action Steps to pursue the development of a comprehensive drainage management plan. The purpose of this type of plan would be to identify problems and potential solutions to the existing drainage system. The main emphasis would be to ensure sufficient drainage for crop production, while maintaining and improving the County’s water quality and quantity. Potential funding sources can be pursued from the Clean Water Fund and the Legislative Citizen Commission of Mn Resources (LCCMR).

The NRCS/USDA recently published the following description of a Drainage Water Management (*Minnesota, October 2012*):

“The objective of Drainage Water Management (DWM) is to control soil water table elevations and the timing of water discharges from subsurface or surface agricultural drainage systems for one or more of the following purposes:

- Reduce nutrient, pathogen, and/or pesticide loading from drainage systems into downstream receiving waters
- Improve productivity, health, and vigor of plants
- Reduce oxidation of organic matter in soils
- Reduce wind erosion or particulate matter (dust) emissions
- Provide seasonal wildlife habitat
- Peak discharge modification”

The Water Plan Task Force also created an Action Step to periodically host a workshop to proactively educate stakeholders on drainage management issues and regulations.

B. Stormwater Management Assessment [partially recreated from www.pca.state.mn.us]

Why is Stormwater Management a Priority Concern and What is at Risk?

According to the Minnesota Pollution Control Agency, the surest way to improve water quality in Minnesota is to better manage stormwater. Unmanaged stormwater can have devastating consequences on the quality of lakes, streams and rivers we enjoy. Stormwater often contains oil, chemicals, excess phosphorus, toxic metals, litter, and disease-causing organisms. In addition, stormwater frequently overwhelms streams and rivers, scours streambanks and river bottoms and hurts or eliminates fish and other aquatic organisms.

To better manage stormwater across the state, the MPCA administers the requirements of the federal Clean Water Act in addition to its own State Disposal System requirements. At the MPCA, the Stormwater Program includes three general stormwater permits: the Municipal Separate Storm Sewer Permit, the Construction Stormwater Permit and the Industrial Stormwater Permit. Each program administers a general permit (and in some cases, individual permits) that incorporates federal and state requirements for Minnesota stormwater management.

Stormwater management has evolved substantially over the past 20 years. Historically, the goal was to move water off the landscape quickly and reduce flooding concerns. Now we are focusing on keeping the raindrop where it falls and mimicking natural hydrology in order to minimize the amount of pollution reaching our lakes, rivers and streams, and to recharge our ground waters. In order to successfully do so, standards are needed to create consistency in design and performance. In response to this need, and advanced by a diverse group of partners, the Minnesota Legislature allocated funds to “develop performance standards, design standards or other tools to enable and promote the implementation of low impact development and other stormwater management techniques.” (Minnesota Statutes 2009, section 115.03, subdivision 5c).

Minimal Impact Design Standards (MIDS) represents the next generation of stormwater management and contains three main elements that address current challenges:

- A higher clean water performance goal for new development and redevelopment that will provide enhanced protection for Minnesota’s water resources.
- New modeling methods and credit calculations that will standardize the use of a range of “innovative” structural and nonstructural stormwater techniques.
- A credits system and ordinance package that will allow for increased flexibility and a streamlined approach to regulatory programs for developers and communities.

The development of Minimal Impact Design Standards is based on low impact development (LID) — an approach to storm water management that mimics a site’s natural hydrology as the landscape is developed. Using the low impact development approach, storm water is managed on site and the rate and volume of predevelopment storm water reaching receiving waters is unchanged. The calculation of predevelopment hydrology is based on native soil and vegetation (Minnesota Statutes 2009, section 115.03, subdivision 5c).

Where are Stormwater Management concerns in Meeker County?

Stormwater management concerns are primarily concentrated in the developed areas of Meeker County, including in cities, roadways, parking lots, and around the County’s vast lakeshore communities. In a 2004, the Middle Fork of the Crow River Diagnostic Study (which begins in Kandiyohi County and flows into Meeker County) reported the following:

“Growth in New London, Spicer and along the lakes and streams of the Middle Fork of the Crow River, has caused substantial increases in impervious surfaces over the past 15 years. Increases in impervious surfaces (roads, roofs, sidewalks, compacted soils and parking lots) can have profound negative impacts to streams, habitat for fisheries and wildlife as well as water quality. The amounts of impervious surfaces within portions of the watershed have reached levels (e.g. greater than 15%) that have typically been well-linked to degradation of streams. Water quality modeling indicates that all study lakes will be very sensitive to increased stormwater discharges. Of particular note, in the first tier (300 foot distance from the shoreline) around Green Lake, there is an estimated 29% imperviousness (due in equal measures to residences and roads). Continued growth, expected to occur over the next three decades, should be accompanied by carefully designed, operated and maintained stormwater runoff controls” (www.greenlakespicer.com/Middle%20Fork/middleforkofthecrowriver.htm).

Who are the Key Stakeholders in Properly Addressing Stormwater Concerns?

Since the major stormwater management concerns are in the developed areas of the County, the various municipalities are the major stakeholders involved with properly addressing stormwater concerns. The Meeker County Planning and Zoning Department also plays a large role in reviewing stormwater management plans for all types of rural development. Watershed management like organizations also play a large role in promoting stormwater BMPs.

At the State level, the Minnesota Pollution Control Agency is the largest stakeholder dealing with stormwater issues, largely due to its oversight responsibility with the Clean Water Act. For more

information on MPCA’s stormwater rules, initiatives, and programs, please visit the following website:

www.pca.state.mn.us

What actions are needed to properly address Stormwater Management issues in Meeker County?

The MPCA has put together a number of Best Management Practices (BMPs) guidelines for everyone from homeowners to industrial operations. Promoting them becomes an essential component of what Meeker County can do to assist with minimizing stormwater pollution. The most effective solution to stormwater pollution is encouraging people to change the way they see and treat stormwater. To accomplish this, the Meeker County Water Plan Task Force identified a number of stormwater related Action Steps, including assisting with the development of Stormwater Management Plans and working with municipalities to establish stormwater storage basins, which provide a place for pollutants to settle rather than entering directly into public waters.

In rapidly developing areas of the County, particularly surrounding the cities and lakeshore areas, the increasing amount of impervious surface has resulted in a need for greater stormwater management. The County’s SWCD will work with landowners in these areas to install BMPs to reduce runoff rates. The Clearwater River Watershed District is also providing a one-time \$2.50 per square foot incentive for installation and maintenance of a rain garden on private property where installation will provide a benefit to cleaner water.

C. Wetlands and Water Retention Assessment

Why are Wetlands and Water Retention a Priority Concern?

Wetlands in Meeker County serve many important functions, including: flood attenuation, wildlife habitat, improved water quality, recreational opportunities and aesthetics. Although many of the County’s Type 3 or larger wetlands remain, most of the County’s Type 1 and 2 wetlands have been drained for agricultural production. Much of the wetland draining in the County occurred in the 1960s and early 1970s, when the Federal government’s farm policies compensated agricultural producers up to 90 cents on the dollar to install artificial drainage systems. As result of these Federal government payments and policies, an extensive artificial drainage system was installed in Meeker County.

Wetlands Conservation Act

In 1991, the Minnesota Legislature passed Chapter 354, the Wetlands Conservation Act (WCA), which created a statewide "no-net loss" policy for wetlands. The law requires anyone proposing to drain or fill a wetland to first try to avoid disturbing the wetland; second, try to minimize any impact on the wetland; and, finally, replace any lost wetland acres, functions and values. Certain wetland activities are exempt from the act, allowing projects with minimal impact or projects located on land where certain pre-established land uses are present to proceed without regulation. The Meeker County Environmental Services Office implements the act locally. The Minnesota Board of Water and Soil Resources (BWSR) administers WCA statewide.

The WCA recognizes a number of wetland benefits deemed important, including:

- Water quality, including filtering pollutants out of surface water and groundwater, using nutrients that would otherwise pollute public waters, trapping sediments, protecting shoreline, and recharging groundwater supplies;
- Floodwater and stormwater retention, including reducing the potential for flooding in the watershed;
- Public recreation and education, including hunting and fishing areas, wildlife viewing areas, and nature areas;
- Commercial benefits, including wild rice and cranberry growing areas and aquaculture areas;
- Fish and wildlife benefits; and
- Low-flow augmentation during times of drought.

