



Wadena County

Priority Concerns Scoping Document

For the 2016 Wadena County Local Water Resource Management Plan Update



Leaf River
July 2015

Prepared by:
Wadena County Soil and Water Conservation District
and the Wadena County Water Plan Task Force

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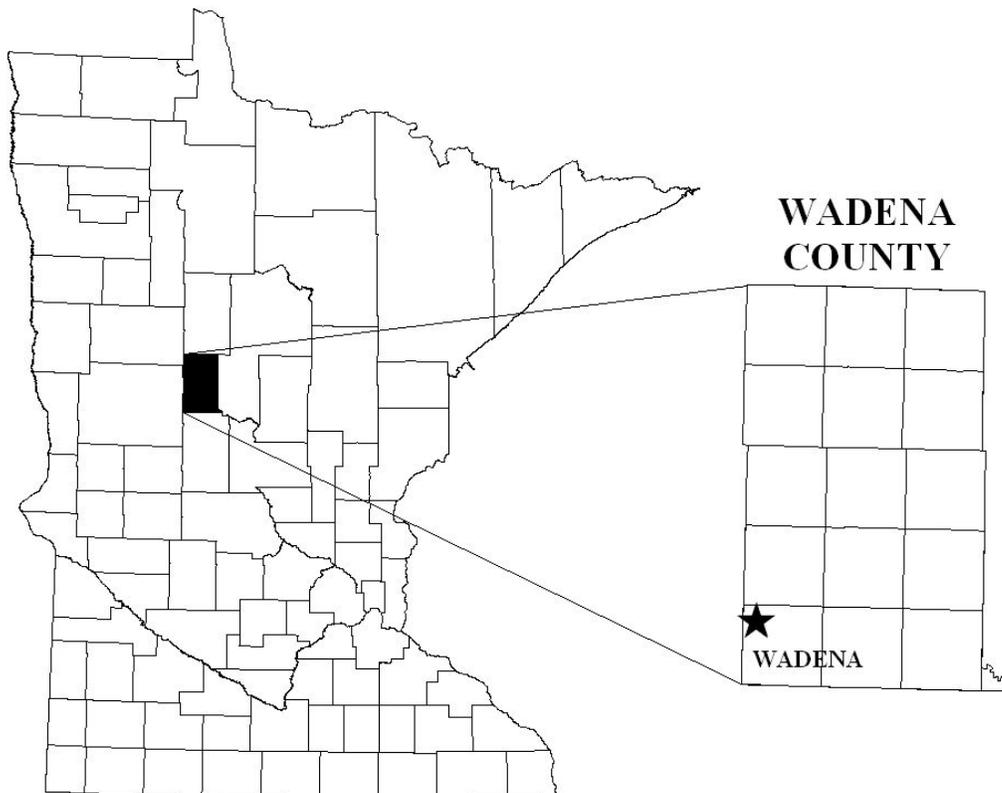
Priority Concerns Scoping Document for Wadena County

The following Priority Concerns Scoping Document was developed to identify the priority concerns selected by the Wadena County Soil and Water Conservation District with assistance from the Wadena County Water Plan Task Force, along with a detailed account of how those concerns were identified and chosen.

INTRODUCTION

Wadena County is located in north central Minnesota. Hubbard County is to the north, Cass County is to the east, Todd County is to the south and Becker and Otter Tail Counties are to the west. The city of Wadena is the county seat and is located in the southwest part of the county (Figure 1). Wadena County is within the Upper Mississippi River Basin and consists of the Crow Wing, Redeye and Long Prairie River watersheds. Wadena County also falls within the transition zone between the Northern Lakes and Forests and the Central Hardwood Forests Ecoregions.

Figure 1: Location of Wadena County in Minnesota and the location of the city of Wadena, the county seat.



