RED LAKE COUNTY COMPREHENSIVE LOCAL WATER MANAGEMENT PLAN

(March 24, 2010 through March 24, 2020)

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Red Lake County Soil & Water Conservation District

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HISTORY TOUR OF RED LAKE COUNTY

Red Lake County has a rich and varied history in which the Red Lake and Clearwater Rivers have played a central role. These rivers provided the proper habitat for a wide range of wildlife. Over two hundred years ago this wildlife attracted the Chippewa (Ojibwa) Indians who were following the fur trade business west from the great lakes region. By 1798, Jean Baptiste Cadotte had established a trading post near the junction of the two rivers in or near the present day Sportsman's Park in Red Lake Falls.

As oxcarts began crossing the area while transporting goods between St. Paul, Minnesota to the south, and the Selkirk or Red River Colony (present day Winnipeg, Manitoba, Canada) to the north, the "Old Crossing" of the Red Lake River near Huot, Minnesota, became a place of historical importance.

At this site in 1863 a peace treaty was signed between the Red Lake and Pembina bands of the Chippewa Indians, and the U.S. Government. This treaty ceded to the United States nearly 11 million acres of some of the most fertile land in the world.

In 1876 Pierre Bottineau, the famous Metis (of mixed French and American Indian blood) guide, brought the first settlers to the area, 119 families of French Canadian descent who founded the towns of Red Lake Falls and Gentilly. Settlers of European descent followed, attracted to the same waters that attracted the Indians and trappers before them. Newspapers of the time advertised the abundant supply of water power provided by the two rivers.

These same waters still maintain their powers of attraction as vacationers come each summer to enjoy the beautiful scenery while floating in inner tubes on the Red Lake River.

For more information: http://www.prairieagcomm.com/redlakecounty/html/story.cfm?ID=90

The origin of the name for the county, the municipalities, along with the townships, and rivers located in Red Lake County can be found at the following website:

http://www.prairieagcomm.com/redlakecounty/html/story.cfm?ID=97

GEOLOGY/GEOGRAPHY

(The following is taken from Centennial History of Polk County by T. M. McCall, McGarry Publishing Co., Crookston, MN. 1961.)

It may be difficult for people today to believe that great glaciers once moved down from the north and that these great sheets of ice moved across the length of Minnesota and extended down into Iowa~ that the great lobes of ice, as they planed off the surface of the land, left great deposits of soil and rocks which formed terminal moraines which held back the water as the ice melted. (Moraines are accumulations of debris along the edges of glaciers.) The enormity of the ice sheet and the volume of water challenge the imagination as geologists unfold the history to us.

Mute evidence that a great ice sheet did move over Minnesota can still be seen today in the planed-off outcroppings of the original granite near Clementson, and the bald granite ridges in southern Ontario, Canada. Other cumulative evidence of the action of the ice sheet lobe in this area can be seen in the terminal and lateral moraines of the southern counties of the Red River Valley and in the definite shore lines of the receding glacial lake which are apparent on both the Dakota and Minnesota sides of the Red River Valley.

A famed geologist, Warren Upham, did pioneer work in tracing shore lines of the great glacial lake for the Minnesota Geological Survey and the United States Geological Survey. The name Lake Agassiz was given this prehistoric glacial lake by Warren Upham in 1879 in the Eighth Annual Report of the Minnesota Geological Survey. According to Upham, the first true explanation of the lake's existence was presented by a geologist professor of the university in 1872. Upham reports, "while the retreating ice sheet served as a dam to prevent water from the melting ice to flow northward, the overflow did go south through the Lake Traverse and Big Stone Lake area, through Brown's Valley to cut out the channel of what is now known as the Minnesota River Valley . This glacial river, which carved out the Minnesota River Valley, was named River Warren by Upham.

Another famed geologist, who collaborated with and followed up the work of Upham, was J. E. Todd. Todd, in Chapter V of the 1896-97 Report of the Minnesota Geological Survey, Volume 4, gives an excellent report on the geologic history of Norman and Polk (including Red Lake) counties.

In discussing the history of the glacial Lake Agassiz, Todd reports, "In its (the glacier's) recession, we suppose that it had periods of halting and possibly advancing for short distances, which has, as before explained, resulted in the accumulation of moraines. Between the Red River lobe, as we may call it, and the Lake Superior lobe, which occupied the upper Mississippi region, there was at one time no distinct separation upon the surface of the ice sheet, but as they melted away their margins would very naturally be more and more separated along the height of land or ridge forming the divide between the Mississippi basin and that of the Red River."

In tracing the shore lines of beaches of glacial Lake Agassiz, Upham found that their elevation of the highest crest of the Herman beach in Polk County was 1,173 feet above sea level, which would indicate that a water depth of 300 feet stood over what is now Crookston. Upham states: " Several successive levels of Lake Agassiz are recorded by distinct and approximately parallel beaches of sand and gravel due to the gradual lowering

of the outlet by the erosion of the channel at Brown's Valley and these are named in their descending order, Herman, Norcross, Tintah, Campbell and McCauleyville beaches, because they pass through or near these towns. "

The shoreline is seen as a ridge running from the southwest to the northeast between Red Lake Falls and Crookston. These ridges are good sources of gravel and gravel pits are found along its length.

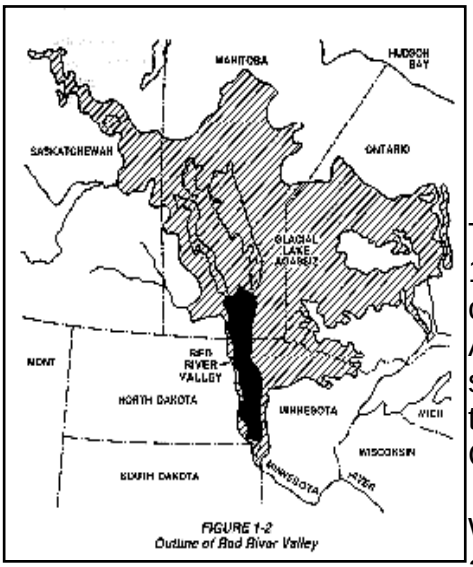


FIGURE 1-2
Outline of Red River Valley

RED RIVER OF THE NORTH
Glacial Lake Agassiz and the Red River Valley

The Red River Basin has its origins in Glacial Lake Agassiz. About 14,000 years ago during the Ice Age, the continental glacier covered the Basin. As glacial ice retreated northward, Glacial Lake Agassiz formed about 12,000 years ago. The lake drained to the south through what is now the Minnesota River valley, to the west through northern Saskatchewan to Alaska, and to the east to the Great Lakes.

Where drainage occurred was dependent upon the level of the lake and ice coverage. About 11,500-11,000 yeas ago, drainage occurred through the Minnesota River valley, until the level dropped to a point where drainage was blocked by a moraine between the Red River and Minnesota River valleys.

As glacial ice retreated further north, an outlet opened to the Great Lakes. Ice again advanced southward and about 9,900 years ago, drainage again occurred through the Minnesota River valley until about 9,200 years ago when water levels dropped to a point where drainage to the south was blocked. The Great Lakes outlet closed about 8,500 years ago and drainage since has occurred in a similar pattern to current drainage.

The Red River Valley exists in what was the southwestern portion of Glacial Lake Agassiz, and what is now the center of the Red River Basin. The Red River Valley extends over 315 miles from Lake Traverse in the south to Lake Winnipeg in the north. It is 60 miles wide at its widest point.

The elevation of the Red River falls 233 feet from the headwaters of the Red River to its mouth 545 river miles away, for an average slope of only about one-half foot per mile. The slope is greater near the headwaters and flattens toward the mouth. The elevation of the Valley in the south is 943 feet mean sea level (msl), while at the northern end, the elevation is 714 msl -- a change in elevation of 229 feet over its 315 mile length.

(Information Sources: "A River Runs North" by Gene Krenz and Jay Leitch, Red River Water Resources Council (1993), and "Aquatic Communities and Contaminants in Fish from Streams of the Red River of the North Basin, Minnesota and North Dakota" by Robert Goldstein, U.S. Geological Survey (1995). Map Source: "A River Runs North," Figure 1-2.)

For more information see:

- http://www.und.nodak.edu/instruct/eng/fkarner/pages/agassiz.htm
- http://www.digistar.mb.ca/minsci/geology/gbeach.htm
- http://www.mbbnet.umn.edu/hoff/hoff_agassiz.html

RED LAKE COUNTY DEMOGRAPHIC INFORMATION

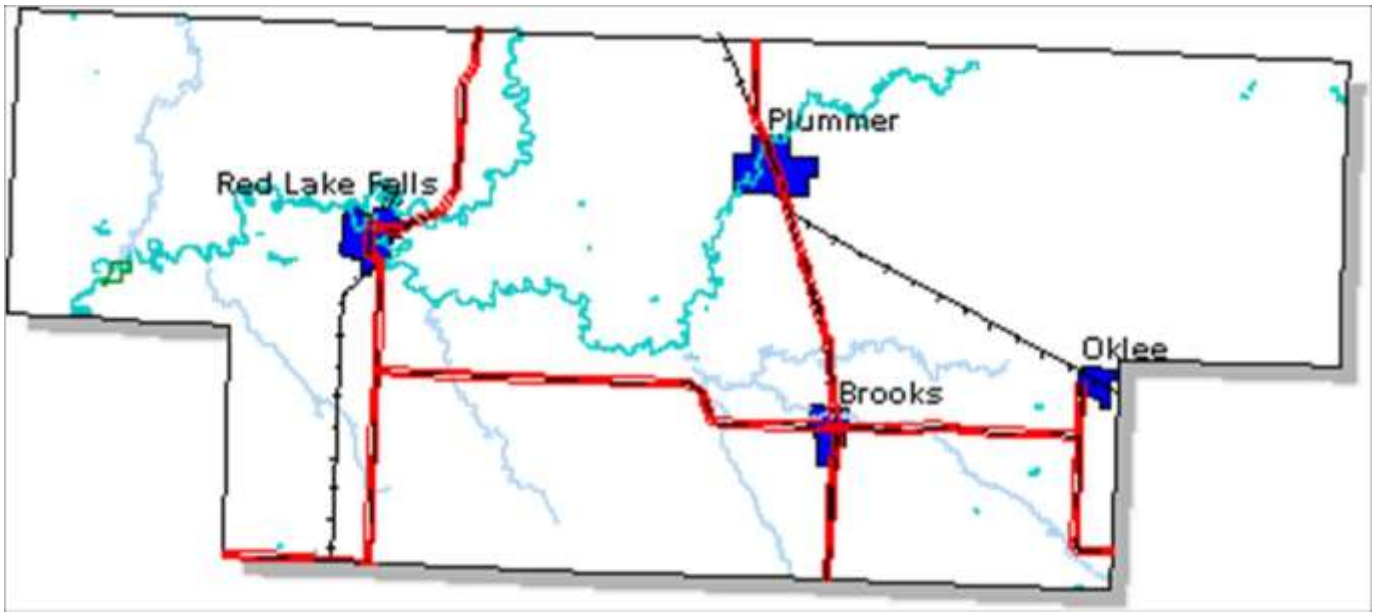
The 2009 census for Red Lake County was 4,069.

County	***1970***	***1980***	***1990***	***1995***	***2000***
Red Lake	5,388	5,417	4,525	4,481	4,299
City	***1970***	***1980***	***1990***	***1995***	***2000***
Brooks	163	173	136	153	141
Oklee	536	536	450	428	396
Plummer	285	353	290	279	270
Red Lake Falls	1,740	1,732	1,481	1,486	1,590

The four cities located within Red Lake County include: Red Lake Falls, Plummer, Oklee, and Brooks.

The thirteen townships located within Red Lake County include: Wylie, Browns Creek, River, Louisville, Red Lake Falls, Gervais, Emardville, Garnes, Equality, Lake Pleasant, Terrebonne, Poplar River, and Lambert.