What are the Risks Involved with Wetlands/Water Retention? There are numerous water quality and quantity concerns directly related to wetlands and/or water retention issues. Their main water quantity value stems from the increasingly important water management philosophy of allowing water to be absorbed into the ground where it falls. Not only does this avoid overloading ditch systems and streams, thereby reducing erosion and flooding issues, they also provide an extremely value source of groundwater recharge. From a water quality perspective, wetlands provide a natural basin for stormwater management, acting as high effective filters. The vegetation found in wetlands help to remove phosphorous. This helps to minimize the unwanted growth of aquatic weeds and algae, which end up using the oxygen that plants and animals need to survive.

Where are Wetland/Water Retention concerns in Meeker County?

Today, due in part to regulations such as the WCA, the loss of wetlands has been greatly reduced. The State's Protected Waters Inventory, the Federal Swampbuster Act, and Section 404 of the Clean Water Act also largely contribute to protecting wetland resources. In addition, conservation programs, such as the Wetland Reserve Program and Reinvest in Minnesota Program, actually provide landowners an opportunity to restore previously drained wetlands along with preserving existing wetlands. These programs and others like them should continue to be promoted to landowners within Meeker County. Wetland restorations should also be targeted in conjunction with drainage ditch system improvements to assist with flood mitigation, water retention, and stormwater management benefits.

What actions are needed to properly address Wetlands/Water Retention issues in Meeker County?

The Meeker County Planning and Zoning Office and the Soil and Water Conservation District implements WCA locally. The Minnesota Board of Water and Soil Resources (BWSR) administers WCA statewide. The Meeker County Water Plan Task Force identified a number of Action Steps that will assist with both wetland protection and water retention. This includes working with the various Water Plan Stakeholders to explore options to restore wetlands with voluntary landowners. In addition, the County will examine opportunities to abandon or relocate public drainage systems in conjunction with wetland restorations. The County is also committed to providing education and technical assistance on the importance to protecting wetlands, and assisting with finding which conservation programs may best fit each opportunity.

Rob Sip from the Minnesota Department of Agriculture summarizes the issues best (Appendix B):

“Properly locating wetlands and water storage or retention projects can be a strategic component of overall efforts to manage nutrients, sediments, and water quantity issues”
(April 20, 2012).

The County's Soil and Water Conservation District and watershed organizations are also committed to working with landowners on wetland provisions and Best Management Practices.

Section Four: Groundwater Quality & Quantity Assessment

Why is Groundwater a Priority Concern?

The obvious answer to why groundwater is a priority concern in Meeker County's Water Plan is because it provides the source for our drinking water. Consequentially, groundwater quality issues are at the forefront of our environmental protection efforts. The numerous multiple uses of groundwater, however, also makes groundwater quantity an increasingly important concern. The farming community is dependent upon having adequate access to it in order to produce high yield crops. Numerous business and industries are also dependent upon groundwater supplies.

Where are Groundwater concerns in Meeker County and What are the Risks?

There is a vast amount of information available on both groundwater quality and quantity for Meeker County. There are numerous stakeholders who are involved with groundwater issues, including the Minnesota Department of Natural Resources, the Minnesota Pollution Control Agency, the Minnesota Department of Health, and the Minnesota Department of Agriculture. Their major roles regarding groundwater are briefly summarized.

The Minnesota Department of Natural Resources (DNR)

The Minnesota Department of Natural Resources (DNR) monitors the use of the State's water and allocates resources to assure there is sufficient quality and quantity to supply the needs for future generations. Under the observation well network program, groundwater levels are routinely measured in 1,500 wells statewide. The primary objectives of the observation well network are to:

- Place wells in areas of future or present high groundwater use while considering variations in geologic and other environmental conditions;
- Identify long-term trends in groundwater levels;
- Detect significant changes in groundwater levels;
- Provide data for evaluation of local groundwater complaints;
- Provide data to resolve allocation problems; and
- Identify target areas that need further hydrogeologic investigation, water conservation measures, or remedial action.

To access the DNR's groundwater data, visit the following website:

http://www.dnr.state.mn.us/waters/groundwater_section/obwell/waterleveldata.html

The DNR also issues groundwater appropriation permits and investigates any well interference problems, which are rare and are usually rather easy to solve.

Minnesota Department of Health

The Minnesota Department of Health maintains the County Well Index database which has water-level data, such as location, depth, and static water level, from more than 300,000 wells statewide. The data is made available online and can search by aquifer type. To access this data online, visit the following website:

<http://www.health.state.mn.us/divs/eh/cwi/>

Minnesota Department of Health also maintains water-quality information for approximately 16,000 public water supply wells. They also take the lead on assisting communities with preparing Wellhead Protection Plans, which are designed to protect public drinking water supplies. This information can be accessed at the following website:

<http://www.health.state.mn.us/divs/eh/water/swp/index.htm>

Minnesota Pollution Control Agency

In 1989, the Minnesota Pollution Control Agency (MPCA) received a grant from the Legislative Commission on Minnesota Resources (LCMR) to redesign Minnesota's ambient groundwater monitoring program. The resulting program was called the Groundwater Monitoring and Assessment Program (GWMAP). GWMAP's primary objective was to meet statewide and local groundwater quality information needs. For over a decade the program endeavored to answer five basic questions about Minnesota groundwater quality:

1. What are background concentrations of chemicals in Minnesota's groundwater?
2. Where is the groundwater impacted by human activities?
3. What is the nature and severity of the impact?
4. Why is the groundwater impacted?
5. What can be done to minimize groundwater impacts?

Three components were created to facilitate answering these questions. The first component was a statewide baseline assessment of water quality in Minnesota's principal aquifers, conducted from 1990-1996. The second component involved conducting groundwater trend studies. The staff of GWMAP conducted a series of discussions and determined that changes in land use could be linked to trends in water quality. Consequently, GWMAP designed and conducted a variety of land use studies between 1996 and 2001. Groundwater studies were conducted throughout the State to evaluate impacts from different land use management strategies. The third and final component of GWMAP was the development of regional cooperatives. Between 1992 and 2001, GWMAP staff provided groundwater data and information to a variety of people and groups, as well as technical support to local groups conducting groundwater monitoring. The GWMAP program was discontinued in the summer of 2001, however the results are still available by visiting the following website:

<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/groundwater/groundwater-monitoring-and-assessment/index.html>

Minnesota Department of Agriculture

The Minnesota Department of Agriculture (MDA) monitors groundwater for the presence of agricultural chemicals. In addition, the MDA provides technical information and financial assistance to implement specific water-quality Best Management Practices (BMPs).

MDA Nitrate Water Testing Program - In 1993, the Minnesota Department of Agriculture developed a “walk-in” style of water testing clinic with the goal of increasing public awareness of nitrates in rural drinking and livestock water supplies. Results from the testing not only educate the participants but may also provide some broad information on the occurrence of nitrate ‘hotspots’ across the State; this could eventually aid in justifying nitrate monitoring networks/programs. The clinic concept revolves around a number of simple principles: local participation is critical; testing is free to the public with immediate results; the overall program needs to be inexpensive; a non-regulatory atmosphere is important and well owners may remain anonymous; and the staff’s most important goal is to provide the required technical assistance across a diverse audience of well owners.

Since the beginning of the program, the Nitrate Water Testing Program has provided testing services and educational outreach to over 50,000 well owners. The concept has proven adaptable for county fairs, field day events, public school programs and ‘stand alone’ events. Past sponsors have been the Soil and Water Conservation Districts, U of M Extension Service, county health or environmental health services, county planning and zoning, public schools, lake associations and farm organizations.

The MDA also submitted a Priority Concerns Input Form (found in Appendix B), that provided a number of key implementation suggestions for the County's Water Plan. Of special significance, the MDA submitted a map showing Meeker County's Water Table Sensitivity. This map, shown on the next page, classifies the County into three aquifer sensitivity ratings: low, medium, and high. These reflect the likelihood that infiltration precipitation or surface water would reach the water table, potentially polluting the groundwater with surface contaminants.