Population Trends

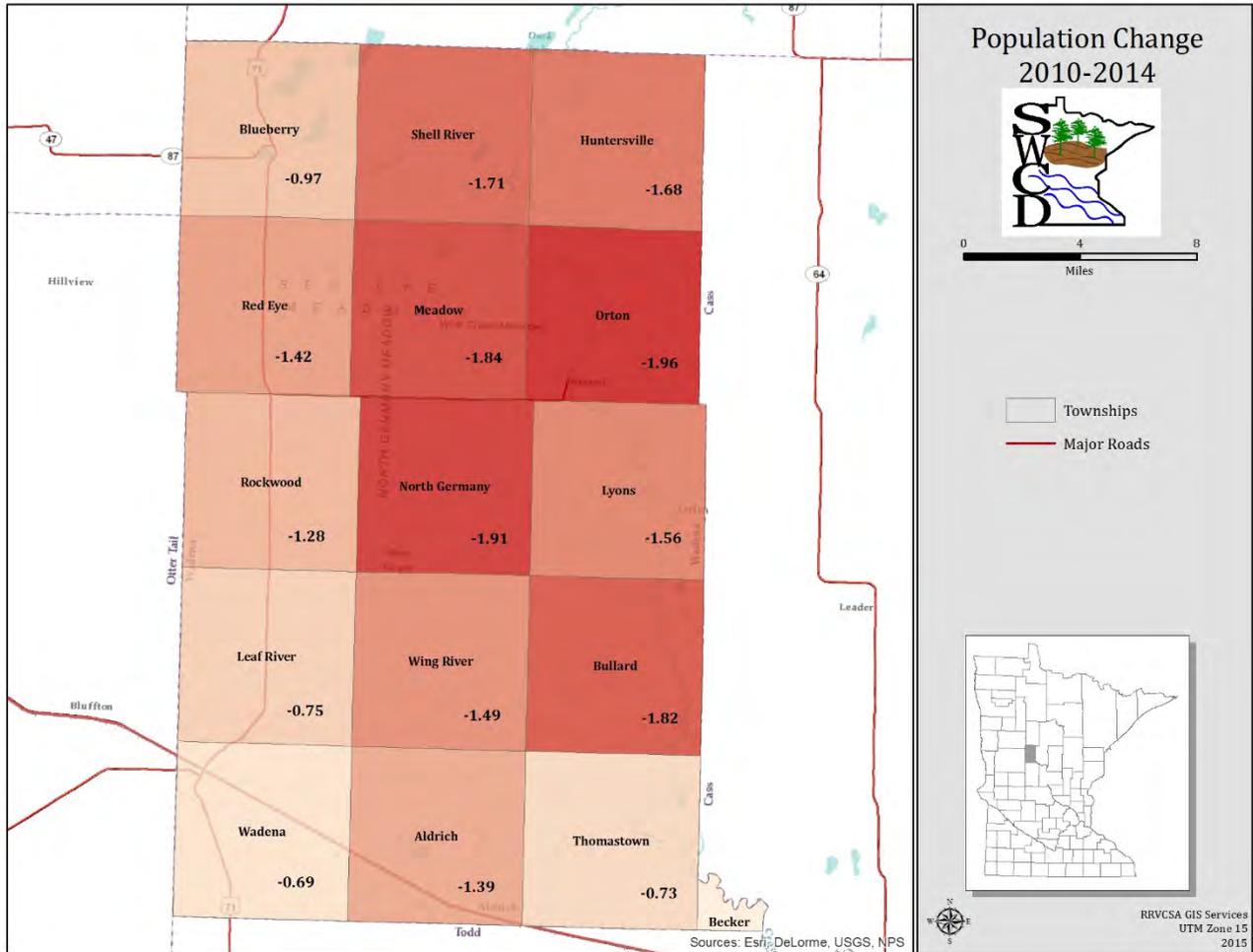
The 2010 census data indicates Wadena County has a total population of 13,843 residents. This is a 0.95% increase from the 2000 census numbers. Wadena County is similar to the surrounding counties with a slight increase in population since 2000.

Figure 2 presents 2014 estimates of population in the cities and townships of Wadena County compared to the 2010 census numbers. Most cities and townships are estimated to have a declining trend in population for 2014, with the exception of the cities of Menahga and Wadena. Figure 3 presents these estimates in a map format by township on page 4.

Figure 2: Census population change from 2010 to 2014 in Wadena County.

Township	2010 Census	2014 Estimate	Percent Change
Aldrich city	48	47	-2.08
Aldrich	430	424	-1.39
Blueberry	721	714	-0.97
Bullard	219	215	-1.82
Huntersville	119	117	-1.68
Leaf River	531	527	-0.75
Lyons	192	189	-1.56
Meadow	217	213	-1.84
Menahga city	1306	1335	2.22
Nimrod city	69	68	-1.44
North Germany	313	307	-1.91
Orton	204	200	-1.96
Red Eye	490	483	-1.42
Rockwood	390	385	-1.28
Sebeka city	711	690	-2.95
Shell River	233	229	-1.71
Staples city	871	859	-1.37
Thomastown	819	813	-0.73
Verndale city	602	582	-3.32
Wadena city	4022	4037	0.37
Wadena	868	862	-0.69
Wing River	468	461	-1.49

Figure 3: Census population change estimates from 2010 to 2014 in Wadena County.