The trend in population has been decreasing since 1970. The county anticipates that the trend will continue to decrease.



MAJOR WATERSHEDS IN RED LAKE COUNTY

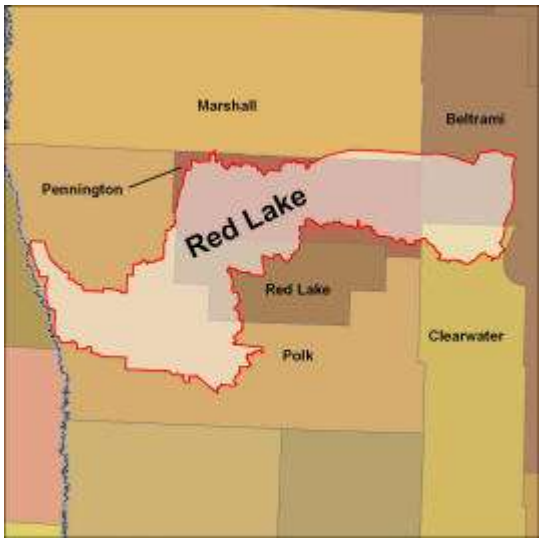
RED LAKE RIVER WATERSHED:

The Red Lake 8-Digit Hydrologic Unit Code (HUC) subbasin is part of the Red River Basin in northwestern Minnesota. The watershed occurs in the Glacial Lake Agassiz Plain and Northern Minnesota Wetlands Level III Ecoregions.

The greater Red River basin characteristically has a poorly defined floodplain and low gradient that combine with extensive drainage, widespread conversion of tallgrass prairie to farmland, and urban/suburban development to leave the basin subject to frequent floods that affect urban and rural infrastructure and agricultural production.

The main resource concerns in the watershed are wind and water erosion, nutrient management, wetland management, surface water quality, flood damage reduction, and wildlife habitat. Many of the resource concerns relate directly to flooding and increased sediment and pollutant loadings to surface waters.

Watershed Overview



8 Digit Hydrologic Unit Code:	09020303
Drainage Area:	909,024 Acres
Major Basin:	Red River Basin
Stream Miles:	1,504
2006 303d Stream Miles:	195
Population:	28,111
Farm Count:	1,117
Watersheds Upstream:	Red Lakes Thief Clearwater
Watershed(s) Downstream:	Sandhill-Wilson

The Red Lake River is a popular source of recreation for area residents, and many enjoy the tubing and canoeing the river makes possible.

CLEARWATER RIVER WATERSHED:

The Clearwater 8-Digit Hydrologic Unit Code (HUC) subbasin is part of the Red River Basin in northwestern Minnesota. The watershed occurs in the Glacial Lake Agassiz Plain, North Central Hardwoods, Northern Lakes and Forests, and Northern Minnesota Wetlands Level III Ecoregions.

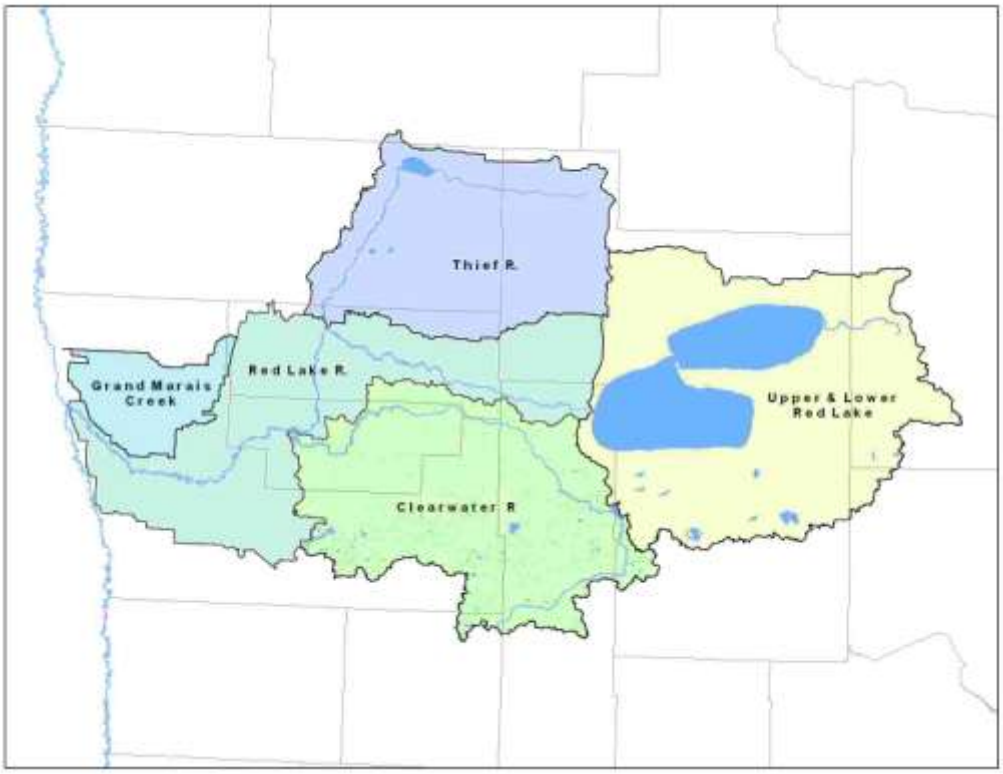
The greater Red River basin characteristically has a poorly defined floodplain and low gradient that combine with extensive drainage, widespread conversion of tallgrass prairie to farmland, and urban/suburban development to leave the basin subject to frequent floods that affect urban and rural infrastructure and agricultural production.

The main resource concerns in the watershed are wind and water erosion, nutrient management, wetland management, surface water quality, flood damage reduction, and wildlife habitat. Many of the resource concerns relate directly to flooding and increased sediment and pollutant loadings to surface waters.

Watershed Overview

8 Digit Hydrologic Unit Code:	09020305
Drainage Area:	886,632 Acres
Major Basin:	Red River Basin
Stream Miles:	1,916
2006 303d Stream Miles:	246.6
Population:	13,429
Farm Count:	1,002
Watersheds Upstream:	None
Watersheds Downstream:	Red Lake

The Red Lake Watershed District has jurisdiction within these watersheds.



LANDUSE STATISTICS

Below is a chart showing the land use statistics for the county.

LAND USE STATISTICS		
RED LAKE COUNTY	**PERCENT**	**ACRES**
FORESTED	10%	28,000
CULTIVATED	77%	215,523
WATER	< 1%	1,945
MARSH	2%	4,393
URBAN RESIDENTIAL	< 1%	532
EXTRACTIVE	< 1%	535
PASTURE & OPEN	5%	13,252
NON / MIX RESIDENTIAL	< 1%	1,001
TRANSPORTATION	3%	8,173
FARMSTEAD / FEEDLOT	2%	5,020
TOTAL:	**100%**	**278,374**
RED LAKE WATERSHED	**PERCENT**	**ACRES**
FORESTED	10%	10,282
CULTIVATED	77%	77,183
WATER	1%	960
MARSH	1%	943
URBAN RESIDENTIAL	< 1%	169
EXTRACTIVE	< 1%	498
PASTURE & OPEN	5%	5,243
NON / MIX RESIDENTIAL	< 1%	283
TRANSPORTATION	3%	2,922
FARMSTEAD / FEEDLOT	2%	1,815
Total:	**100%**	**100,298**
CLEARWATER WATERSHED	**PERCENT**	**ACRES**
FORESTED	10%	17,718
CULTIVATED	78%	138,340
WATER	< 1%	985
MARSH	2%	3,450
URBAN RESIDENTIAL	< 1%	363
EXTRACTIVE	< 1%	37
PASTURE & OPEN	4.5%	8,009
NON / MIX RESIDENTIAL	< 1%	718
TRANSPORTATION	3%	5,251
FARMSTEAD / FEEDLOT	2%	3,205
Total:	**100%**	**178,076**

RELATIONSHIP TO THE RED LAKE WATERSHED DISTRICT OVERALL 10-YEAR PLAN

Under legislative mandate, revisions to County Water Plans must be written within a watershed context. The purpose of this requirement is to ensure that counties look beyond the jurisdictional boundaries when making assessments and goals for water quality issues. By doing this, the county will be able to identify trends, problems, and opportunities that are specific to a watershed rather than assuming the problem or issue is confined to political boundaries.

Red Lake County boundaries are completely located within the Red Lake Watershed District boundaries. Having been an active participant in the updating process of the RLWD Overall 10-year plan, which was updated in 2006, it is the intentions of Red Lake County Board of Commissioners and the Board of Supervisors for the Red Lake County SWCD to recognize the RLWD 10-year overall plan as a major guidance document for the implementation strategies for the priority concerns identified in the Red Lake County Local Water Management Plan. We support this approach based on the principles that water management (quantity and quality) is best managed on a comprehensive watershed basis. We realize we only make up a portion of two of the sub-watersheds addressed in the RLWD overall plan. Those two watersheds are the Clearwater River Watershed and the Lower Red Lake River Watershed. It is these two sub-watershed planning sections that we intend to reference frequently as we proceed to implement local water management in our county. For further detailed discussions, identify the setting, the problems, and opportunities relating to water management needs, primarily in the areas of flood damage reduction and natural resource enhancements; please refer to Page 142 for the Clearwater River Watershed and Page 158 for the Lower Red Lake River Watershed at the following website: http://www.redlakewatershed.org/planupdate.html

EXECUTIVE SUMMARY

The Red Lake County Comprehensive Local Water Management Plan focuses on water and related land resource issues. The plan applies to the entire area within the county.

The plan provides a means of consistency across the county and is consistent with other plans that exist for Red Lake County, including appropriate Watershed Districts, Soil & Water Conservation Districts, Environmental Service agencies, Red River Basin organizations, and appropriate state and federal agencies.

The 2010 Red Lake County Comprehensive Local Water Management Plan will apply for a period of ten years from the date of State approval. In each subsequent fifth year, the County will examine the CLWMP to determine if the County is meeting the plan's priority concern goals.

The Red Lake County Comprehensive Local Water Management Plan is coordinated and administered by the Red Lake County Soil & Water Conservation District. The Red Lake County SWCD works with area watershed districts, local state agency personnel and programs, local federal personnel and programs, private citizen groups, non-profit organizations, state associations, townships, and cities.

Red Lake County SWCD is also responsible for coordinating and administering the Department of Natural Resources (DNR) Shoreland Management Program, the Minnesota Pollution Control Agency (MPCA) Feedlot Program, and the Minnesota Wetland Conservation Act through Board of Water and Soil Resources (BWSR).

The purpose of this plan is to address the following priority concerns by protecting water resources through the promotion and implementation of Best Management Practices throughout the County and associated watersheds. This plan will focus on six priority concerns.

Priority Concern 1 will focus on surface water quality and impaired waters; especially as it relates to human impacts for recreational use and as a downstream domestic use of the water supply.

Priority Concern 2 will focus on quantity of water moving through Red Lake County. Flooding causes loss of income to farmers which greatly impacts local economy, washes out roads and bridges, and contributes to sediment deposits in the rivers and streams.

Priority Concern 3 will focus on ground water quality. Ground water quality is important to Red Lake County because of all the public and private wells that are located throughout the county.

Priority Concern 4 will focus on Erosion and Sedimentation. Erosion and Sedimentation are two issues that the county is always trying to and will always be trying to address, work on, and prevent.

Priority Concern 5 will focus on improving the recreational opportunities in Red Lake County.

Priority Concern 6 will focus on the continuation of ongoing District activities.

PRIORITY CONCERNS

Priority Concern 1

Red Lake County will focus on surface water quality and impaired waters; especially as it relates to human impacts for recreational use and as a downstream domestic use of the water supply.

The Red Lake River is a river located in northwestern Minnesota. The river begins on the western side of the Lower Red Lake and flows westward. After passing through Thief River Falls, Red Lake Falls, and Crookston, the river merges with the Red River of the North in East Grand Forks. The total length of the river is 193 miles. The term "Forks" in Grand Forks comes from this forking (joining) of the Red and Red Lake rivers near downtown Grand Forks.