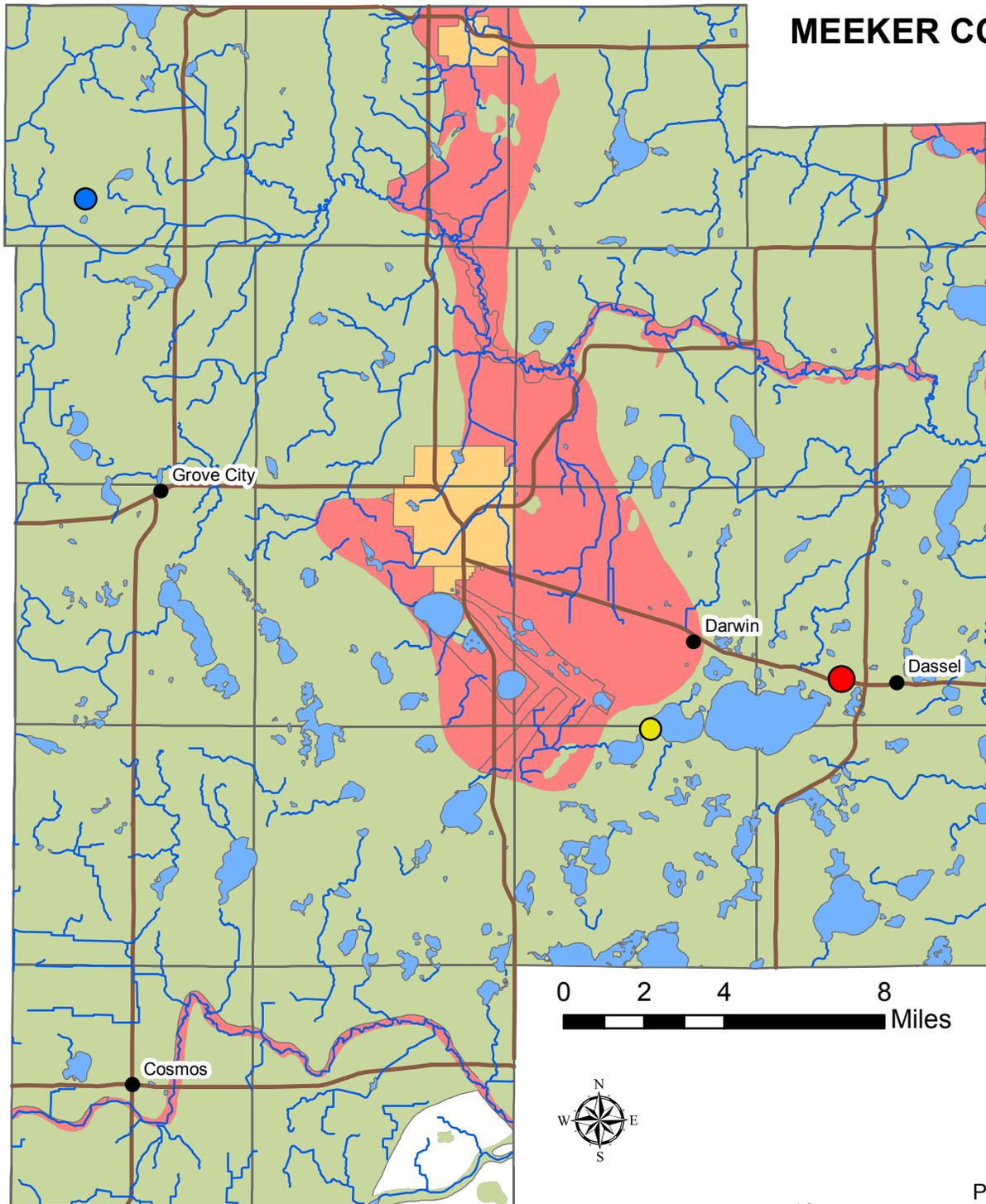
What actions are needed to properly address Groundwater issues in Meeker County?

Current groundwater quality monitoring efforts by the Minnesota Department of Agriculture (MDA), Minnesota Department of Health (MDH) and the Minnesota Pollution Control Agency (MPCA) and other stakeholders should be continued and expanded within the County. More importantly, any important conclusion on the results of these monitoring efforts should be shared with the County's Water Plan Task Force.

Chapter Three identifies a number of key Action Steps aimed on managing the County's groundwater supplies, separated into groundwater quality and groundwater quantity initiatives. One of the new Action Steps prescribes creating a Water Conservation Program, with low-flow conservation kits and a County Drought Contingency Plan. In addition, the County is committing to providing educational, technical and financial assistance, as available, to landowners for the implementation of groundwater protection BMPs, including the proper decommissioning of wells and storage tanks and the correct application of pesticides and other chemicals.

The County will also participate in the preparation and implementation of wellhead protection plans for public water suppliers. The County will also continue to cooperate with partners on groundwater permitting, monitoring, and testing, and is committed to learning how to best use hydrogeologic information for the County to evaluate the impact of land use activities on ground water supplies.

MEEKER COUNTY WATER TABLE SENSITIVITY



Legend

MDA Monitoring Wells

Nitrate-N mg/L

● 0.5

Public Water Supply Wells

Nitrate-N mg/L

● 3-9.9

● >10

Aquifer Sensitivity

□ Low

■ Medium

■ High

Landscape Features

— Streams and rivers

— Roads

■ Water Features

□ Townships

■ DWSMA

Surficial Aquifer Vulnerability based on Sediment Association of Mn Geomorphology, (DNR 1997)



Prepared by the Minnesota Department of Agriculture April 2012

Chapter Three: Meeker County Water Plan Goals, Objectives & Action Steps (2013-2018)

This Chapter establishes the Meeker County’s Water Plan Goals, Objectives, and Action Steps. Although the Water Plan will cover a span of 10 years (2013-2023), this Chapter of the Plan will guide the County in water resource management efforts over the first five years (2013-2018). Each Action Step has been assigned specific implementation information, including the priority watershed (if one was identified), stakeholders involved, and an estimated cost to implement the activity. Collectively the Action Steps lay the foundation for achieving success with the Plan’s Goals and Objectives.

A. Definition of Goals, Objectives, and Action Steps

The Goals, Objectives, and Action Steps that are identified in this Chapter were developed with input from the public, various State and local governmental units/agencies, and the Meeker County Water Plan Taskforce. The following provides a definition of these terms:

Goal: A goal is an idealistic statement intended to be attained at some undetermined future date. Goals are purposely general in nature.

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

Action Step: An Action Step is a specific activity that will be taken in order to achieve a goal and objective.

B. Action Step Information

Each Action Step identified in this Chapter has been assigned specific information on priority watershed(s), stakeholders involved, and the activity’s estimated cost. In addition, if a specific time-frame was identified (i.e., when the Action Step should be completed by), this was communicated by placing a year in parenthesis in the Action Item. For example, if (2015) appears in the Action Step, this means the activity ideally would need to be completed by the end of 2015. Otherwise, each Action Step is intended to be implemented on either an ongoing or annual basis. A more detailed description of these categories is provided as follows:

Priority Watershed(s): Details the areas within the County where the implementation of the initiative is most critical. Since this is a County Water Plan, most are listed as “All”.

Stakeholder (s): This entails who potentially will be involved in the implementation of the identified initiative. An *Asterisk and Underline indicates lead responsibility. A listing of the most common coordinating agencies and their respective acronyms is provided below.

Cities (Cities)

County (County)

County Auditor (Auditor)

County Administration (CA) – *Local Water Management Coordinator*

County Board (CB)

Highway (Highway)

Planning and Zoning (PZ)

Public Health (PH)

Soil and Water Conservation District (SWCD)

Water Plan Task Force (WPTF)

Minnesota Board of Water and Soil Resources (BWSR)

Minnesota Department of Agriculture (MDA)

Minnesota Department of Health (MDH)

Minnesota Department of Natural Resources (DNR)

Minnesota Geological Survey (MGS)

Minnesota Pollution Control Agency (MPCA)

Natural Resources Conservation Service (NRCS)

University of Minnesota Extension (UME)

United States Army Corps of Engineers (USACE)

United States Fish and Wildlife Service (USFWS)

United States Geological Survey (USGS)

Watershed Management-Like Organizations (WMLOs)

Crow River Organization of Water (CROW)

Clearwater River Watershed District (CRWD)

Middle Fork Crow River Watershed District (MFCRWD)

North Fork Crow River Watershed District (NFCRWD)

Sauk River Watershed District (SRWD)

South Fork Crow River Watershed (SFCRW)

Watershed Districts (WD)

Meeker County Association of Lakes (MCAL)

Estimated Cost: This category divides the estimated costs of completing the Action Step into two columns: Overall and County. The Overall column provides an estimate of the total cost among all stakeholders (i.e., grants, cost-share, County match, etc.) to implement the Action Step. The County column represents the estimated cost incurred either directly or indirectly by Meeker County to implement the Action Step, including by the Meeker County SWCD. The Action Steps the County were unable to assign an estimated cost to are listed as To Be Determined (TBD).