Land Use

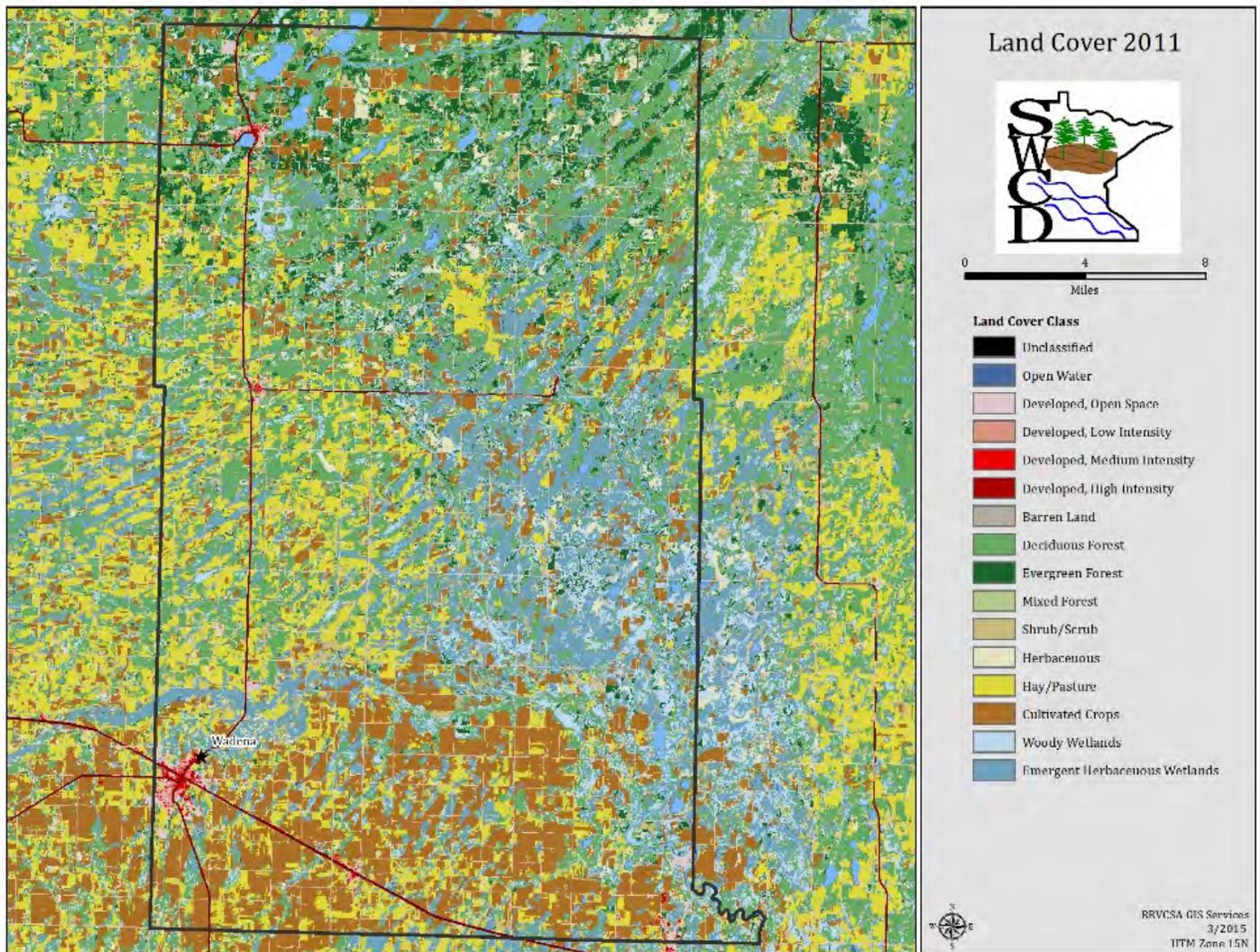
According to Figure 4, agriculture and forests dominate the landscape of Wadena County.