As a tributary of the Red River, the Red Lake River contributed to the heavy flooding of Greater Grand Forks in 1997. The river also caused damage in its own right, although less severe, in Crookston.

The Red Lake River covers a wide variety of terrain. After leaving the Red Lake, the river flows through a marsh in the Red Lake Indian Reservation. The river then flows through a prairie, then through farmland. After St. Hilaire the sides of the river grow steeper, becoming large eroding cliffs. Parts of the river are thickly forested.

The river is relatively smooth for most of the trip. There is a stretch between St. Hilaire and Crookston where there is a chain of rapids, which are easily navigated.

The Red Lake River is one of the few Minnesota state canoe routes in the area. There are a number of rest areas and camping facilities along the route.

The Red Lake River is a popular source of recreation for area residents, and many enjoy the tubing and canoeing the river makes possible.

Nestled in the rolling hills just North of Red Lake Falls lies Voyageur's View Campground & Outfitters, a vacationer's paradise!

Voyageur's View is a family-owned and operated resort that opened in 1985. Richard and Diane Brumwell successfully transformed what was once a cattle pasture into a thriving summer tourism destination. Voyageur's View is located in beautiful Red Lake Falls, MN along the banks of the majestic Red Lake River.

The name "Voyageur's View" is inspired by the rich French heritage of the community. Hundreds of years ago French-Canadian Voyageurs traveled the raging waters of the Red Lake River in an effort to transport and trade goods. According to local history, a small trading post was once located just a short distance from the site of the resort. In fact, it is a certainty that Voyageurs once viewed the area that is now the camping grounds.

At Voyageur's view, you can enjoy an exciting float trip down the scenic Red Lake River or test your skills on one of Northern Minnesota's finest class II canoe routes. Following your River Rendezvous, relax in one of our scenic campsites. Test your luck fishing for Walleye, Northern Pike, or Channel Catfish in one of our secret fishing holes or hop on our

hiking/biking trail.

The Red Lake River is the domestic water supply source for the City of Thief River Falls and the City of East Grand Forks.

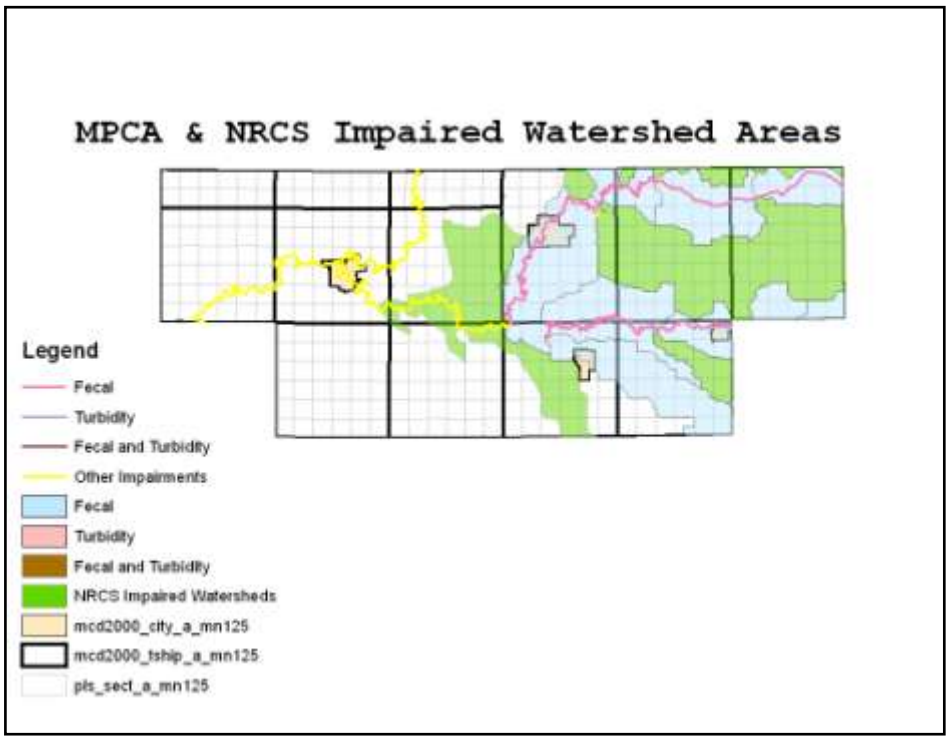
Permittee	Usename	Category	Permit Volume (MG	Permit GPM	Resource Name	County
EAST GRAND FORKS, CITY OF	Municipal Waterworks	Waterworks	700.0	5,600	RED LAKE RIVER	Polk
THIEF RIVER FALLS, CITY OF	Municipal Waterworks	Waterworks	537.0	4,200	RED LAKE RIVER	Pennington

Clearwater River Subwatershed – Water Quality Assessment

The MPCA has identified the Clearwater River as an impaired water body due to high levels of turbidity, TSS, fecal coliforms and low dissolved oxygen during periods of low flow.

Water Quality monitoring has been done by the RLWD at 19 sites associated with streams since 1984 and more recently at four other sites on lakes within the subwatershed. Red Lake County SWCD has done monitoring at 7 sites associated with streams within the subwatershed. The parameters measured include field measurements for dissolved oxygen, pH, temperature, turbidity, and conductivity. Laboratory analysis is performed for fecal coliform, ortho phosphorus, total phosphorus, nitrates and nitrites, ammonia nitrogen, total Kjeldahl nitrogen, TSS, and E. coli. Results are available at the SWCD office as well as at EPA's STORET database.

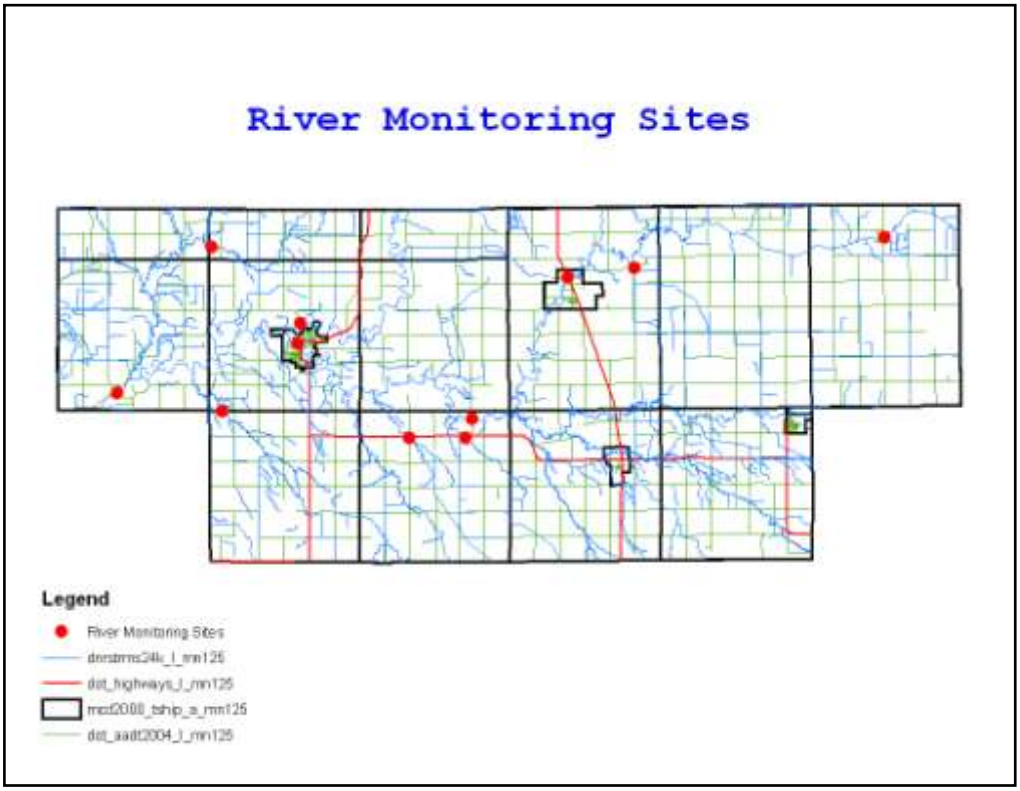
Please refer to the MPCA & NRCS Impaired Watershed Areas map (below) as the high priority areas of concern when identifying impaired waters, either rivers or streams, in the county. The map identifies where the impaired watershed areas are located in the Clearwater River Watershed portion of the county. There has not yet been a map completed that identifies the impaired watershed areas in the Red Lake River Watershed. NRCS designated their own area on the map to identify the areas for their programs that they implement. MPCA identified the watershed area for fecal coliform and dissolved oxygen impairment.



Red Lake River Subwatershed – Water Quality Assessment

There are two impaired reaches as identified by the MPCA in this subwatershed as of 2004. They include: Red Lake River, Burnham Creek to Unnamed Creek (near East Grand Forks) and Red Lake River, Unnamed Creek to Red River. The Red Lake Watershed District Water Quality Project has been ongoing since 1984. The Red Lake County SWCD has been monitoring 4 sites associated with streams within the subwatershed. The parameters measured include field measurements for dissolved oxygen, pH, temperature, turbidity, and conductivity. Laboratory analysis is performed for fecal coliform, ortho phosphorus, total phosphorus, nitrates and nitrites, ammonia nitrogen, total Kjeldahl nitrogen, TSS, and E. coli. Results are available at the SWCD office as well as at EPA's STORET database.

Refer to the map below to see where the River Monitoring sites are located:



1. The following streams have been monitored since 1998. This is an ongoing monitoring project.
   a) Klondike Bridge – 151/44/22 – Clearwater River
   b) Sportsman Bridge – 151/44/15 – Red Lake River
   c) Huot Bridge – 151/45/33 – Red Lake River
   d) Terrebonne Bridge – 150/43/02 – Clearwater River
   e) Plummer Bridge – 151/42/04 – Clearwater River
   f) Roland Bridge – 152/40/33 – Clearwater River

2. The following streams have been monitored since 2008 and will be monitored in 2009 and 2010 (SWAG Grant)
   a) Browns Creek – 150/44/31
   b) Cyr Creek – 151/45/36
   c) Beau Gerlot Creek – 150/43/8

d) Terrebonne Creek – 150/43/11
e) County Ditch 57 – 151/42/1

There are two schools in Red Lake County that participate in the River Watch Program. The two schools are Lafayette High School in Red Lake Falls and Red Lake County Central in Oklee. There river monitoring data can be found on the River Watch website at: http://riverwatch.umn.edu/

Goals and Objectives

1) New and continued monitoring of the river systems located within the county

    a) Support the two schools in the County that participate in the Red River Basin River Watch Program.
        i) Provide technical assistance
        ii) Provide financial assistance when possible

    b) Continue SWCD monitoring program and increase if possible in the following areas Lost River, Hill River, Brooks Creek, Poplar River, Badger Creek, and the Black River, to achieve comprehensive coverage throughout the entire county.
        i) Six river monitoring sites monitored
        ii) Five new surface water assessments sites monitored (SWAG)
        iii) Continue to submit Surface Water Assessment Grant applications to assist with monitoring costs.

2) Coordinate these efforts with others to achieve a watershed wide monitoring and reporting system.

    a) Determine who is currently doing water quality monitoring in the County and its subsequent watersheds
    b) Determine the extent of the monitoring
        i) Participate in regional monitoring discussions to share results and identify any monitoring gaps in locations or strategies.