C. Goals, Objectives & Action Steps (2013-2018)

GOAL 1: PROTECT AND IMPROVE SURFACE WATER QUALITY				
Action Step	Priority Watershed	Stakeholders <i>*Indicates lead</i>	Estimated Cost	
			Overall	County
Objective A: Proactively work to delist all of Meeker County's water bodies off the MPCA's 303d List of Impaired Waters (TMDLs).				
1. <i>Water Quality Monitoring.</i> Cooperatively work with partners to continue water quality monitoring efforts. Annually review data and prioritize BMPs accordingly.	All	* <u>WMLOs</u> , MDA, MDH, MPCA, PH	\$25,000/yr.	\$3,000/yr.
2. <i>TMDL Studies.</i> Cooperatively work with partners to coordinate the preparation and implementation of TMDL studies and plans for impaired waters. Target impaired waters with BMP program implementation.	All	* <u>MPCA</u> , * <u>WMLO</u> , SWCD, PZ	\$50,000/yr.	\$3,000/yr.
3. <i>Watershed Approach.</i> Partner in MPCA's watershed approach to identifying and addressing water quality problems. Annually target BMP programs and Civic Engagement Activities with stakeholders on priority subwatersheds.	All	* <u>MPCA</u> , * <u>CROW</u> , WMLOs All	\$25,000/yr.	\$2,500/yr.
4. <i>Stressor IDs.</i> Assist with the U.S. Environmental Protection Agency's (EPA) efforts in the development of stressor identification in aquatic ecosystems. Target BMP programs to properly mitigate the identified stressors.	All	* <u>MPCA</u> , WMLOs	\$10,000/yr.	\$500/yr.
5. <i>TMDL/Watershed Approach Outreach.</i> Cooperatively work with stakeholders through educational meetings, events and social media to update citizens on the TMDL process and Watershed Approach initiatives. Target subwatersheds annually.	All	* <u>WMLOs</u> , PZ	\$30,000/yr.	\$1,000/yr.

GOAL 1: PROTECT AND IMPROVE SURFACE WATER QUALITY

Action Step	Priority Watershed	Stakeholders <i>*Indicates lead</i>	Estimated Cost	
			Overall	County
Objective B: Work with the farming community on manure and nutrient management Best Management Practices.				
6. Feedlot Program. Continue to locally administer the County Feedlot Program to assist feedlot operators in obtaining and maintaining compliance with State regulations. Assist with Feedlot site evaluations, planning, design, and overall general technical assistance. Annually inspect a minimum 7% of feedlots.	All	<i>*PZ, *SWCD, MPCA, NRCS</i>	\$80,000/yr.	\$40,000/yr.
7. Noncompliant Feedlots. Provide educational, technical, and financial assistance, as available, to landowners/producers to upgrade noncompliant feedlots. Target impaired waters and implement one (1) priority upgrades annually.	All	<i>*SWCD, MDA, MPCA, NRCS, WMLO</i>	\$60,000/yr.	\$10,000/yr.
8. Manure/Nutrient Management Meeting. Sponsor annual educational meetings with the farming community, focusing on pertinent topics, including regulations and manure/nutrient management Best Management Practices (BMPs).	All	<i>*SWCD, *NRCS, MPCA, UME, WMLOs</i>	\$2,500/yr.	\$1,000/yr.
9. Manure and Nutrient Management. Provide educational and technical assistance, as available, to landowners and producers on proper manure and nutrient management. Target impaired waters and implement two (2) projects annually.	All	<i>*SWCD, *NRCS, MPCA, WMLO, UME</i>	\$25,000/yr.	\$10,000/yr.

GOAL 1: PROTECT AND IMPROVE SURFACE WATER QUALITY

Action Step	Priority Watershed	Stakeholders <i>*Indicates lead</i>	Estimated Cost	
			Overall	County
Objective C: Work with landowners on properly implementing the County's Subsurface Sewage Treatment System Ordinance.				
10. SSTS Program. Continue to provide compliance and inspection services as part of the County's SSTS Program. Target inspections in impaired waters.	All	* <u>PZ</u> , MPCA	\$45,000/yr.	\$40,000/yr.
11. SSTS Training Program. Continue annual training for SSTS installers and septage haulers.	All	* <u>PZ</u> , MPCA	\$2,500/yr.	\$1,500/yr.
12. Maintenance and Noncompliant SSTSs. Provide educational and financial assistance, as available, to homeowners to properly maintain and upgrade noncompliant SSTSs. Target 15 system upgrades annually.	All	* <u>PZ</u> , * <u>CROW</u> , MDA, MPCA, UME, WMLO	\$120,000/yr.	\$15,000/yr.
13. SSTS Database. Maintain the database of inspected and/or installed SSTSs.	All	* <u>PZ</u>	\$2,000/yr.	\$2,000/yr.
14. Upgrading SSTSs. Apply for and administer the MDA State Revolving Fund program and other related programs for upgrading SSTSs. Target 11 systems annually.	All	* <u>SWCD</u> , MDA, <u>PZ</u>	\$10,000/yr.	\$5,000/yr.

GOAL 1: PROTECT AND IMPROVE SURFACE WATER QUALITY

Action Step	Priority Watershed	Stakeholders <i>*Indicates lead</i>	Estimated Cost	
			Overall	County
Objective D: Enhance shoreland and lake management efforts.				
15. Lake Management. Conduct and/or provide technical and financial assistance, as available, to partners for the implementation of lake management efforts. Prioritize impaired waters and implement two (2) BMP projects annually.	All	<i>*MCAL, WMLOs, DNR</i>	\$25,000/yr.	\$10,000/yr.
16. Aquatic Invasive Species Management. Conduct and/or provide technical and financial assistance, as available, to lake associations and other groups/organizations for the implementation of invasive aquatic species prevention and/or control efforts. Invite the DNR to host an AIS meeting annually.	All	<i>*DNR, *MCAL, PZ, WMLO</i>	\$50,000/yr.	\$15,000/yr.
17. BMP Program. Provide technical and financial assistance, as available, to landowners for the implementation of shoreland BMPs, including lakescaping and the proper usage of pesticides and other chemicals. Implement two (2) projects annually.	All	<i>*MCAL, WMLO, SWCD, DNR</i>	\$50,000/yr.	\$15,000/yr.
18. Shoreland Ordinance. Revise the County Shoreland Ordinance, as necessary, to ensure consistent and sustainable development. Review all Shoreland alteration projects requiring County and/or DNR approval.	All	<i>*PZ, DNR</i>	\$5,000/yr.	\$1,500/yr.
19. CRWD Shoreline Buffer Incentive. Provide a one-time incentive of 20% of the total cost (up to \$750) for buffering shorelines. Implement one (1) project annually.	Clearwater River Watershed	<i>*CRWD, SWCD, DNR</i>	TBD	\$250/yr.

GOAL 1: PROTECT AND IMPROVE SURFACE WATER QUALITY

Action Step	Priority Watershed	* <u>Lead Agency</u> Other Partners	Estimated Cost	
			Overall	County
Objective E: Properly Manage Land/Wastewater Activities.				
20. Wastewater Treatment. Cooperatively work with partners to address wastewater treatment issues associated with unsewered communities, including lakeshore residents. Prioritize impaired waters and assist with securing funds for implementation when requested.	All	* <u>PZ</u> , * <u>MPCA</u> , USDA, Cities, MCAL	\$75,000/yr.	\$2,000/yr.
21. Hazardous Waste Program. Hold annual Household Hazardous Waste (HHW) collection days for residents of Meeker County.	All	* <u>CA</u> , MPCA	\$50,000/yr.	\$20,000/yr.
22. Habitat Corridors. Support efforts to conserve, enhance and restore wildlife habitat. Secure funding to implement two (2) projects annually.	All	* <u>SWCD</u> , * <u>DNR</u> , USFWS, NRCS, PZ	\$25,000/yr.	\$5,000/yr.
23. GIS Datasets. Annually invest in the acquisition, development, and maintenance of GIS datasets, including the digital soil survey and parcel map. Utilize these datasets to make informed decisions regarding land use planning and water resource management.	All	* <u>County</u>	\$50,000/yr.	\$50,000/yr.
24. Land Use Management. Continue to implement the County's adopted land use controls, including the floodplain, SSTS, shoreland, solid waste, and zoning ordinances. Annually review the language and make revisions accordingly.	All	* <u>PZ</u> , DNR, MPCA, SWCD	\$125,000/yr.	\$75,000/yr.