According to the 2012 Census of Agriculture, there are 643 farms in Wadena County, down 2% from 657 farms in 2007 and down 12% from 734 farms in 2002. These farms average 56% cropland, 17% woodland, 16% pastureland and 11% other. The Minnesota Pollution Control Agency lists 104 registered feedlots with over 50 animal units in the county as of August 2015. The Wadena SWCD has the responsibility to regulate the feedlot program in the county. The registered number has dropped throughout the years as the dairy industry has declined, however some of these dairy producers made a switch to beef production.

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Within the past four years the Potlatch Corporation, with a core business of timber production, began to sell their forest land in Wadena County and surrounding counties, in an area that is a transitional zone from prairie to forest. This area is also part of the Pineland Sands surficial aquifer, which is directly tied to surface waters. There has been a sharp increase in conversion of forestland to agriculture, specifically potatoes. The sandy soils in our area provide a good medium for growing potatoes, if the land can be irrigated, but are also one of the most sensitive soils to contamination due to their permeability. The Minnesota Department of Natural Resources has recently acquired more forest lands to curb the conversion from forests to irrigated agriculture through the use of acquisitions and conservation easements.

Figure 4: 2011 Land Cover in Wadena County.



Plan Responsibility

The Wadena County Local Water Resource Management Program was adopted through resolution by the Wadena County Board of Commissioners in 1993 and the Wadena Soil and Water Conservation District was given the responsibility for administration of the program.

The first Water Resource Management Task Force meeting was held in 1993 and the first plan was written and approved in 1995. The second update was completed in December 2000. The third update was completed in 2006.

The current plan expires on March 31, 2016.

IDENTIFICATION AND SELECTION OF PRIORITY CONCERNS

The Wadena County Board of Commissioners approved a resolution to update the Wadena County Comprehensive Local Water Resource Management Plan on December 2, 2014. A notice was sent out to the state review agencies, local units of government and Wadena County citizens for comment by February 1, 2015.

Two public meetings were held to solicit input from our Wadena County citizens. The first was on May 5th 2015 at the Menahga City Hall at 7:00 p.m. The second was on June 15th 2015 at the Wadena County Courthouse Auditorium at 5:00 p.m. We also dispersed a Citizen Survey (Figure 5) through our webpage, at these public meetings and at lake association meetings we attended in the early summer of 2015. Comments were taken through June 30, 2015. A water plan task force meeting was held July 30, 2015 to review the update process and gather concerns and input from the members.

Nine citizens attended the May 5th meeting and seven attended the June 15th meeting. These attendance numbers are typical for our area and public meetings we hold. Nineteen citizen surveys were returned to our office. The results of those surveys begin on page 9.

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Figure 5: Citizen Survey

The Wadena County LWMP Task Force requests your input on the Water Plan update by completing the survey below.

Wadena County Local Water Management Plan (LWMP) Purpose: To Identify existing and potential problems and opportunities for protection, management and development of water resources and related land resources in Wadena County.

Wadena County Citizen Survey

Which watershed is your home/land located in? (X)

Major Basin: Upper Mississippi River Basin

- Crow Wing River
- Redeye River
- Long Prairie River

What Township is your home/land located in?

Which resource is the most threatened?

Rank 1-5, with 1 being most threatened.

- Groundwater
- Wetlands
- Lakes
- Streams/Rivers
- Other _____

What are the top 4 problems in Wadena County?

(check 4)

- Failing septic systems
- Development pressures/impacts on sensitive areas and/or ag preservation lands
- Lack of environmental education
- Natural habitat destruction
- Declining water clarity
- Erosion
- Over-application of fertilizers
- Stormwater/Drainage management
- Contaminated runoff
- Lack of regulations
- Groundwater contamination
- Groundwater availability
- Other _____

Additional Comments/Suggestions:

Please feel free to utilize back of paper.

Please send completed survey and other information to:

Wadena SWCD
4 Alfred St. NE
Wadena, MN 56482

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Table 1: Citizen Survey responses to questions 1 and 2.

Which watershed is your home/land located in?	<i>Totals</i>
Crow Wing River	18
Redeye River	3
Long Prairie River	0

Which township is your home/land located in?	<i>Totals</i>
Blueberry	8
Huntersville	2
North Germany	1
Shell River	5

Table 2: Citizen Survey responses to question 3.