3) Provide a surface water quality protection and improvement program in Red Lake County.

a) Provide educational opportunities for all citizens in Red Lake County.
    i) Provide educational activities for school students, such as: 5th grade Environmental Education Day, Envirothon, Soil Stewardship – Ministerial Breakfast, Hughes Elementary Outdoor Classroom, River Watch, Contiguous Counties Education Days, the NW MN Water Festival, and sponsor two students to attend Long Lake Conservation Camp.
    ii) Provide educational opportunities for landowners through newsletters, newspaper articles, demonstration tours, and workshops.
b) Provide informational, technical, and financial support to landowners to implement BMP's for the protection and improvement of surface water quality. Priority areas are areas that have been identified by the MPCA & NRCS Impaired Watershed Areas Map for the Clearwater River Watershed. MPCA has identified that the Clearwater River has Dissolved Oxygen, Turbidity, and Fecal Coliform Impairments. Areas along the Red Lake River are also a high priority in the county. MPCA has identified Turbidity and Dissolved Oxygen as the main impairments for the Red Lake River. The types of BMP's that are most likely to be implemented to address the issue include: turbidity - buffer strips, side water inlet structures, grade stabilization structures, and streambank and shoreland protection; fecal – Ag waste systems, manure storage areas, livestock exclusions (fencing), and buffer strips.
    i) Provide information to landowners on Ag BMP assistance programs.
    ii) Pursue landowner cost sharing opportunities / grants for priority areas.
    iii) Provide county residence access to BMP low-interest loan program

4) Work with Federal, State, and local agencies in regards to Impaired Waters status of the rivers in the county.

    a) Support and participate in current and forthcoming efforts of Impaired Water studies.
        i) Provide technical assistance
        ii) Provide financial assistance when possible

    b) Support and participate in current and future Impaired Waters TMDL programs
    c) Continue to pursue grants and loans (for landowners and the county) that will support the county's surface water protection and improvement efforts.

5) The following on-going programs contribute to addressing the surface water quality concerns in the county.

    a) Implement Comprehensive Local Water Management duties for Red Lake County as pursuant to MN Statute 103B.

        i) Implement the River Monitoring Program, Surface Water Assessment Grant Project, Rainfall Monitoring Program,

Observation Well Data Collection, Nitrate Testing Clinic, and the River Watch Program.

b) Assist landowners with compliance of the County's Shoreland Ordinance to protect and enhance water quality

   i) Conduct site visits and assist with permitting where requested
   ii) Provide current and new shoreland owners with information about Red Lake County and the Minnesota Department of Natural Resource requirements regarding shoreland development and maintenance
   iii) Provide current and new shoreland owners with information about shoreland BMPs

c) Assist landowners with compliance of the County's Animal Feedlot and Manure Management Ordinance to protect and enhance water quality. An annual work plan will be prepared for the MPCA that will address the following tasks.
   i) Conduct site visits / site inspections and assist when requested
   ii) Provide current and new feedlot owners with information about Red Lake County and the Minnesota Pollution Control Agency feedlot registration, permitting, regulation and rule requirements.
   iii) Assist producers with the proper permitting requirements
   iv) Provide educational opportunities to producers such as newsletters, newspaper articles, demonstration tours, and workshops.
   v). Provide informational, technical and search for financial assistance for producers.

d) Coordinate activities to ensure the County meets the requirements for administering the Wetland Conservation Act.
   i) Act as the LGU for the County.
   ii) Work with participating federal, state, and local agencies.
   iii) Provide informational and technical assistance to landowners inquiring about requirements and limitations of work in/near a wetland.
   iv) Conduct field investigations and make wetland determinations.
   v) Assist with replacement plans, bank deposits / withdrawals, and other related paperwork.

6) Maintain a growing surface water quality assessment/monitoring program.

a) River Monitoring Program
b) Surface Water Quality Assessment Grant Project
c) Rainfall Monitoring Program
d) Observation Well Program
e) Nitrate Testing Clinic
f) River Watch Program

2008 List of Impaired Waters in the County

River	Reach	Unit ID#	Affected Use	Pollutants/Stressors
Red Lake	Black River – Gentilly River	09020303-502	Aquatic Consumption	Mercury in Fish Tissue
Red Lake	Black River – Gentilly River	09020303-502	Aquatic Life	Turbidity
Red Lake	Unnamed Creek – Clearwater River	09020303-504	Aquatic Consumption	Mercury in Fish Tissue
Red Lake	Unnamed Creek – Clearwater River	09020303-504	Aquatic Life	Turbidity
Red Lake	Clearwater River – Cyr Creek	09020303-510	Aquatic Consumption	Mercury in Fish Tissue
Red Lake	Cyr Creek – Black River	09020303-511	Aquatic Consumption	Mercury in Fish Tissue
Black	Little Black River – Red Lake River	09020303-529	Aquatic Life	Turbidity
Black	Headwaters – Little Black River	09020303-530	Aquatic Life	Oxygen, Dissolved 2, 5
Black	Headwaters – Little Black River	09020303-530	Aquatic Life	Turbidity
Clearwater	Lower Badger Creek – Red Lake River	09020305-501	Aquatic Consumption	Mercury in Fish Tissue
Clearwater	Lower Badger Creek – Red Lake River	09020305-501	Aquatic Life	Turbidity
Lost	Anderson Lake – Red Lake River	09020305-507	Aquatic Recreation	Fecal Coliform
County Ditch 57	Unnamed Ditch – Clearwater River	09020305-508	Aquatic Life	Oxygen, Dissolved 2, 5
Clearwater	Ruffy Brook – Lost River	09020305-510	Aquatic Life	Fecal Coliform
Clearwater	Ruffy Brook – Lost River	09020305-510	Aquatic Consumption	Mercury in Fish Tissue
Clearwater	Ruffy Brook – Lost River	09020305-510	Aquatic Life	Oxygen, Dissolved 2, 5
Clearwater	Ruffy Brook – Lost River	09020305-510	Aquatic Life	Turbidity
Clearwater	Lost River – Beau Gerlot Creek	09020305-511	Aquatic Consumption	Mercury in Fish Tissue
Clearwater	Lost River – Beau Gerlot Creek	09020305-511	Aquatic Life	Turbidity
Clearwater	Beau Gerlot Creek – Lower Badger Creek	09020305-519	Aquatic Consumption	Mercury in Fish Tissue

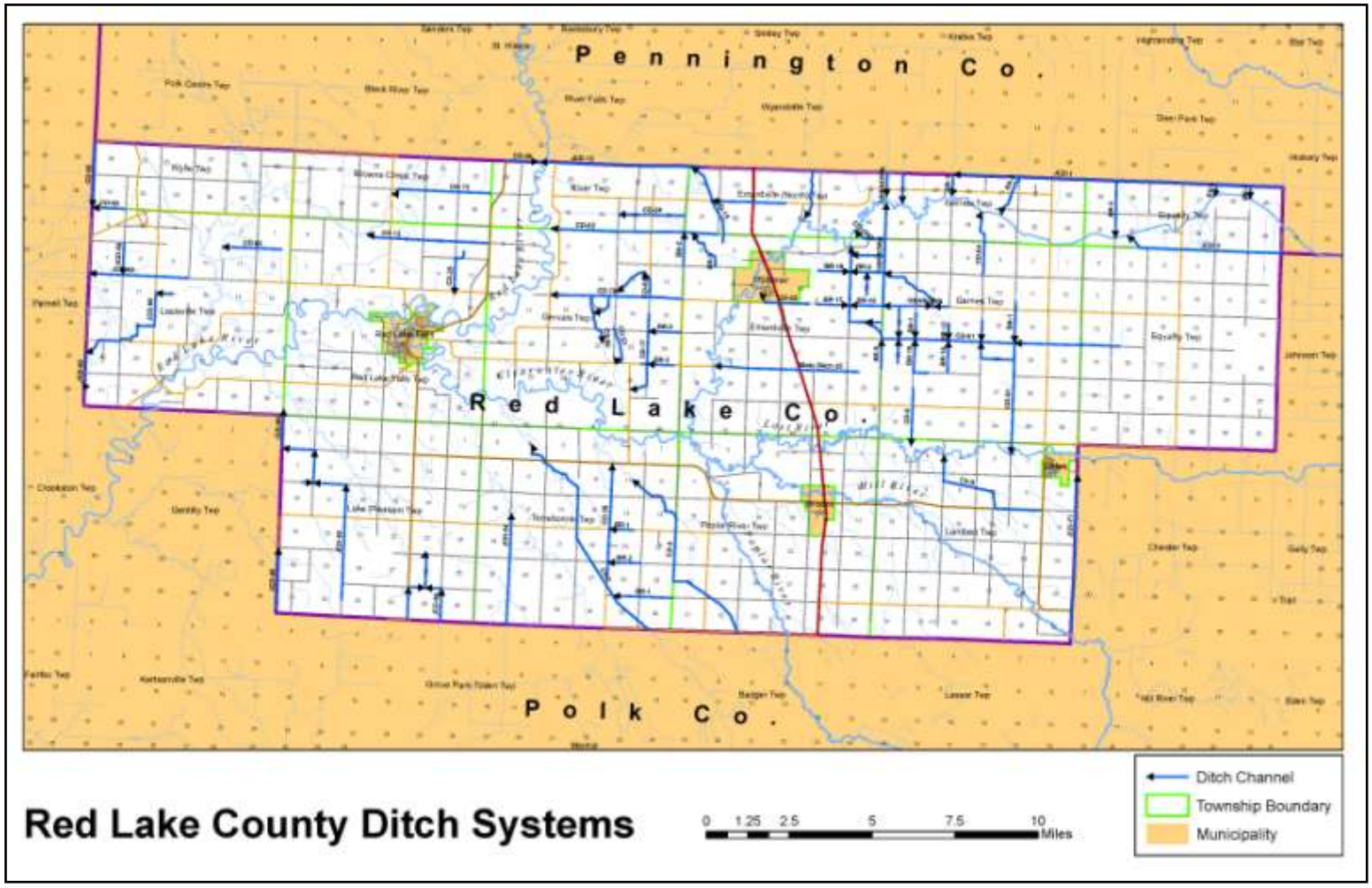
Priority Concern 2

Red Lake County will focus on the quantity of water passing through Red Lake by inventorying, assessing, and evaluating the drainage infrastructure of the County.

There are approximately 291 miles of public drainage systems that exist in Red Lake County. There are two drainage authorities in the county; Kurt Casavan, Environmental Services, is the Ditch Authority for the county and the Red Lake Watershed District has ditch authority over the judicial ditch systems in the county. Of these systems, the Red Lake Watershed District is the drainage authority of 116 miles and Red Lake County is the drainage authority of 175 miles.

Due to the fluvial geomorphologic characteristics of the Red River Basin, Red Lake County is prone to flooding on a frequent basis. Some factors such as topography and increased precipitation are uncontrollable, but other factors such as floodplain encroachment, channalization of streams, insufficient private drainage into public systems, drainage maintenance of existing drainage systems, and inadequate culvert sizing are factors that can be managed.

Water quality whether excess or lack of, has an impact on the natural resources and economy of Red Lake County and its subsequent watersheds. An inventory and evaluation of the drainage infrastructure of the County could be used to better manage the water resource of Red Lake County and the watersheds to which it belongs.