GOAL 2: PROMOTE EROSION AND SEDIMENT CONTROL ACTIVITIES

Action Step	Priority Watershed	Stakeholders <i>*Indicates lead</i>	Estimated Cost	
			Overall	County
Objective F: Implement BMPs to Reduce erosion and sediment loading of surface water resources.				
25. Erodible Land. Target 75 acres of highly erodible land annually for enrollment in conservation easement programs, such as CRP, and easements as part of upland buffers under RIM and USFWS programs.	All	<i>*SWCD, *WMLO, NRCS</i>	\$50,000/yr.	\$20,000/yr.
26. BMP Program. Provide educational, technical, and financial assistance, as available, to landowners for the implementation of water quality-related BMPs. Target impaired subwatersheds and implement five (5) projects annually.	All	<i>*SWCD, *NRCS All</i>	\$100,000/yr.	\$15,000/yr.
27. Cost-Share. Seek funding in the form of State cost-share, Federal EQIP, and Clean Water Funds for the installation of BMPs. Prioritize impaired subwatersheds.	All	<i>*SWCD, *WMLOs, NRCS</i>	\$15,000/yr.	\$2,500/yr.
28. BMP Site Evaluations. Conduct site inspections and provide technical assistance to interested landowners. Target 25 evaluations annually.	All	<i>*SWCD, NRCS, PZ, WMLOs</i>	\$25,000/yr.	\$25,000/yr.
29. Clearwater River Watershed District (CRWD) CRP Incentive. Provide a one-time incentive of \$200/acre on new CRP enrollments. Implement 80 acres annually.	Clearwater River Watershed	<i>*CRWD, SWCD, NRCS</i>	TBD	\$250/yr.
30. CRWD Seeded Buffer. Provide a one-time payment of \$350/acre for the establishment of a buffer that can be harvested for hay along rivers, streams, and county ditches. Implement 40 acres annually.	Clearwater River Watershed	<i>*CRWD, SWCD, NRCS</i>	TBD	\$250/yr.

Objective F Continued...

Objective F Continued...

<p>31. CRWD Tile Intakes. Provide an incentive to establish a grass buffer around tile intakes, or replace open intakes with underground rock inlets. Assist with identifying two (2) projects annually.</p>	<p>Clearwater River Watershed</p>	<p>*<u>CRWD</u>, SWCD, NRCS</p>	<p>TBD</p>	<p>\$250/yr.</p>
<p>32. Sauk River Watershed District (SRWD) BMP Incentive. Promote the use of BMPs through SRWD’s incentive program. Implement one (1) project annually.</p>	<p>Sauk River Watershed</p>	<p>*<u>SRWD</u>, SWCD, NRCS</p>	<p>TBD</p>	<p>\$250/yr.</p>
<p>33. CROW BMP Implementation and Education Initiatives. Cooperatively work with the Crow River Organization of Waters (CROW) to implement BMP implementation and education initiatives to reduce Fecal coliform, E.coli, turbidity, dissolved oxygen and chloride in North and South Fork Crow River Watersheds. Projects include: Lakeshore/Streambank Stabilization, Wetland Restorations, Rain Gardens, Lakeshore Naturalizations, Filterstrip/Grass/Riparian Buffers, Windbreaks, Sediment Basins, Grass Waterways, CRP/RIM Incentive Payments, Social Media, Newsletters and workshops – Implement six projects annually, create quarterly electronic newsletters, update website/facebook page weekly and provide annual workshop.</p>	<p>North & South Fork Crow River Watersheds</p>	<p>*<u>CROW</u>, SWCD, NRCS</p>	<p>\$120,000/yr.</p>	<p>\$1,000/yr.</p>

GOAL 3: ENHANCE SURFACE WATER MANAGEMENT

Action Step	Priority Watershed	Stakeholders <i>*Indicates lead</i>	Estimated Cost	
			Overall	County
Objective G: Ensure long-term agricultural production by maintaining and improving the public drainage system.				
34. Public Drainage Systems. Ensure that public drainage systems are operated and maintained in accordance with the State Drainage Law (M.S. Chapter 103E) and other applicable regulations, such as WCA.	All	<i>*HWY,</i> <i>*Auditor, CB</i> DNR, SWCD, WD	\$100,000/yr.	\$15,000/yr.
35. Comprehensive Drainage Management Plan. Pursue funding to develop a comprehensive drainage management plan for two (2) public drainage systems (2015).	All	<i>*HWY,</i> <i>*Auditor, CB</i> DNR, WD	\$25,000/yr.	\$5,000/yr.
36. Redetermination of Benefits. Redetermine the benefits on drainage systems as requested.	All	<i>*HWY,</i> <i>*Auditor,</i> <i>*CB,</i> WD	\$100,000/yr.	\$10,000/yr.
37. Conservation Drainage Practices. Provide educational, technical, and financial assistance, as available, to landowners for the demonstration of conservation drainage practices. Establish two (2) demonstration sites.	All	<i>*SWCD,</i> <i>*WMLOs,</i> HWY, UME	\$25,000/yr.	\$7,500/yr.
38. Drainage Workshop. Host a workshop to proactively educate stakeholders on drainage management issues and regulations (2015).	All	<i>*HWY,</i> <i>*Auditor, CB,</i> SWCD, All	\$2,500/yr.	\$2,500/yr.
39. Two-Stage Ditch Systems. Examine the use of two-stage ditch systems. Apply for funding to assist with problem areas. Establish a research/demonstration site (2014).	All	<i>*HWY,</i> <i>*Auditor,</i> <i>*CB,</i> WD	\$50,000/yr.	\$2,500/yr.

GOAL 3: ENHANCE SURFACE WATER MANAGEMENT

Action Step	Priority Watershed	Stakeholders <i>*Indicates lead</i>	Estimated Cost	
			Overall	County
Objective H: Manage surface waters to minimize Stormwater pollution and runoff.				
40. <i>Stormwater Management Plans.</i> Participate in the development and implementation of Comprehensive Stormwater Management Plans. Target 2 plans annually.	All	<i>*Cities,</i> MPCA, PZ, WMLO	\$50,000/yr.	\$2,500/yr.
41. <i>Stormwater/Wastewater Discharges.</i> Regulate stormwater and wastewater discharges into water resources. Annually review ordinance language.	All	<i>*MPCA,</i> Cities, HWY, PZ	\$25,000/yr.	\$2,500/yr.
42. <i>Stormwater BMPs.</i> Provide technical assistance to citizens on stormwater BMPs (i.e., rain gardens, bio-retention, etc.), and assist with proper implementation. Implement five (5) projects annually.	All	<i>*WMLO,</i> SWCD	\$50,000/yr.	\$2,500/yr.
43. <i>Stormwater Storage.</i> Work with municipalities to utilize storage basins and holding ponds for runoff retention and water quality treatment. Implement two (2) projects annually.	All	<i>*MPCA, PZ,</i> SWCD, Cities, WMLO	\$50,000/yr.	\$2,500/yr.
44. <i>Drainage Plans.</i> Continue to require surface water drainage plans on development in rural areas (i.e., feedlots, gravel pits, etc.). Annually review ordinance provisions.	All	<i>*PZ,</i> MPCA, WMLO	\$40,000/yr.	\$5,000/yr.
45. <i>CRWD Rain Gardens.</i> Provide a one-time \$2.50 per square foot incentive for installation and maintenance of a rain garden on private property where installation will provide a benefit to cleaner water. Assist with identifying two (2) project sites annually.	CRWD	<i>*CRWD</i>	TBD	\$250/yr.