What are the top four problems in Wadena County?	
Groundwater contamination	1
Natural habitat destruction	2
Contaminated runoff	3
Over-application of fertilizers	4
Development pressures	5
Groundwater availability	6
Declining water clarity	7
Lack of environmental education	8
Stormwater/Drainage management	8
Failing septic systems	9
Erosion	9
Lack of regulations	9
Other: Channel restoration above Twin Lakes	9
Other: High nitrates in private wells	10
Other: Enforcement of violations	10
Other: Lack of background data collection	10

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Table 3: Citizen Survey responses to question 4. (1= received most votes, 7=least votes)

Which resource is the most threatened?	
Groundwater	1
Streams/Rivers	2
Lakes	3
Wetlands	4
Other: Deforestation	5
Other: Public Ditches	6
Other: Private and Municipal Wells	7

Public Input Meetings and Comments

Presentations were given at each public meeting on the basics of why the county has a water plan, the history of the water plans, and the phases/steps in updating the county water plan. For each of the meetings, feedback and discussions focused on the choosing of the top three priorities for the Wadena County Local Water Resource Management Plan.

Menahga Meeting, May 5th, 2015 - Topics brought to our attention were:

- Deforestation – causing erosion, water contamination, faster runoff, additional irrigation possibly using up our groundwater, potential loss of tourism
- Contamination of drinking water - pines to agriculture conversion
- Misuse of water
- Magnesium calcium chloride runoff- salt used in the winter on roads
- Aerial application of chemicals/pesticides and their effect on pollinators
- Habitat
- Surface water/ runoff
 - Deforestation
 - Feedlots- manure management
- Pipeline
- Mussel survey
- Crow Wing Watershed
- Private well water testing
 - Low cost
 - Test for more than just nitrates, for example pesticides and fungicides
- Aquatic invasive species

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Wadena Meeting, June 15th, 2015 – Topics brought to our attention were:

Trout streams

Obtain more background info to see if irrigation is affecting water temperatures

High nitrate issues

How to assist those with high nitrate results

Funding for those who can't afford fixing wells with high nitrates

Is there a cost share program or other program that can be developed?

Grants to help cities update their storm water systems/ pipes/ water lines

Retention projects like rain gardens, gray water systems, rain barrels

New development

Below is a summary of all written comments received from the citizen survey:

- Years ago we had shallow wells with no nitrates. After all land clearing, irrigating, fertilizers and pesticides the shallow wells were full of nitrates. We put deep wells in, at first no nitrates and now we have nitrates in them also.
- Frogs have all but disappeared and also grouse and their habitat.
- We had a shallow well for years and then the nitrates got so bad we had to drill a new well and now that has nitrates. It's from all the fertilizer they are putting on the fields around us.
- Wadena SWCD should not merge with Ottertail.
- Very concerned about weeds on Twin Lakes. High amount of weeds and cattails are so prevalent, that boating on the river was not possible, other than small boat or canoe. Also weeds and cattails are impacting shoreline access and beauty of lakes. We are concerned about the impairment of Twin Lakes due to weeds and channel changes.
- Prevent any more deep wells for irrigation.
- Stop deforestation closer than ½ mile of lakes and rivers to prevent runoff among other things.
- Too many irrigation pivots are depleting the groundwater aquifers.
- High intensity rainfall events causing issues with drainage and erosion.
- Continue to support monitoring of freshwater mussels to assess and protect surface waters.
- Surface to groundwater contamination.
- Submit for funding/grants to test for contaminants in addition to just nitrate testing. Annual or bi-annual testing of monitoring wells for pesticides/bacteria/contaminants in addition to nitrate testing and water levels. This information should be available to public in strategic areas where or if concerns of testing flag problems.

