
Water quality monitoring has been conducted since 1984 by the District at nineteen sites associated with streams and has commenced more recently at four other sites on lakes within the sub-watershed. Lakes being monitored include Clearwater Lake (1993), Cameron Lake (2003), Maple Lake (2004), and Badger Lake (2004). The parameters measured included field measurements for dissolved oxygen, pH, temperature, turbidity, transparency, conductivity, etc. Laboratory analysis is performed on stream samples for fecal coliform, total suspended solids, total dissolved solids, chemical oxygen demand, total phosphorus, orthophosphorous, nitrates and nitrites, ammonia, total kjeldahl nitrogen, and alkalinity. Lakes monitoring data includes Secchi depth readings, as well as total phosphorous and chlorophyll-a analysis. The District periodically prepares a water quality report, and results are available upon request in the District office. There are six impaired stream reaches as identified by the Minnesota Pollution Control Agency in this sub-watershed. They include;

- ❖ Clearwater River, Ruffy Brook to Poplar River
- ❖ Clearwater River, Clearwater Co. Line to Clearwater Lake
- ❖ Walker Brook, from Walker Brook Lake to Clearwater River
- ❖ Poplar River, from Spring Lake to Hwy 59
- ❖ Lost River, from Silver Creek to Hill River
- ❖ CD57, from confluence with Clearwater River to approx. 2 miles upstream
- ❖ MPCA monitoring sites 1
- ❖ Riverwatch monitoring sites 19
- ❖ SWCD monitoring sites 2

Watershed Name Thief River - Moose River - Mud River
Impaired Waters Currently none - reach between Agassiz NWR and TRF most likely will be on 2006 list
Number of Stream Sampling Sites

RLWD	5
SWCDs	8
Riverwatch	4
MPCA	1

Field Parameters dissolved oxygen, pH, water temperature, turbidity, transparency, conductivity, total dissolved solids, stage
fecal coliform, total suspended solids, total dissolved solids, chemical oxygen demand, total phosphorus, orthophosphorous, nitrates and nitrites, ammonia, total kjeldahl nitrogen, and alkalinity

Laboratory Parameters
Earliest Sampling Date 1980
Key Sampling Locations Hillyer Bridge (USGS gauge GS-05-0760), Moose R. and Mud R.
Other Notes The Hillyer Bridge monitoring site is also monitored by the MPCA
Noted Problems with High TSS and Low Dissolved Oxygen between Agassiz and TRF

Watershed Name Upper Red Lake River
Impaired Waters None currently, none expected on 2006 list
Number of Stream Sampling Sites

RLWD	2
SWCDs	2
Riverwatch	0

Field Parameters dissolved oxygen, pH, water temperature, turbidity, transparency, conductivity, total dissolved solids, stage
fecal coliform, total suspended solids, total dissolved solids, chemical oxygen demand, total phosphorus, orthophosphorous, nitrates and nitrites, ammonia, total kjeldahl nitrogen, and alkalinity

Laboratory Parameters
Earliest Sampling Date 1980
Key Sampling Locations Red Lake Dam Outlet (GS-05-0740), Highlanding Bridge

Other Notes We are dropping the RL Dam starting in 2004 due to avoid duplication of monitoring efforts with the RLDNR, it will continue to be monitored by the RLDNR.

Watershed Name	Lower Red Lake River	
Impaired Waters	2 reaches Red Lake River; Burnham Creek to Unnamed Creek (East Grand Forks) Red Lake River; Unnamed Creek to Red River	
Number of Stream Sampling Sites	RLWD	6
	SWCDs	7
	Riverwatch	15
	MPCA	1
Field Parameters	dissolved oxygen, pH, water temperature, turbidity, transparency, conductivity, total dissolved solids, stage fecal coliform, total suspended solids, total dissolved solids, chemical oxygen demand, total phosphorus, orthophosphorous, nitrates and nitrites, ammonia, total kjeldahl nitrogen, and alkalinity	
Laboratory Parameters		
Earliest Sampling Date	1984	
Key Sampling Locations	1st Street Bridge in Thief River Falls, Sampson Bridge in Crookston (GS-05-790), Murray Bridge in EGF, Burnham Creek, Black River	
Other Notes	The turbidity impairment on the RLR should extend upstream to at least Crookston on the 2006 impaired waters list based upon our data Our monitoring site in Thief River Falls shows no impairments.	

Watershed Name	Upper and Lower Red Lakes	
Impaired Waters	None	
Number of Stream Sampling Sites		9 historical sites, 1 site that was monitored through
	RLWD	0 2002
		At least
	RLDNR	10
	Riverwatch	4
Field Parameters	dissolved oxygen, pH, water temperature, turbidity, transparency, conductivity, total dissolved solids, stage fecal coliform, total suspended solids, total dissolved solids, chemical oxygen demand, total phosphorus, orthophosphorous, nitrates and nitrites, ammonia, total kjeldahl nitrogen, and alkalinity	
Laboratory Parameters		
Earliest Sampling Date	1989	
Key Sampling Locations	Mud Creek in Redby	
Other Notes	The Red Lake Department of Natural Resources monitors all the main streams that inlet to the lake, as well as the Red Lakes themselves	

Watershed Name	Grand Marais Creek								
Impaired Waters	Currently none, the Grand Marais will likely be on the next impaired waters list								
Number of Stream Sampling Sites	<table border="0"> <tr> <td>RLWD</td> <td>1</td> </tr> <tr> <td>SWCDs</td> <td>0</td> </tr> <tr> <td>Riverwatch</td> <td>3</td> </tr> <tr> <td>MPCA</td> <td>1</td> </tr> </table>	RLWD	1	SWCDs	0	Riverwatch	3	MPCA	1
RLWD	1								
SWCDs	0								
Riverwatch	3								
MPCA	1								
Field Parameters	dissolved oxygen, pH, water temperature, turbidity, transparency, conductivity, total dissolved solids, stage								
Laboratory Parameters	fecal coliform, total suspended solids, total dissolved solids, chemical oxygen demand, total phosphorus, orthophosphorous, nitrates and nitrites, ammonia, total kjeldahl nitrogen, and alkalinity								
Earliest Sampling Date	1985								
Key Sampling Locations	Grand Marais River @ Hwy 220								
Other Notes	<p>The MPCA monitors at the last road crossing before the Grand Marais enters the Red River</p> <p>Some of the ditches flowing into the Grand Marais and the Grand Marais itself are monitored by high school students through the Riverwatch program</p> <p>Very high turbidity and TSS levels, low dissolved oxygen as well</p>								