GOAL 3: ENHANCE SURFACE WATER MANAGEMENT

Action Step	Priority Watershed	Stakeholders <i>*Indicates lead</i>	Estimated Cost	
			Overall	County
Objective I: Preserve and Restore Wetlands and other Water Retention Opportunities.				
46. WCA Administration. Continue to locally administer the Minnesota Wetland Conservation Act.	All	<i>*SWCD, PZ, USACE, BWSR</i>	\$40,000/yr.	\$25,000/yr.
47. Public Drainage Systems. In conjunction with wetland restorations, examine opportunities to abandon or relocate public drainage systems.	All	<i>*HWY, SWCD, Landowners, Auditor, WD</i>	\$50,000/yr.	\$4,000/yr.
48. Preservation and Restoration Programs. Provide educational, financial, and technical assistance to landowners regarding State and Federal programs to preserve and restore wetlands, including drained lakebeds. The entire County shall be identified as a high priority area for wetland restorations. Pursue funding to implement one wetland restoration annually.	All	<i>*SWCD, *USFWS, *WMLOs, BWSR, DNR</i>	\$40,000/yr.	\$5,000/yr.
49. Wetland Banking. Provide information to landowners who inquire about the State wetland-banking program.	All	<i>*PZ, BWSR, SWCD</i>	\$2,000/yr.	\$1,000/yr.
50. Lake Level Conflicts. Work with the DNR and other stakeholders to resolve lake level conflicts. Annually review concerns.	All	<i>*MCAL, DNR, WMLO</i>	\$2,500/yr.	\$1,500/yr.

GOAL 4: PROTECT GROUNDWATER SUPPLIES

Action Step	Priority Watershed	Stakeholders <i>*Indicates lead</i>	Estimated Cost	
			Overall	County
Objective J: Protect Groundwater from Contamination by implementing Best Management Practices.				
51. BMP Program. Provide educational, technical and financial assistance, as available, to landowners for the implementation of groundwater protection BMPs, including the proper decommissioning of wells and storage tanks and correct application of pesticides and other chemicals. Prioritize sensitive recharge areas and pursue funds to implement two (2) projects annually.	All	*MDA, *MDH, *UME, CA, SWCD, WMLOs	\$5,000/yr.	\$2,500/yr.
52. Wellhead Protection. Participate in the preparation and implementation of wellhead protection plans for public water suppliers. Prioritize BMPs in Wellhead Protection Areas.	All	*Cities, *MDH, SWCD, WMLOs	\$40,000/yr.	\$2,000/yr.
53. Solid Waste Management. Provide educational assistance to landowners to discourage the burning and burying of solid waste. Annually publish information in local newspapers.	All	*CA, MPCA, PZ, Solid Waste Officer	\$4,000/yr.	\$2,000/yr.
54. Abandoned Wells. Provide educational, technical, and financial assistance, as available, to landowners on the importance of properly sealing abandoned wells. Assist with sealing three (3) abandoned wells annually.	All	*SWCD, PZ, MPCA, MDH	\$1,500/yr.	\$500/yr.

GOAL 4: PROTECT GROUNDWATER SUPPLIES

Action Step	Priority Watershed	Stakeholders <i>*Indicates lead</i>	Estimated Cost	
			Overall	County
Objective K: Ensure Adequate Groundwater Supplies for Multiple Uses.				
55. Ground Water Level Monitoring. Cooperatively work with partners on groundwater permitting, monitoring, and testing efforts. Annually review data and prioritize BMPs accordingly.	All	<i>*SWCD, DNR, WMLOs MDH</i>	\$15,000/yr.	\$1,500/yr.
56. Hydrogeologic Atlas. Learn how to best use hydrogeologic information for the County to evaluate the impact of land use activities on ground water supplies. Host a groundwater workshop with key stakeholders (2015).	All	<i>*County, *MGS, MDA, WMLOs</i>	\$15,000/yr.	\$5,000/yr.
57. Water Conservation Program. Consider creating a Water Conservation Program, with low-flow conservation kits and a Drought Contingency Plan. Pursue funding to establish the program (2016).	All	<i>*Cities SWCD, MDH, DNR, WMLOs</i>	\$15,000/yr.	\$2,500/yr.
58. Conservation Irrigation. Promote the use of conservation irrigation practices and provide cost-share incentives, when feasible. Convert one conventional system annually.	All	<i>*SWCD, WMLOs MDA, NRCS, WMLOs</i>	\$40,000/yr.	\$2,500/yr.

GOAL 5: EFFECTIVE PLAN ADMINISTRATION & COORDINATION

Action Step	Priority Watershed	Stakeholders <i>*Indicates lead</i>	Estimated Cost	
			Overall	County
Objective L: Expand our knowledge and partnerships on identifying and addressing key water planning issues.				
59. Water Quality Monitoring. Cooperatively work with partners to continue and expand surface and ground water quality monitoring efforts. Annually review data and prioritize BMPs accordingly.	All	<i>*WMLOs, PZ, All</i>	\$100,000/yr.	\$5,000/yr.
60. Surface Water Flow Monitoring. Cooperatively work with partners to continue and expand surface water flow monitoring efforts. Annually review data and prioritize BMPs accordingly.	All	<i>*DNR, *USGS, *WMLOs, CA</i>	\$5,000/yr.	\$1,000/yr.
61. Water Quality Studies. Conduct and/or provide technical and financial assistance, as available, to partners for the completion of water quality studies. Annually review data and prioritize subwatersheds and BMPs accordingly.	All	<i>*CA, *DNR, *MPCA, *SWCD, *WMLOs</i>	\$100,000/yr.	\$5,000/yr.

GOAL 5: EFFECTIVE PLAN ADMINISTRATION & COORDINATION

Action Step	Priority Watershed	Stakeholders <i>*Indicates lead</i>	Estimated Cost	
			Overall	County
Objective M: Provide and participate in Outreach and Educational efforts on key water planning issues.				
62. Stakeholder Meetings. Hold and/or attend annual meetings with stakeholders to discuss water resource management issues and potential partnership opportunities.	All	<i>*CA, PZ</i>	\$2,000/yr.	\$2,000/yr.
63. Meeker County Water Plan Stakeholder Workshop. Organize and host a workshop for the County's key water plan stakeholders. Discuss local issues, current activities, and potential projects (years 2014, 2016).	All	<i>*PZ</i>	\$1,000 each workshop	\$1,000 each workshop
64. Outreach. Use available outreach tools, including the Internet, to disseminate information to the public regarding water resource management activities and issues. Annually publish information in local newspapers.	All	<i>*CA, *SWCD, *WMLOs</i>	\$5,000/yr.	\$2,500/yr.
65. Runoff Education. Implement educational efforts to control or reduce the effects of accelerated runoff from urban, industrial and agricultural areas. Establish two (2) demonstration sites.	All	<i>*SWCD, *WMLOs, PZ, MPCA, NRCS, WMLOs</i>	\$25,000/yr.	\$10,000/yr.
66. Greenleaf Recreation Area. Support the Greenleaf Recreation Area and Greenleaf, Cedar, and Sioux Lakes Recreation Complex and similar recreational opportunities.	All	<i>*CB</i>	TBD	TBD
67. Aquatic Invasive Species. Work with State and local efforts to raise awareness aquatic invasive species. Invite the DNR to host an AIS public meeting (2014).	All	<i>*DNR, *WMLOs, PZ</i>	\$40,000/yr.	\$5,000/yr.
68. Funding Opportunities. Provide information to landowners on available funding sources for water resource management activities and projects. Annually review funding sources and educational materials.	All	<i>*PZ, *SWCD, WMLOs, NRCS, CA</i>	\$2,500/yr.	\$1,000/yr.

GOAL 5: EFFECTIVE PLAN ADMINISTRATION & COORDINATION

Action Step	Priority Watershed	Stakeholders <i>*Indicates lead</i>	Estimated Cost	
			Overall	County
Objective N: Properly Administer the Water Plan to help ensure it achieves success.				
69. Plan Administration. Continue to administer the County’s Water Plan initiatives. Annually review and prioritize projects.	All	<i>*CA, WPTF, SWCD, MCAL, WMLOs, NRCS, County</i>	\$5,000/yr.	\$5,000/yr.
70. Funding Sources. Pursue additional funding sources, such as the Clean Water Legacy Act, in order to fund the implementation of initiatives. Seek partnerships and cooperative agreements to finance initiatives, when appropriate. Annually prioritize projects and apply for available funds.	All	<i>*CA, *SWCD, *WMLOs, WMLO, PZ</i>	\$5,000/yr.	\$2,500/yr.
71. Joint Powers Board Membership. Continue active membership in water plan stakeholder’s Joint Powers Boards.	All	<i>*CB, CA, CROW</i>	\$6,000/yr.	\$6,000/yr.
72. Water Planning Taskforce Meetings. Hold annual Water Planning Taskforce meetings to discuss issues, review funding requests, and implement the Water Plan.	All	<i>*CA, WPTF</i>	\$1,000/yr.	\$1,000/yr.
73. Update Water Plan Action Steps. This Chapter of the Water Plan identifies Action Steps for the years 2013-2018. In 2018 , the Water Plan Task Force will identify new Action Steps for the years 2018-2023.	All	<i>*CA, PZ, WPTF</i>	\$1,500	\$1,500

Chapter Four: Water Plan Administration

Chapter Four contains information on administering the Water Plan, including plan coordination, implementation, schedule, role of the County in implementation, role of other agencies in implementation, recommended changes to State programs, intergovernmental conflicts/resolution process, major plan amendment procedure, minor plan amendment procedure and general information.