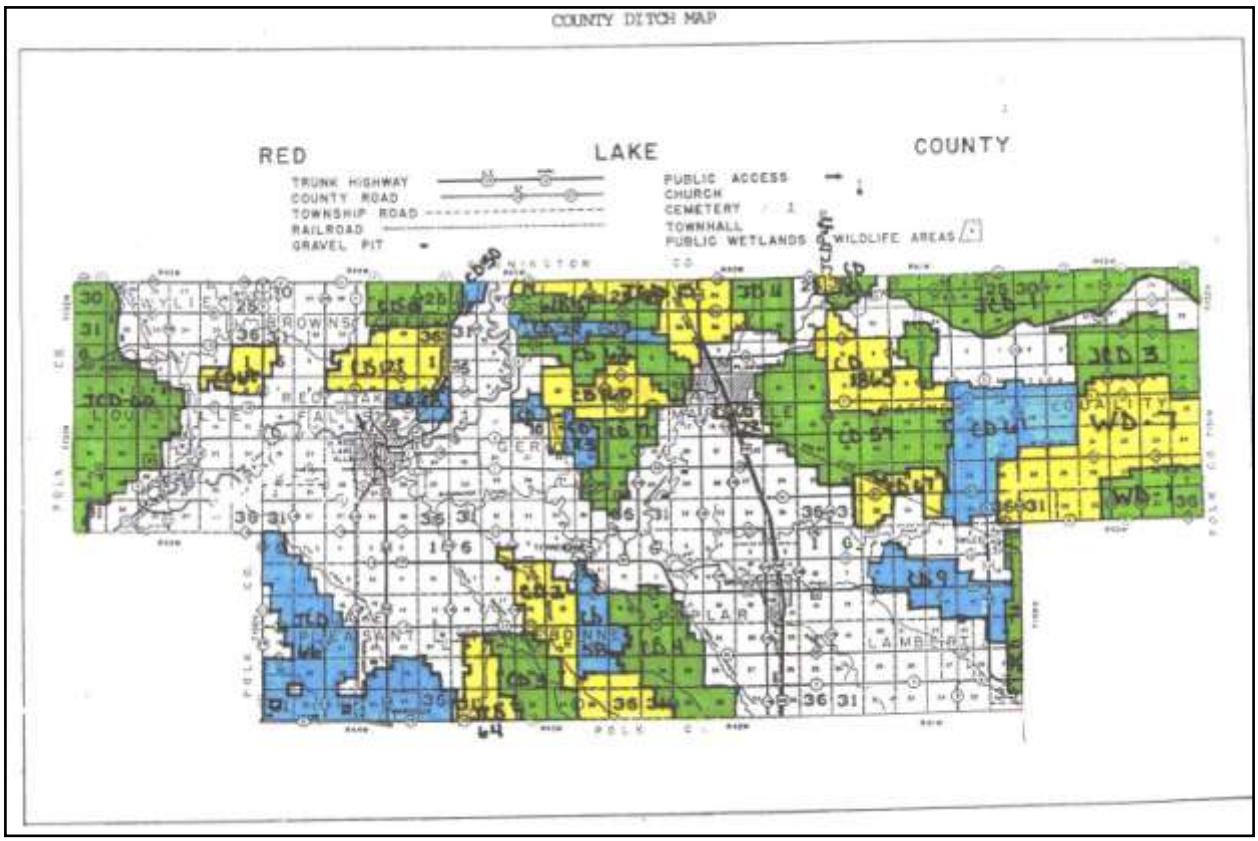
Clearwater River & Red Lake River Subwatersheds – Water Quantity Assessment

Due to terrain, ice jams, draining of wetlands for cropland and/or under-designed structures, the Clearwater River & Red Lake River subwatersheds, experience frequent flooding. Spring flooding is almost an annual occurrence in the subwatersheds. Damages associated with this type of flood are to public infrastructure, personal property, cropland and public resources (fisheries, wildlife, soils and water quality).

Goals and Objectives

To effectively address the water quantity issues within the County, there will be the need for the drainage authorities to coordinate and cooperate with each other to initiate the following objectives. Below is a map of the watershed area that drains into the Red Lake County and the Red Lake Watershed District ditch systems.

Map: Watershed Areas draining to ditch system.



1) Ensure that county, township, watershed, and private ditch systems adequately address the drainage needed to support agricultural activities without negatively impacting water quality and other natural resources, as well as economic impacts to the infrastructure of Red Lake County.

    a) Modernize the drainage records of the county according to the BWSR guidelines
    b) Conduct a culvert inventory within the county to assess drainage flow and watershed size as well as identify land prone to flooding and erosion, so that these areas can be prioritized within each sub-watershed.
    c) Drainage flow assessment to determine directional flow of water overland; which will assist in flood prevention.
    d) Develop a map of flood damage areas in the county

2) Ensure the application of proper drainage related BMPs such as stable ditch design, buffers, and side water inlet structures.

    a) Promote the maintenance of a one rod width buffer on all County maintained ditches
        i) Assess and modify, if needed, Red Lake County ditch rules and ordinances
        ii) Assess and modify, if needed, Red Lake County ditch and culvert permitting process
        iii) Pursue support and required implementation of drainage related BMPs by the Red Lake Watershed District and Red Lake County in its ditch maintenance and permitting program.

3) The County will partner with federal, state, and local agencies who are working on flood damage reduction projects.
    a) Be an active participant on the Red Lake Watershed District Flood Damage Reduction project team.

Priority Concern 3

Red Lake County will focus on Groundwater Quality because of all the public and private wells.

Clearwater River Subwatershed – Groundwater Assessment

The subwatershed is located in parts of the Lake-Washed Till Plain and Moraine physiographic area of the Red Lake Watershed District. The surficial geology of the area consists of mainly glacial till. The glacial till deposits consist of sandy, clay-silt loam containing fine to medium gravel with a scattering of boulders.

Glacial sediment aquifers provide moderate amounts of groundwater. The areal extent of the aquifer is fairly large, and water quality is adequate for municipal, industrial, domestic, and irrigation use. Hardness is generally greater than 180 mg/l and iron content may be high.

Information regarding the individual city wells, water quality analysis results and the aquifers that serve as the water supply can be obtained from the individual cities and the Minnesota Geological Survey.

Red Lake River Subwatershed – Groundwater Assessment

The subwatershed is located in the Moraine physiographic area of the Red Lake River Watershed. The surficial geology of the area consists of mainly glacial tills in the southern region of the entire watershed. The glacial till deposits consist of sandy, clay-silt loam containing fine to medium gravel with a scattering of boulders.

Glacial sediment aquifers provide moderate amounts of groundwater. The areal extent of the aquifer is fairly large, and water quality is adequate for municipal, industrial, domestic, and irrigation use. Hardness is generally greater than 180 mg/l and iron content may be high.

Information regarding the individual city wells, water quality analysis results and the aquifers that serve as the water supply can be obtained from the individual cities and the Minnesota Geological Survey.

Red Lake County SWCD monitors three DNR Observation Wells. Groundwater data can be obtained from the following website: http://climate.umn.edu/ground%5Fwater%5Flevel/

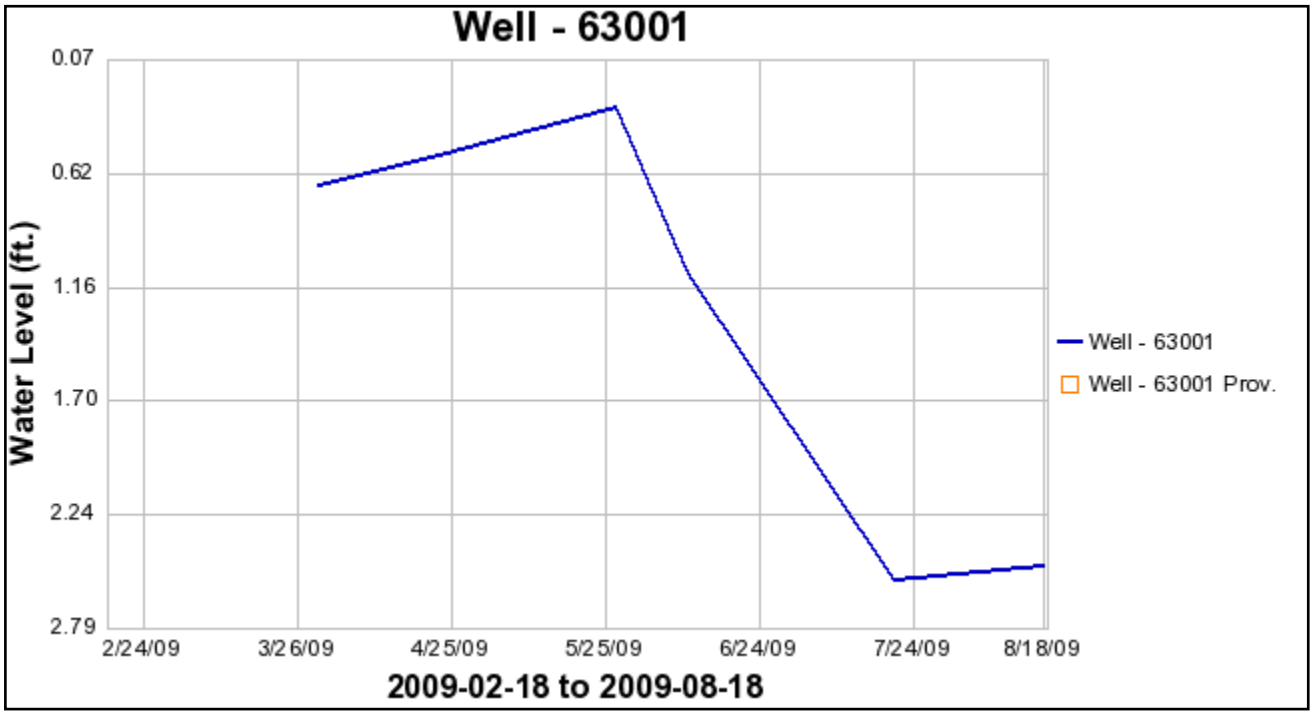
Goals and Objectives

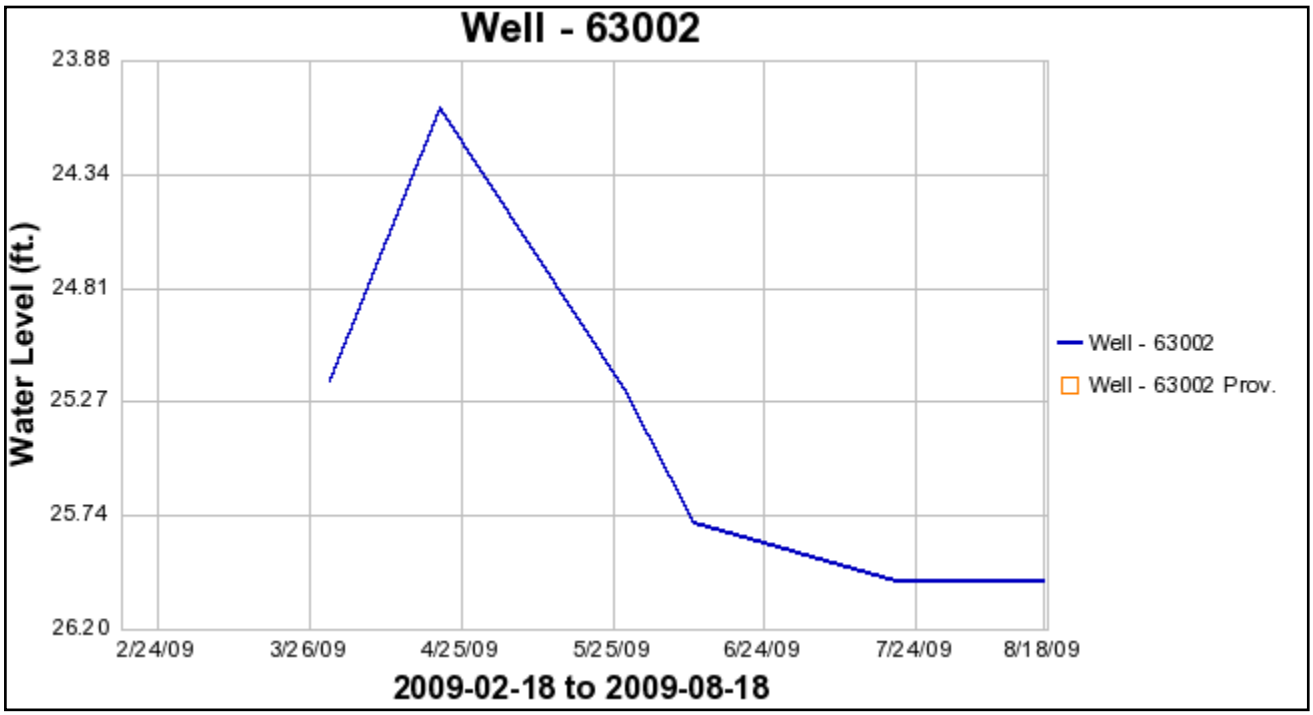
1) Continue to monitor the three DNR Observation Wells.
    a) Continue to update website monthly with new groundwater levels