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- Research affordable sources for private citizens to have water tested for pesticides/bacteria/contaminants and make this information available for interested parties.
- Heidelberg University is willing to work on a “laundry list” of chemicals if they would have a commitment of volume number for testing. They estimate \$100/sample to test for pesticides as a gas chromatograph which only requires a few micro-liters of test solution.
- The MDA offers information on alternative testing which has tiers, the lowest cost being least accurate. Other laboratories capable of more advanced testing are located in Ohio, U of IA, Washington, Tennessee and Indiana.
- We know for a fact that there are known carcinogens being used by RDO in the fields and at their storage facilities.
- Grants to address the results of the Crow Wing Watershed/MPCA 10-year plan revealed last year.
- Stop application of fertilizers. Charge the parties for all impacts due to over or improper use of chemicals. We can't afford new wells and septic.
- With all the irrigation of these fields what effect will it have on the local aquifers in their area and how will it affect my own well; would it dry up to the point of have a deep well put in.
- I think they should test the water in this area for more than nitrate levels as these farmers are spraying different chemicals on these field all the time and running the irrigators shortly after being sprayed, most likely washing it right into the ground, leaching its way down to the water table.
- Need to appoint and involve others (for example retired agency staff, organic farmers) as voting members of all SWCD boards relating to policy decisions to balance the opinions of elected supervisors that do not represent fully the townships based on voting records. The county commissioners would benefit from additional broad based property tax payers who provide financial support to the county service structure and are “stakeholders.”
- We are confident that the H.F.846 will be implemented (buffers) to be identified by the SWCD. Surrounding counties should coordinate this effort in northwest Minnesota.
- Deforestation with heavy pesticide/herbicide use is a health concern.
- Salt on roadways are the biggest issue. How do you keep salt out of lakes and streams?

Agency and Stakeholder Concerns

Board of Water & Soil Resources

1 Groundwater Quality and Quantity Protection – Continue our current involvement and leadership in this area.

2 Forestland Conversion to Agricultural Lands – Continue efforts to model and understand the water quality threats of forest conversion, assist landowners with forestland management practices, develop a method to prioritize important forest habitats

3 Protection and Improvement of Riparian Habitat – For example, protection using easements, buffers, septic inspections, or cattle exclusions.

MN Department of Natural Resources

1 Groundwater – Sustainable supplies of high quality groundwater are vital to the people of Minnesota, to their communities, economies, and ecology. Some of Wadena County's groundwater resources in the Pineland Sands and Wadena Surficial aquifers are at risk from over use and contamination.

2 Forest Loss –Maintaining the percent of the watershed land cover that is forested is important to protect a variety of ecosystem services. Conversion of forest lands to row crop agricultural uses cause changes both above ground and below ground, currently focused using groundwater for irrigation in the sandy outwash plains of the pineland sands aquifer.

3 Surface & Groundwater Quality – Agricultural use and the application of nitrogen on these porous sandy soils has led to nitrate leaching in the Wadena Surficial aquifer. Many of the county's surface waters exhibit very healthy plant and animal communities and good water quality. Protecting those high water quality waters while working to improve the lower quality systems is vital to those who consume, recreate, live and utilize these resources.

MN Department of Agriculture

1 Wadena County Private Well Nitrate Testing – By township, 30% of the land area has been identified as having vulnerable geology and 20% of the land area is in row crop production.

2 Irrigation Management Tools/ Resources – For example the Central MN Ag Weather network and irrigation scheduling.

3 Nitrogen Fertilizer Management Plan – Minnesota's blueprint for prevention or minimization of the impacts of nitrogen fertilizer on groundwater.

4 Clean Water Land and Legacy Amendment Funds – Specifically the AgBMP Loan program.

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MN Department of Health

1 Protect groundwater-based drinking water sources within Wadena County – All public water suppliers within the county should be listed with the county management plan. Private wells also need protection from potential contaminant sources by maintaining proper setbacks to potential contaminant sources and related land use educational efforts.

2 Sealing unused, unsealed wells – Proper well abandonment is an effective means of protecting groundwater from potential contaminants that may be carried into an aquifer. Unused, unsealed wells can pose a safety hazard to children or animals and a potential liability to the well owner.

3 Develop a local ground-water quality data base – Wadena County should consider developing a water quality data base for private wells that are compatible with the County Well Index and can be used in a GIS format. This can lead to a better understanding of drinking water issues such a nitrate contamination or areas of arsenic in the county and the ability to track these documents.

City of Verndale

1 Nitrates in Ground Water – The nitrates in well #1 have been as high as 8 mg/L on 5/19/14.

2 Storm Water Runoff – Almost all of the storm sewer flows to one low lying area of town. Then the city receives a large amount of rain this results in flooded basements and fields. Most of the city's storm sewer is county owned.