A. Plan Coordination

Managing Meeker County's water resources involves cooperation with many local, State and Federal agencies, as well as private citizens and special interest groups. For any water planning activity to be successful, a well-coordinated effort is needed. Meeker County is committed to working with each of these entities to ensure proper management of its water resources.

Throughout the Water Plan, County departments, local government units, special interest groups, and State and Federal agencies are listed pertaining to specific water planning topics. In addition, each Action Step found in Chapter Three under the County's Water Plan Goals and Objectives, identifies the potential stakeholders involved with implementing each Action Step listed. It is hoped that the valuable cooperation that has been established in the past years will continue and be enhanced through properly implementing this Water Plan.

B. Implementation Program

Meeker County will ensure coordination and implementation of its Comprehensive Local Water Plan through its established Water Plan Task Force. The Task Force will meet as needed to review progress, identify emerging problems, discuss opportunities, and to continue to direct the overall implementation of the Water Plan. The Task Force will be supported by the County Board appointed Water Plan Coordinator. The Coordinator will administer the implementation portion of the Plan, coordinate the Task Force activities, write grant proposals, prepare annual work plans and reports, and other activities as needed.

C. Implementation Schedule

Coordination of Water Plan activities will commence with the County Board adoption of the Plan. These activities will be conducted throughout the planning period identified as 2013 – 2023. Chapter Three of the Water Plan shall serve as the County's Water Plan Implementation Schedule, and shall cover the first five years of the Plan (2013-2018). By the end of 2018, Chapter Three will need to be updated to cover the years 2018-2023.

D. Types and Sources of Water Plan Funds

The County recognizes the importance of comprehensive local water planning and the key role the County, township and city government must play in water planning decisions that impact water resources. The Water Plan's Goals, Objectives and Action Steps are a reflection of the water resource concerns in the County. Implementation will be based on current needs, funding and availability of staff. Consideration will be given to changes in State initiatives and regulations.

The annual work plan provides basic information on the actions intended to be implemented. The County realizes that completion of all Goals and Objectives requires staff and funds beyond the County's budget. It is also understood that State funding cannot provide the funding for all Goals and Objectives, therefore total stakeholder cooperation will be required. The County, through various sources, will pursue outside funding opportunities as they become available.

To properly fund the implementation of the Water Plan and related activities, Meeker County will rely on a combination of the following types and sources of funding:

- **Natural Resource Block Grant Funds**, including but not limited to:
 - ❖ ***MPCA Feedlot Permit Program*** - This program was created to protect water quality by improving animal waste treatment systems on feedlots. A county feedlot program is established by transferring of regulatory authority from the Minnesota Pollution Control Agency to the county. This transfer of authority is granted by statute and it allows the Minnesota Pollution Control Agency to "delegate" administration of certain parts of the feedlot program to counties. County feedlot programs have the responsibility for implementing state feedlot regulations including: registration; permitting; inspection; education and assistance; and compliance follow-up.
 - ❖ ***Local Water Management Program*** - The Comprehensive Local Water Management Program is a voluntary program that requires counties to use local task forces to develop and implement water plans based on their priorities.
 - ❖ ***DNR Shoreland Management Program*** - the State Shoreland Management Program was established to promote the wise development of shorelands in order to preserve and enhance the quality of surface waters, preserve the economic values of shorelands, and ensure the wise use of water and related resources.

- ❖ **MPCA Subsurface Sewage Treatment Systems (SSTS)** - Based on 1997 changes to Minnesota Statutes, all counties are required to pass ordinances regulating Individual Sewage Treatment Systems countywide. In return, Meeker County receives money annually to implement the SSTS Program.
- ❖ **Wetland Conservation Act (WCA) Implementation** - The purpose of the Wetland Conservation Act (WCA) is to maintain and protect Minnesota's wetlands and the benefits they provide. The Board of Water and Soil Resources requires that under this grant program, “a county must agree to transfer a minimum of \$5,000 to the Soil and Water Conservation District for the implementation of Wetland Conservation Act activities or a greater amount as agreed upon by the County and the SWCD.” Since 1992, Meeker County has transferred \$22,000 per year to the SWCD.
- **State, Local, and Federal Grants** – numerous grant funds and programs are made available to implement local water plan or related initiatives, including but not limited to Minnesota’s Clean Water Fund.
- **Local Governmental Unit (LGU) Funds/In-Kind** – Some water planning initiatives will require funds spent by the various LGUs involved. This will include cities, townships, and watershed districts, along with Meeker County. Numerous grant programs count the time spent by LGU representatives as an In-Kind expense.
- **Meeker County Staff** – Meeker County will continue to maintain a trained staff to properly implement the various Water Plan initiatives. This expense is normally considered as a cash contribution towards implementing various State and Federal Grant Programs.
- **Landowner Expenses** – Although many Water Plan Action Steps can be completed at no cost to landowners, some projects may require landowners to contribute a portion of the overall costs.
- **Stakeholder Participation** – The various stakeholders involved with implementing the Water Plan will also contribute funds and staffing, as available.

E. Recommended State Cooperation

In order to implement the goals and objectives set forth in the Meeker County Water Plan, continued cooperation between the County and various State agencies is necessary. In an effort to increase coordination in this effort, the County makes the following recommendations:

1. Counties should continue to be notified of State agency program changes and the availability of funding; and
2. Data collected by State agencies should be readily shared with the County and other water plan stakeholders to avoid duplicative efforts; and
3. State agencies should continue to provide local and/or regional staff to assist local officials with agency programs; and
4. Fees collected at the County level should be allowed to remain within the County to administer and implement water-related programs; and
5. An annual listing of State agency staff that are assigned to water management planning should be created to facilitate increased coordination between local officials and agency staff; and
6. State agencies should provide greater flexibility to counties in setting annual work plan priorities. Priorities should be based upon current needs, funding, availability of staff and changes in State initiatives and regulations.

F. Intergovernmental Conflicts/Resolution Process

In the development of this Plan, there were no intergovernmental conflicts that arose. In the event of an intergovernmental conflict, the Meeker County Board of Commissioners shall request the Meeker County Water Plan Task Force to intervene and informally negotiate resolution of the conflict. If the Task Force does not resolve the conflict, the County shall petition the Board of Water and Soil Resources (BWSR) for a contested case hearing.

G. Water Plan Amendment Procedure

The Meeker County Comprehensive Local Water Plan is intended to extend through the year 2022. If the County need to revise the Plan for any reason prior to a new Plan being developed, the County will need to follow Minnesota Statute 103B.314, Subdivision 6. In summary, copies of the proposed amendments (along with the date of the public hearing) need to be sent to BWSR, and local governmental units, and the State agencies for review. After the public hearing, BWSR must approve the amendments and copies shall be sent to the various stakeholders identified by State Statute.

H. Water Plan Key Stakeholders

The success of the County’s Water Plan depends upon the collaborative efforts of multiple water plan stakeholders. To highlight the significance of this, the Meeker County Water Plan Task Force created a separate goal areas in Chapter Three to have “*Effective Plan Administration and Coordination.*” This section briefly outlines some of Meeker County’s key Water Plan Stakeholders, including a link to the stakeholder’s current website.

Meeker County Planning and Zoning

The Meeker County Planning and Zoning Department manages the creation and application of size and use restrictions imposed upon land owners in the county in accordance with the Meeker County Zoning Ordinance. In addition, they issues land use permits, Sewer Permits, controls and enforces all rules and regulations pertaining to Feedlots and the Shoreland District. They also work closely with the Soil and Water Conservation District on enforcing the Wetland Conservation Act (WCA). For more information, visit the County’s website:

<http://www.co.meeker.mn.us/>

Meeker County Soil & Water Conservation District (SWCD)

Meeker SWCD is a local unit of government established under state law to carry out conservation programs at the local level. The SWCD works with Meeker County landowners to help them manage and protect land and water resources on all private land and also assist with a variety of natural resource concerns. The Meeker SWCD is co-located with the *USDA Natural Resource Conservation Service (NRCS)*. Both the SWCD staff and NRCS staff work cooperatively on Federal Farm Bill Programs.