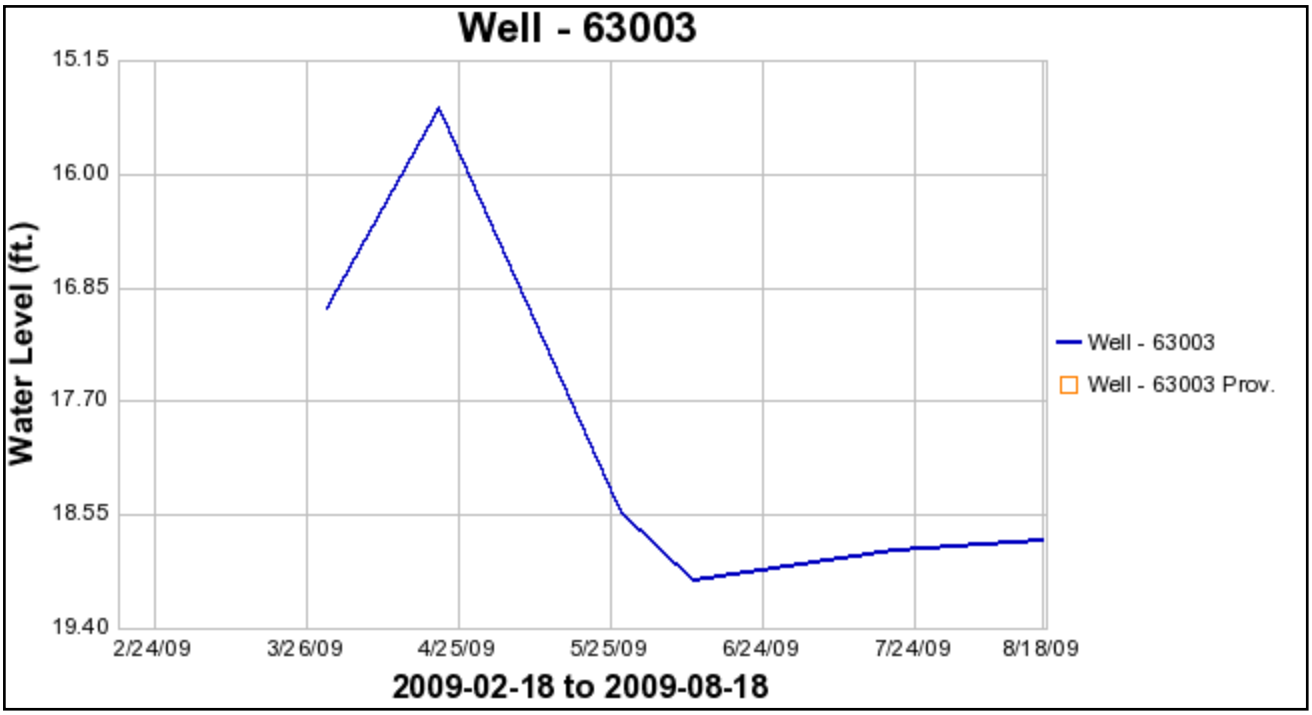
DNR Well #	Well Name	Location
63001	USGS NW MN Study # 11	T150 R44 S23 ABBB
63002	USGS NW MN Study # 12	T150 R44 S23 DCDD
63003	USGS NW MN Study # 16	T150 R44 S34 DDDD

2009 Results:

The maps below illustrate a measurement, which is taken from the top of the well casing and measuring down each month to determine groundwater levels.

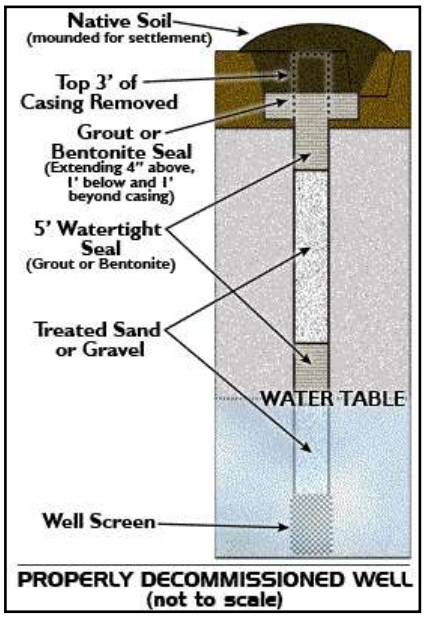






2) The City of Red Lake Falls and the City of Oklee have completed their Wellhead Protection Plans. Red Lake County SWCD needs to provide assistance to the City of Plummer and the MN Wheat Growers in completing their Wellhead Protection Plan. The District will provide technical assistance with the implementation of the Wellhead Protection Plans in the county.

3) Continue to promote and provide cost-share assistance for the Abandoned Well Sealing Program.



4) Provide assistance to landowners who are interested in having their well water tested by providing them with RMB Laboratories sample bottle for water quality analysis of their drinking water.

Priority Concern 4

Red Lake County will continue to focus on trying to address, work on, and prevent Erosion and Sedimentation.

Due to the location of Red Lake County in the Red Lake and Clearwater watershed (middle reaches of the Red Lake River Watershed and the lower reaches of the Clearwater River Watershed), Red Lake County will need to coordinate it's efforts with the other counties in the watersheds and the Red Lake Watershed District to affectively address the erosion concerns resulting in these systems.

Clearwater River Subwatershed – Surface Water Assessment

This subwatershed is also comprised of five smaller subwatersheds which outlet into the Clearwater River. These five subwatersheds include the Beau Gerlot Creek, Badger Creek, Hill River, Lost River and Poplar River subwatersheds. The Clearwater River subwatershed is bordered along its north side by the Upper Red Lake River subwatershed. All of the drainage from within the smaller subwatersheds ends up in the Clearwater River. All of the water comes together in the Clearwater River and outlets at the confluence with the Red Lake River in Red Lake Falls.

Wetlands are scattered throughout the Clearwater River subwatershed. Many of the wetlands have been altered by farm drainage, and many wetlands have been drained for the purposes of agricultural production.

Erosion due to storm runoff is a serious problem in the subwatershed. During periods of high runoff, channel erosion causes bank stabilization concerns for this subwatershed. The severity depends on the land cover, duration and volume of water. Erosion is often worse in the spring due to the lack of vegetative cover on the fields. Additionally, wind erosion is of concern in this area; however, it s dependent on conditions.

Red Lake River Subwatershed – Surface Water Assessment

The Red Lakes subwatershed is the uppermost reach of the Red Lake Watershed District. All of the drainage from within the smaller subwatersheds ends up in the Red Lakes and eventually outlets into the Red Lake River at the Red Lake Dam.

Drainage systems in this subwatershed are a complex network of natural streams with a few legal ditch systems. Generally, the ditch systems are under the administration of the county.

Erosion due to storm runoff is a serious problem in the subwatershed. During periods of high runoff, channel erosion causes bank stabilization concerns for this subwatershed. The severity depends on the land cover, duration and volume of water. Erosion is often worse in the spring due to the lack of vegetative cover on the fields. Additionally, wind erosion is of concern in this area; however, it s dependent on conditions.

Please refer back to the MPCA & NRCS Impaired Watershed Area map for priority areas of concern.

Goals and Objectives

1) Focus land application of BMPs in target areas

    a) Identify and prioritize both water and wind erosion sites in the county.
        i) Project types include grade stabilization structures, diversions, side water inlet structures, grassed waterways, streambank, shoreland, and roadside protection, critical area seeding, water and sediment control basins, and livestock waste management.
        ii) Identify land retirement areas in the county. Alternate Use/Land Retirement Program (RIM, CRP,WRP, CCRP, WHIP, EQIP, etc.)

2) Streambank Protection and Stabilization
    a) Identify and prioritize streambank erosion sites in the county; to identify target areas.
    b) Inventory and mapping.
    c) Provide technical assistance to landowners
    d) Provide and search for financial assistance

3) Promote and educate the citizens of Red Lake County about Best Management Practices and the wise-use of our natural resources, especially as it pertains to wind and water erosion.
    a) Provide technical and financial support to landowners to implement BMPs
        i) Enrollment into Federal Conservation Programs
        ii) Cost-Share Program
        iii) BMP Low Interest Loan Program
        iv) Establish new federal, state, and locally funded programs/projects
    b) Continue to work with Red River Valley Conservation Service Area 1.

    c) Promote the Ag BP Loan Program to landowners/producers in the county. Project categories include: Ag Waste Management, Structural Erosion Control, Conservation Tillage Equipment, SSTS and Odor Control – Air Quality.

Priority Concern 5

Red Lake County will focus on improving the recreational opportunities.

Red Lake County has several recreation opportunities throughout the county. The enormous opportunities for water related recreation these resources provide, such as aesthetic enjoyment, swimming, fishing, tubing and canoeing depend, to a great extent, on good water quality

Below is a website that identifies the recreational activities provided in the Red Lake Falls area. For more information: http://www.redlakefalls.com/recreation.htm

Goals and Objectives

1) Partner with other groups to highlight existing opportunities. For example, work cooperatively with cities and counties to implement the "Red Lake River Corridor Enhancement Project".
    a) Representation on the committee.
    c) Provide technical assistance.
    d) Provide financial assistance when possible

2) Work with Pembina Trails RC&D on community development activities and/or programs.

3) Promote tourism in Red Lake County.
    a) Wildlife viewing/birding watching, hunting, fishing, trails, canoeing, tubing, etc.

Priority Concern 6

Red Lake County will focus on Ongoing District Activities.

Goals and Objectives

1) Red River Valley Conservation Service Area 1 – Ag BMP Program

The Red Lake County SWCD is part of the RRV Conservation Service Area 1 JPB with 17 other counties in Northwest Minnesota SWCDs that offer low interest loans to producers/landowners for specific project categories such as: Ag Waste Management, Structural Erosion Control, Conservation Tillage Equipment, SSTS – Sewage Systems, Wells – other, and Odor Control – Air Quality projects.

a) Contact local lending institutions on loan categories.
b) Assist landowners with program opportunities/guidance, signups, and technical assistance.

2. District Tree Program
The District has trees available to landowners in the County for conservation purposes.

a) Assist landowners with plan recommendations of species, spacing, location, and maintenance.
b) Tree planting service is available.

3. Implement Reinvest in Minnesota (RIM).
RIM is a conservation easement through the State of Minnesota administered through BWSR.

a) Promote activities should funding become available.

4. Information and Education Activities.
To properly implement many of the District Programs – information and education is the key component that helps promote the programs. Kindergarten through 12th grade environmental education projects and activities are just as important.

a) Conservation and education days: 5th grade Environmental Education Day, Envirothon, Soil Stewardship – Ministerial Breakfast, Hughes Elementary Outdoor Classroom, River Watch, Contiguous Counties Education Days, and the NW MN Water Festival.
b) Tours/demonstrations.
c) Sponsor two students to attend Long Lake Conservation Camp.
d) Newspaper articles and the District Newsletter.

5. BWSR Buffer Program
The Buffer Provides grants for cost-sharing contracts to establish and maintain vegetation buffers of restored native prairie and restored prairie, using seeds of local ecotype region within the BWSR State Cost-Share Program. Priority areas will be natural environmental lakes or waters listed on the DNR protected wetland inventory maps.

a) Make available information on the buffer program rules and requirements.
b) Conduct an outreach effort in areas such as rivers, lakes, streams, and wetlands.