3 Construction of High Flow Irrigation Wells – During seasons of dry weather the farmers in and around the city irrigate their fields heavily. This lowers the ground water level in the city. In 2013 we had a well that was cavitating due to low water level, so we had to slow down the pumping rate of the well.

Twin Lakes Association

1 Opposing the Sandpiper Pipeline – The proposed route through the lakes areas and the Crow Wing Watershed could potentially impact our water resources.

2 Restoring the Channel into Upper Twin Lake – Working with Hubbard County to restore the channel (ditch) into Upper Twin Lake that flows into Lower Twin Lake and the Shell River to repair and preserve lake and river quality.

PRIORITY CONCERNS LIST

The Wadena County Citizen Survey results were reviewed and tabulated for a Water Plan Task Force meeting on July 30, 2015. A survey summary document was provided to all members in attendance. The old priorities were discussed, reviewed and compared with potential new priorities. An open discussion on priorities followed with another meeting on November 5, 2015. At that meeting, the task force selected the following priorities for the water plan update in no particular order of importance:

1. The cumulative impacts of current, past or potential land uses on the surface water resources in the Redeye and Crow Wing River Watersheds. (Surface water)
 - Address impaired waters
 - Promote land use practices and BMPs that protect surface water
 - Reduce or minimize effects of soil erosion and runoff
 - Wetland management, protection and restoration
 - Raise public awareness through education
 - Expand data collection and monitoring
 - Enhance shoreland and lake management efforts

2. The cumulative impacts of current, past or potential land uses of the ground water resources in the Pineland Sands and Wadena Surficial Aquifers. (Ground water)
 - Septic systems inspection and maintenance
 - Testing for nitrates and other contaminants
 - Sealing of unused or abandoned wells
 - Wellhead protection areas
 - Irrigation water management
 - Nutrient management
 - Feedlot inventory and registration
 - Collaborative education efforts to decision makers, professionals and the public

3. Ensure ground water sustainability to adequately address all various uses of ground water. (Ground water)
 - Ground water monitoring and data sharing
 - Collaborative education efforts to decision makers, professionals and the public
 - Irrigation water management

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- Community water systems
 - Support sustainable development and management of ground water
 - Management of water supplies and permitting
4. Restore and protect key aquatic and terrestrial habitats that have positive impacts on water quality. (Habitat)
- Increase habitat quality
 - Education on management of natural resources in the county
 - Protect existing areas of high biological significance
 - Promote riparian and shoreline buffers
 - Development pressures and fragmentation
 - Presence or absence of invasive and endangered species
 - Promote conservation programs

There were no differences between this plan's priority concerns and other concerns expressed by state and local contributors.

Priority Concerns Not Addressed by the Plan

Many of the written comments received were suggested as important concerns for the plan. Some of those concerns are addressed by or already delegated to other agencies in cooperation with the Wadena Soil and Water Conservation District. Many of the concerns could also be utilized as implementation or action items within the final water plan.

The MN Department of Agriculture (MDA) is the lead agency for all aspects of pesticide and fertilizer environmental and regulatory functions, monitors groundwater in sensitive areas to determine if pesticides or other chemicals may be impacting water quality, develops best management practices for landowners to reduce the impact of chemicals, including lawn care and urban water quality, and coordinates nitrate water testing clinics.

The MN Department of Natural Resources (DNR) Division of Ecological and Water Resources handles public water protection and permitting (regulating water development activities below the ordinary high water level in public waters and wetlands), water supply management (well construction preliminary assessment) and permitting (permit required for all users withdrawing more than 10,000 gallons of water per day or 1 million gallons per year), as well as the management of aquatic invasive species.

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The Wadena County Planning and Zoning Office administers and enforces landuse, building, onsite sewage treatment, conditional use permits, variances, subdividing, rezoning, platting and the county comprehensive plan.

The MN Department of Health (MDH) Environmental Health Division ensures that public water supplies provide a safe and adequate supply of drinking water, works with public water suppliers to develop and implement water/wellhead protection plans that safeguard their water sources from contamination, and works to protect the groundwater resources through proper construction of new wells and borings and through the timely and property sealing of old wells and borings.

The MN Pollution Control Agency (MPCA) conducts a variety of water quality monitoring activities including groundwater monitoring and assessment, lake and stream monitoring and assessment, regulating wastewater and stormwater discharges, septic systems and feedlots. They use a watershed approach to protecting and restoring water quality.