<http://www.Meekerswcd.org/>

Natural Resource Conservation Service (NRCS)

The Natural Resources Conservation Service (NRCS) draws on a long history of helping people help the land. For more than 75 years, NRCS and its predecessor agencies have worked in close partnerships with farmers and ranchers, local and state governments, and other federal agencies to maintain healthy and productive working landscapes. The main connection to the Water Plan is the NRCS administers many of the Farm Bill’s conservation initiatives. The Meeker County NRCS is co-located with the Meeker County SWCD. For more information, visit the following website:

<http://www.mn.nrcs.usda.gov/>

Meeker County Association of Lakes

The Meeker County Association of Lakes consists of 14 lake associations, covering 16 lakes in Meeker County (see the listing below). Their primary purpose is to meet regularly to discuss lake management issues, share resources (including water monitoring data).

- Big Swan Area Lake Association
- Clear Lake Property Owners, Inc.
- Collinwood Lake Community Association
- Dassel Area Environmental Association (includes Long Lake and Spring Lake)
- Dunns and Richardson Lake Association
- Koronis Lake Association (also includes Rice Lake)
- Lake Francis Area Recreation & Conservation Club
- Lake Jennie Improvement Corporation
- Lake Minnie-Belle Improvement Association
- Lake Stella Association
- Lake Washington Improvement Association
- Long Lake Association of Grove City
- Manuella Lake Association
- Star Lake Association

Watershed Organizations

The Map following the Table of Contents shows there are five major watersheds in Meeker County: North Fork Crow River, Middle Fork Crow River, South Fork Crow River, Sauk River, and the Clearwater River Watersheds.

North Fork Crow River Watershed District (NFCRWD) – The North Fork Crow River Watershed District (NFCRWD) was formed on May 10, 1985, and encompasses a small portion of northwestern Meeker County. NFCRWD was awarded a 2012 Board of Water and Soil Resources conservation drainage grant for Agricultural Best Management Practices (BMPs). The NFCRWD will be implementing best management practices (Rock Inlets, Controlled Outlets and Woodchip Bioreactors) on existing tile systems that outlet to country ditches. For more information on NFCRWD, visit their following website:

<http://nfcrawd.org/>

Middle Fork Crow River Watershed District (MFCRWD) – The Middle Fork Crow River Watershed is over 275 square miles in area. The river begins in the Belgrade area in Stearns County and winds through north central Kandiyohi County including the cities of New London, Spicer and Atwater, and then runs east into Meeker County where it enters the North Fork Crow River at Mannanah.

<http://www.mfcrow.org/>

Sauk River Watershed District (SRWD) – The SRWD extends from the Mississippi River near St. Cloud into the eastern portions of Douglas County, covering approximately 1,041 square miles across portions of five counties. The portions of counties contained within by the watershed include southeastern Douglas County, northeastern Pope County, southwestern Todd County, northern Meeker County, and the center third of Stearns County. The SRWD has an Incentive Program offering cost share funding and State Revolving Loan Funds (SRF) low interest loans for Best Management Practice (BMPs) projects. For more information, visit SRWD’s website:

<http://srwdmn.org>

Clearwater River Watershed District (CRWD) - The Clearwater River Watershed District encompasses the entire drainage area of the Clearwater River. It is 158.8 square miles, with 46.1 square miles in Meeker County, 54.2 square miles in Stearns County, and 58.5 square miles in Wright County. The District extends approximately 22.5 miles from east to west and 16.5 miles from north to south. It was established by citizen petition on April 9, 1975. As part of the CRWD's multi-faceted approach to water quality management, the District offers targeted incentives to its citizens to implement best management practices (BMPs). The District also seeks various opportunities to join with partners implementing water quality projects. They are currently implementing a “Targeted Fertilizer Application Reduction Project.” For more information, visit CRWD’s website:

<http://www.crowd.org>

Crow River Organization of Waters (CROW) – The CROW was formed in 1999 as a result of heightened interest in the Crow River. Portions of ten counties in Central Minnesota make up the Crow River Watershed, which is one of the major tributaries of the Mississippi River Basin. The effects of rapid urban growth, new and expanding wastewater facilities and erosion from agricultural lands have been common concerns of many citizens, local, state and regional governments in Central Minnesota. As a result, many groups began meeting in 1998 to discuss management of the Crow River basin consisting of the North Fork and South

Fork. A Joint Powers Agreement has been signed between all ten of the Counties with land in the Crow River Watershed. The CROW Joint Powers Board has one representative from each of the County Boards who signed the agreement, which includes Carver, Hennepin, Kandiyohi, McLeod, Meeker, Pope, Renville, Sibley, Stearns and Wright Counties. The CROW is currently offering financial assistance to residents and landowners of the Crow River Watershed for the installation of variety practices aimed at improving water quality in the Crow River. The CROW can offer up to 75% cost share on BMP practices. The 25% left can come from examples such as lake associations, land owner, city, and in-kind (labor and equipment). There are also low interest loans (3%) for upgrades of non compliant septic systems are available in portions of Sibley, Meeker, McLeod, Renville, Wright, and Kandiyohi Counties. For more information, visit CROW's website:

<http://www.crowriver.org/>

State Agencies

Many of Minnesota's State Agencies are involved with some form of environmental protection efforts, especially when it pertains to protecting Minnesota's water resources. A brief synopsis of their major water planning efforts are summarized below.

Board on Water and Soil Resources (BWSR) - In 2012, the Minnesota Board of Water and Soil Resources is celebrating its 25th anniversary. BWSR was created in 1987, when the Legislature combined the Soil and Water Conservation Board with two other organizations with local government and natural resource ties: the Water Resources Board and the Southern Minnesota Rivers Basin Council. Upon inception, its membership included 17 members: representing soil and water conservation districts; watershed management organizations, counties, citizen members, agency members (University of Minnesota Extension Service, the Minnesota Department of Natural Resources, the Minnesota Department of Agriculture, the Minnesota Department of Health, and the Minnesota Pollution Control Agency). BWSR provides oversight on Water Plans. For more information, visit BWSR's website:

<http://www.bwsr.state.mn.us>

Minnesota Department of Natural Resources (DNR) – The DNR is a key water plan stakeholder in many ways. They assist with monitoring ground and surface water quantity, they are the permitting agency for water appropriations, and they are the main agency working with preventing the spread of Aquatic Invasive Species. In addition, they work with a variety of stakeholders, including the general public, on providing a vast amount of water resource education. For more information, visit the DNR website:

<http://www.dnr.state.mn.us/water/index.html>

Minnesota Pollution Control Agency (MPCA) - The Minnesota Pollution Control Agency helps protect our water by monitoring its quality, setting standards and controlling what may go into it. They assist with water surface and groundwater quality monitoring, stormwater management, municipal wastewater permitting, identifying Impaired Waters, and animal feedlot registration and enforcement. They also provide a vast amount of technical and educational assistance on Best Management Practices (BMPs) related to water quality protection and land use practices. For more information, visit MPCA's website:

<http://www.pca.state.mn.us/index.php/water/index.html>

Minnesota Department of Health (MDH) – The Minnesota Department of Health is the primary State agency involved with monitoring and protecting ground and drinking water supplies. They have a vast amount of ground water quality data, and take the lead in developing Wellhead Protection Plans for public water suppliers. They also provide a lot of information on the importance of sealing abandoned wells and testing household wells for a variety of contaminants. For more information on MDH's activities, visit MDH's website:

<http://www.health.state.mn.us/macros/topics/environment.html>

Minnesota Department of Agriculture (MDA) – As a leading agricultural state with more surface waters than any other of the 48 contiguous states, and an abundance of clean drinking water, Minnesota is committed to helping farmers, homeowners, and industry protect these water resources. The MDA is responsible for or involved in many water quality programs and initiatives. These include but are not limited to the following:

- Agricultural Best Management Practices Loan Program. A low interest loan program run by the MDA that helps finance water quality practices.
- Minnesota Clean Water Legacy Act. The MDA currently oversees several research and other projects aimed at making cleanup efforts more effective.
- Comprehensive Groundwater Protection Act of 1989. The MDA regulates most matters relating to pesticides and fertilizers.

The MDA has also developed the following website to assist with County Water Plans:

<http://www.mda.state.mn.us/en/protecting/waterprotection/waterplanning.aspx>