6. Cooperative Weed Management Grant
The removal of invasive plant species from natural lands through an integrated pest management approach and the restoration/reconstruction of native communities through an ecosystem approach focus on planting of local ecotype seed. Red Lake

County currently has a Cooperative Weed Management Program. There is a Cooperative Weed Management Team that sets goals for the program. Funding will be used to develop a strategic plan; implement an outreach program; combine existing mapped weed data into one database; conduct educational workshops (if needed); and provide cost-share to landowners for chemical/mechanical removal of invasive species.

a) The District will work with FSA, NRCS, the county weed inspector, township officials, and landowners on mapping (identifying) noxious weed sites throughout Red Lake County. Priority areas will be pastureland, woodland, township roads, and gravel pit areas.
b) Enter treatments sites into the database file. Include location, noxious weed sprayed and chemical used.

7. Potential New Priorities

Should Constitutional Amendment and other funding sources become available, the District will attempt to secure funding to implement the all ongoing and potentially new projects and activities. Also, below is a potential project that would help accomplish the area priority concerns of the Comprehensive Local Water Management Plan.

a) Conduct a survey to identify landowner interest, acreage available, location, payment rates, and easement lengths. A local work group would prioritize sites. This work group would consist of MDNR, SWCD, NRCS, FSA, Watershed, County Commissioners, SWCD Board of Supervisors, and landowners.

Red Lake County will review the 2010-2020 Comprehensive Local Water Management Plan in 2015. During this review process, the County will be allowed to make amendments to the plan to bring it up to date.

REFERENCE DOCUMENTS AND WEBSITE LOCATIONS

- The Red Lake County SWCD Annual Plan of Operations
- The Red Lake Watershed District 10-Year Overall Plan
  http://www.redlakewatershed.org/planupdate/Final%20Draft/RLWD%2010-yr%20Plan-Atts_5.19.06_mk.pdf
- Both Pennington and Polk County Comprehensive Local Water Management Plans
  http://www.nwmnswcd.org
- MPCA Red River Basin Water Quality Plan – 1999
  http://www.pca.state.mn.us/water/basins/redriver/wqplan/index.html
- NRCS Website – Watershed Overview
  http://www.mn.nrcs.usda.gov/technical/rwa/Assessments/09020303.html - Red Lake River Watershed
  http://www.mn.nrcs.usda.gov/technical/rwa/Assessments/09020305.html - Clearwater River Watershed

FUNDING OPPORTUNITIES

Funding opportunities may come from a variety of resources: mainly federal, state, and local agencies and organizations. Some of the more available funding opportunities that already exist include, but are not limited to, funding through:

BWSR – State Conservation Cost-Share Program Grant, State Conservation Special Project Cost-Share Program, Cooperative Weed Management Grant, Native Buffer Cost-Share Grant, Natural Resources Block Grant, Clean Water Legacy Act Funding, General Services Grant, Feedlot Water Quality Management Grant, Local Water Management Challenge Grant, and RIM Service Grant.

MPCA – Clean Water Legacy Act Funding, such as Surface Water Assessment Grant, Clean Water Partnership Grant, 319 Grant, and MPCA Environmental Assistance Grants and Loans Programs.

DNR – Well Observation Monitoring, Shoreland Program, and Clean Water Legacy Act Funding.

RLWD - $12,500.00 annually to assist with cost-sharing to landowners or county projects.

Red Lake County – a yearly county allocation which is currently in the amount of $43,701.00.

IMPLEMENTATION SCHEDULE
PRIORITY CONCERNS

Drought Disaster - Watering System and Heavy Use Protection Area

Fencing through EQIP

Residue Management – EQIP

Tree Planting

IMPLEMENTATION SCHEDULE
ONGOING ACTIVITIES

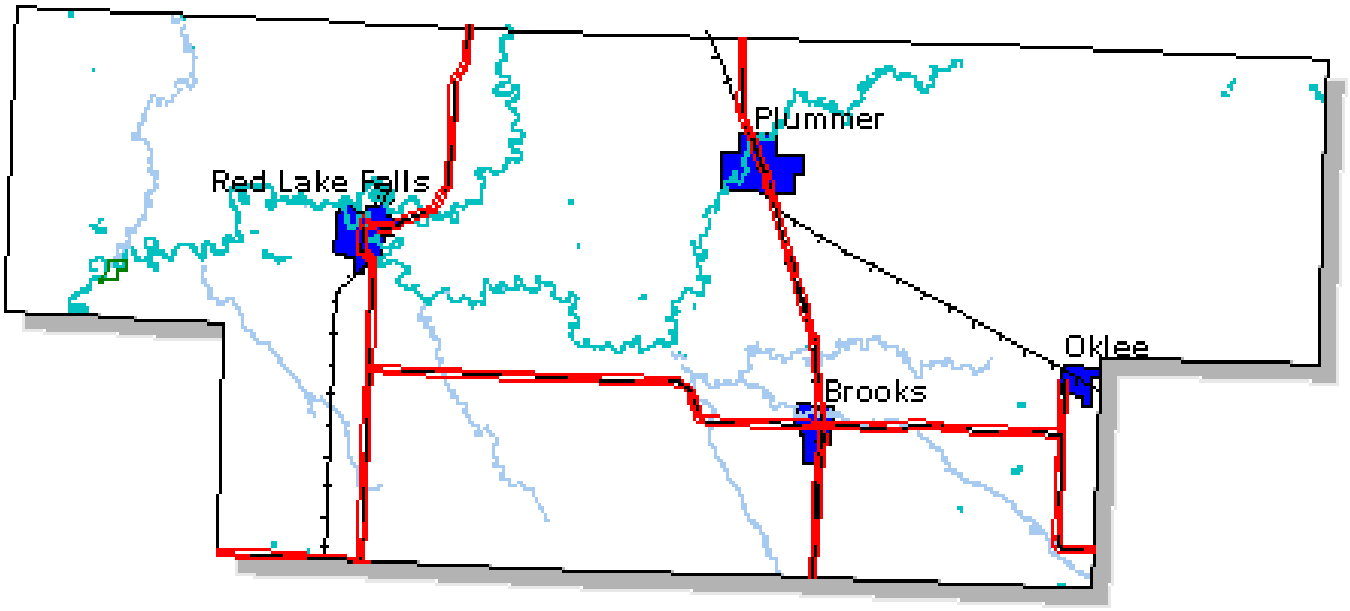
NW MN Water Festival

Lafayette H.S. – River Watch

David Miller's Feedlot

Abandoned Well Sealing

Red Lake County's
Priority Concerns Scoping Document



A precursor to the Red Lake County Comprehensive Local Water Management Plan.

The priority concerns scoping document of the Red Lake County Comprehensive Local Water Management Plan was developed in accordance with the changes to the Comprehensive Local Water Management Act; Statutes 103B.304 – 103B.355. The scoping document lists the priority concerns the Red Lake County Water Management Advisory Committee has chosen, along with a detailed account of how the concerns were identified and selected.

Tanya Hanson, Local Water Management Coordinator
Red Lake County Soil & Water Conservation District

INTRODUCTION

Red Lake County is positioned in the northwestern corner of Minnesota. Red Lake County is 432 square miles, with 13 townships and 4 cities. The County seat is Red Lake Falls. The current population is 4,317 (2005 census).

Red Lake County Demographic Information

The 2005 census for Red Lake County was 4,317.

County	***1970***	***1980***	***1990***	***1995***	***2000***
Red Lake	5,388	5,417	4,525	4,481	4,299
City	***1970***	***1980***	***1990***	***1995***	***2000***
Brooks	163	173	136	153	141
Oklee	536	536	450	428	396
Plummer	285	353	290	279	270
Red Lake Falls	1,740	1,732	1,481	1,486	1,590

The four cities located within Red Lake County include: Red Lake Falls, Plummer, Oklee, and Brooks.

The thirteen townships located within Red Lake County include: Wylie, Browns Creek, River, Louisville, Red Lake Falls, Gervais, Emardville, Garnes, Equality, Lake Pleasant, Terrebonne, Poplar River, and Lambert.

Plan Information

On behalf of the 17 counties in Northwestern Minnesota, the Red Lake Watershed District submitted a grant proposal to LCMR in 1986. Funding for the grant proposal was approved by the Minnesota legislature in the spring of 1987, with authorization to begin the project July 1, 1987. The Northwest Minnesota CLWP project began with the establishment of a Joint Powers Board (JPB) on October 26, 1987. The object of the JPB was to allow participating counties to work together simultaneously to develop individual CLWP, but to reduce duplication of efforts while producing plans that were specific to each county.

The Northwest Minnesota JPB consisted of the following 15 counties:
Becker, Clay, Grant, Kittson, Mahnomen, Marshall, Norman, Otter Tail, Pennington, Red Lake, Polk, Roseau, Stevens, Traverse, and Wilken.

Two of the original 17 applicants chose to join the Upper Mississippi Headwaters project instead of the NW MN JPB.

The JPB hired the International Coalition for Land and Water Stewardship in the Red River Basin to be the project manager for comprehensive water planning in the 15-county Northwest Minnesota planning area. Through this process, the original Red Lake County Comprehensive Local Water Plan was developed, written, and approved.

Red Lake County initiated Water Planning in 1988 with the formation of the Red Lake County Water Plan Task Force. This committee was established to ensure that the planning process maintained a local focus and to provide the local knowledge base of county resources, problems, and procedures. It established the issues, goals, objectives, action plans and implementation strategies, and was the principle architect of the Red Lake County CLWP.

Red Lake County CLWP was finalized and implementation activities began in 1990. The Red Lake County Water Plan Task Force continued its work as an advisory board and changed its name to the Red Lake County Water Resources Advisory Committee (WRAC).

The Water Resources Advisory Committee continued throughout the 2nd Water Plan revision process up until 1999. In 1999, the Water Resources Advisory Committee was terminated because of lack of participation and input. The Red Lake County Board of Commissioners, as well as, the Red Lake County Soil & Water Conservation District Board of Supervisors, became the Water Plan Task Force. The board is still the Water Plan Task Force today.

The expiration date of Red Lake County's third version of the Comprehensive Local Water Management Plan is February 26, 2008.

Major Watersheds in Red Lake County

Two major watershed areas drain the entire county. The Red Lake River and the Clearwater River (a tributary of the Red Lake River) drain towards the south and west into the Red River of the North. All water eventually drains westward to the Red River of the North and then northward.

RED LAKE RIVER WATERSHED:

The Red Lake River originates at the dam at the outlet of Lower Red Lake and flows in a westerly direction approximately 196 river miles to its confluence with the Red River of the North at East Grand Forks. There are two main tributaries to the Red Lake River. One is Thief River, which drains the northern part of the district and joins the Red Lake River in Thief River Falls.

CLEARWATER RIVER WATERSHED:

The second tributary is the Clearwater River, which drains the area south of the Red Lake River, which encompasses the eastern half of Red Lake County. There are about 1,347 square miles in this entire watershed. The Clearwater River empties into the Red Lake River at Red Lake Falls. The Lost, Hill, and Poplar Rivers are minor tributaries to the Clearwater River.

The Red Lake Watershed District has jurisdiction within these watersheds.

For more information about these two watershed district please refer to the Red Lake Watershed Districts website: http://www.redlakewatershed.org/

Landuse Statistics:

Below is a chart showing the land use statistics for the county.

LAND USE STATISTICS		
RED LAKE COUNTY	**PERCENT**	**ACRES**
FORESTED	10%	28,000
CULTIVATED	77%	215,523
WATER	< 1%	1,945
MARSH	2%	4,393
URBAN RESIDENTIAL	< 1%	532
EXTRACTIVE	< 1%	535
PASTURE & OPEN	5%	13,252
NON / MIX RESIDENTIAL	< 1%	1,001
TRANSPORTATION	3%	8,173
FARMSTEAD / FEEDLOT	2%	5,020
TOTAL:	**100%**	**278,374**
RED LAKE WATERSHED	**PERCENT**	**ACRES**
FORESTED	10%	10,282
CULTIVATED	77%	77,183
WATER	1%	960
MARSH	1%	943
URBAN RESIDENTIAL	< 1%	169
EXTRACTIVE	< 1%	498
PASTURE & OPEN	5%	5,243
NON / MIX RESIDENTIAL	< 1%	283
TRANSPORTATION	3%	2,922
FARMSTEAD / FEEDLOT	2%	1,815
Total:	**100%**	**100,298**
CLEARWATER WATERSHED	**PERCENT**	**ACRES**
FORESTED	10%	17,718
CULTIVATED	78%	138,340
WATER	< 1%	985
MARSH	2%	3,450
URBAN RESIDENTIAL	< 1%	363
EXTRACTIVE	< 1%	37
PASTURE & OPEN	4.5%	8,009
NON / MIX RESIDENTIAL	< 1%	718
TRANSPORTATION	3%	5,251
FARMSTEAD / FEEDLOT	2%	3,205
Total:	**100%**	**178,076**

LIST OF PRIORITY CONCERNS

The Red Lake County CLWMP will address the following priority concerns:

Surface Water Quality & Impaired Waters - TMDLs

Water Quality is important to Red Lake County because of our recreational opportunities, along with the downstream domestic use of the water supply.

High priority areas and activities:

- a. Rivers and streams – identifying impaired waters
- b. Non-impaired waters – water quality protection
- c. Feedlots – agricultural waste management
- d. Source water supply – Cities of Crookston & EGF
- e. Recreational uses / Tourism Opportunities
  - i. Tubing
  - ii. Red River Corridor Enhancement Group
    - a. additional river accesses
    - b. canoe routes
    - c. portages
    - d. signage
    - e. city park improvements
  - iii. Fishing and Hunting
    - a. Beach Ridge – prairie chickens, sharp tail grouse, Hungarian partridge
    - b. Woodland – deer, moose, ruffed grouse, coyotes, and smaller wildlife
  - iv. Promotion of Tourism

Surface Water Quantity

Flooding causes loss of income to farmers which greatly impacts local economy, washes out roads and bridges, and contributes to sediment deposits in the rivers and streams.

High priority areas and activities:

- a. Flooding
  - i. Agricultural – ditch and outlet maintenance
  - ii. Overland – ditch improvements
- b. Drainage
  - i. Inadequate ditches – ditch and outlet maintenance
  - ii. Aging public ditch systems – abandonment or maintenance
  - iii. Subsurface drainage – impacts to water quality
    - a. TSS, TP, and high N
    - b. Less Tillage, Reduce Runoff, Increase Infiltration
- c. Drought
  - i. Bank Sloughing
  - ii. Water Management and Supply
- d. Beaver Control
  - i. Plugging ditches, culverts, and waterways

Groundwater Quality

Groundwater quality is important to Red Lake County because of all the public and private wells that are located throughout the county.

High priority areas and activities:

- a. Observation Wells – Three DNR Wells
- b. Wellhead Protection Plan
  - i. Red Lake Falls and Oklee – completed
  - ii. Plummer and MN Wheat Growers - needed

Erosion and Sedimentation

Erosion and Sedimentation are two issues that the County is always trying to and will always be trying to address, work on, and prevent.

High priority areas and activities:

- a. Map eroded areas – prioritize erosion control projects
- b. Tributary bank instability at outlets into river
- c. Shoreland degradation
  - i. Shoreland Ordinance
- d. Ditches that outlet into rivers and streams
  - i. filling streams and rivers with sediments
    - a. establishment of buffers
- e. Channelized portion of Clearwater River
- f. Ditch Bank Sloughing and Stabilization
- g. Sediment from Wild Rice Production
  - i. install drain tile
  - ii. install outlet structures
  - iii. install sedimentation ponds
- h. Wind Erosion
  - i. highly erodible fields
    - a. residue management
    - b. conservation tillage
    - c. field windbreaks

Unique Water / Land Related Resources

Red Lake County has several unique areas of interest.

High priority areas and activities:

- a. Prairie Remnants
- b. Old Treaty Crossing at Huot Park

PRIORITY CONCERNS IDENTIFICATION

The Red Lake County Local Water Management planning process of addressing priority concerns has included the following steps:

May 8, 2007: The Red Lake County Board of Commissioners signed a resolution to update the plan.

May 8, 2007: Notice of decision to update the plan, along with Priority Concerns Input form and a request for relevant plans was sent to local units of government: cities and townships; watershed district; environmental services; contiguous counties; and SWCD TSA 1.

May 8, 2007: Notice of decision to update the plan, along with Priority Concerns Input form and a request for relevant plans was sent to BWSR, DNR, MPCA, MDA, MDH, and the EQB.

May 8, 2007: Citizen Input Survey was distributed for publication to:

Red Lake Falls Gazette newspaper
Oklee Herald newspaper

June 1, 2007: Citizen Input Survey

There was only one returned survey that was received:

Brown's Creek Township Participant:

Top three concerns:
Erosion, Flooding, and Ditching

Resource most threatened:
Streams/Rivers

June 12, 2007: Red Lake County Local Water Management Advisory Committee meeting held in the conference room at the MN Wheat Growers. The committee reviewed the update process and developed a process to solicit public input. We did all we could do with the above mentioned efforts to try and obtain public input.

Participants:

Brian Dwight	BWSR, Board Conservationist
Ronald Weiss	County Commissioner
Velma Oakland	County Commissioner
David Bachand	SWCD Supervisor
David Miller	SWCD Supervisor
Les Hofstad	SWCD Supervisor
Mark LaCrosse	SWCD Supervisor
Orville Knott	SWCD Supervisor / Watershed Manager
Tanya Hanson	SWCD, District Manager
Wayne Weber	SWCD, District Engineer
Luther Newton	NRCS, District Conservationist

June 30, 2007: Priority Concerns Input Form Deadline

Concerns submitted by local units of government:

SWCD: Rachelle Winter & Bryan Malone, Pennington SWCD

1. Maintaining the Red Lake River as a tourist destination.
2. Maintain bluffs and prevent further development on or near bluffs.

Concerns submitted by state review agencies:

BWSR: Brian Dwight, Board Conservationist, Bemidji

1. Surface Water Quality
2. Maintain & Improve drainage practices of Ag. Land that reduce erosion and sediment delivery to the natural and created drainage systems
3. Improve the recreational opportunities on the Red Lake River

MDH: Beth Kluthe, Source Water Protection Unit, Bemidji

1. Protect ground water-based drinking water sources
2. Sealing unused, unsealed wells
3. Develop a local groundwater quality database

DNR: Michael Carroll, Regional Director, Bemidji

1. Flooding & Erosion Control
2. Groundwater Resource Protection

MPCA: Lisa Thorvig, Director of Municipal Division, St. Paul

1. Impaired Waters / TMDLs
2. Stormwater Issues, especially in and around the city of Red Lake Falls.
3. Feedlot Compliance – finding / fixing feedlot and land application runoff problems.

MDA: John Hines and Becky Balk, St. Paul

1. Manure Management and ISTS
2. Conservation Tillage and Drainage
3. Agricultural Chemical Use and potential impacts to unconfined shallow groundwater

November 13, 2007: Notice of CLWMP Public Meeting distributed for publication to:

Red Lake Falls Gazette newspaper
Oklee Herald newspaper

December 10, 2007: CLWMP Public Meeting was held at 8:00 a.m. in the conference room at the MN Wheat Growers. The regular SWCD Board meeting followed.
Participants:

PRIORITY CONCERNS SELECTION

The following priority concerns were selected by the LWM Advisory Committee, after examining the list of concerns submitted by citizens, local unit of governments, and state agencies, and will be the foundation of the Red Lake County CLWMP. Justification for the selected concerns is as follows:

Surface Water Quality & Impaired Waters – TMDLS

Portions of the Clearwater River (Dissolved Oxygen and Turbidity), County Ditch 57 (Dissolved Oxygen), Black River (Turbidity), Lost River (Fecal Coli form Bacteria), and Cyr Creek (Turbidity) are on the 2008 Impaired Waters List for MPCA. Surface Water Quality Protection needs to occur in the areas where TMDLs have not been identified.

Agricultural Waste Management Education needs to be promoted to inform producers on how to protect sensitive areas.

Surface water quality is a huge concern not only for the City of Crookston and the City of East Grand Forks who use the Red Lake River as a water supply source but also to Red Lake County who has many recreational uses for the river. Surface Water Quality needs to be monitored to protect future recreational and tourism opportunities throughout the county.

Surface Water Quantity

Flooding is a major issue throughout the county during spring runoff and heavy summer rainfall events. Drainage system maintenance and improvement is one area that needs to be addressed by local units of government and landowners. Drought is another concern because of the surface water supply needs. Beaver control is another area to help prevent overland flooding.

Groundwater Quality

DNR has three observation wells that are located within the county. Monthly monitoring is done to measure the groundwater level. Wellhead Protection Plans have been completed for both the City of Red Lake Falls and the City of Oklee. A Wellhead Protection Plan still needs to be completed for the City of Plummer. The City of Plummer is number 70 on the Wellhead Protection Phasing List.

Erosion and Sedimentation

Prioritization is needed of all the erosion areas within the county so that erosion control projects can correct issues before the area becomes too large and unmanageable. Shoreland degradation is occurring throughout the river systems. Ditches that outlet directly into the rivers are causing large sedimentation issues in the river. Wind Erosion is another issue where the promotion of residue management, conservation tillage, and the planting of field windbreaks could reduce the amount of soil that is being lost.

It is not possible to address all of the water related concerns that impact Red Lake County; however the four selected are broad enough to cover most of the concerns that were submitted, yet focused enough to achieve goals and action items with the staff and the

funding that is available. Detrimental impacts to Red Lake County's water resources would result if these priority concerns were not addressed.

Water and related land resource plans and official controls received

No relevant plans or official controls were received from the local units of government or state review agencies.

Identifying differences between priority concerns and existing plans

No known differences between any other local units of government or county plan exits with the priority concerns that were developed for the Red Lake County CLWMP.

Identification of Existing Plans that relate to Red Lake County CLWMP

The Red Lake County Water Resources Advisory Committee will relate to the portions of the Red Lake Watershed District 10-Year Overall Plan that are pertinent to Red Lake County.

The existing plans that are listed below add additional direction to Red Lake County's Comprehensive Local Water Management Plan when prioritizing our county concerns.

The Red Lake County Shoreland Ordinance, Red Lake County ISTS Ordinance, Red Lake County Feedlot Ordinance, Red Lake County SWCD Annual Plan of Operation, City of Red Lake Falls Wellhead Protection Plan, City of Oklee Wellhead Protection Plan, MPCA Red River Basin Water Quality Plan, Red Lake Watershed District 10-year Overall Plan, Red Lake Watershed District Annual Water Quality Report, Contiguous County's CLWMP, Red Lake River Corridor Enhancement Project, and Red Lake County NRCS Business Plan.

Future Steps

State agencies will be requested to provide additional information and data so a detailed assessment of the identified priority concerns will be done to identify the nature, extent and severity of the concern to assure the appropriate action items are identified.

The Red Lake County Local Water Management Advisory Committee will be working on Plan Development to define the goals and objectives, and then design an implementation program to address each of the four priority concerns. As required by Minnesota Statutes, a public hearing will be held to validate the focus of the final plan.
The plan will then be submitted for final state review and approval. When the plan is approved at the state level, it can be adopted by Red Lake County and implementation can begin.

PRIORITY CONCERNS NOT ADDRESSED BY THE PLAN

With the unallotment in 2003 and the continuing 43% decrease in CLWMP funding, staff and program limitations exist. Most of the concerns submitted will be addressed in the plan or, are existing issues in the county and will be identified as ongoing activities in the final plan. Additional concerns that were submitted but not selected as a priority concern and are not ongoing activities coordinated by the plan are being addressed by other local units of government that work closely with the SWCD.

SSTS (formerly ISTS) – Red Lake County Environmental Services
Stormwater Issues – Shoreland Officer, SWCD
Feedlot Compliance and Manure Management – Feedlot Officer, SWCD and NRCS