

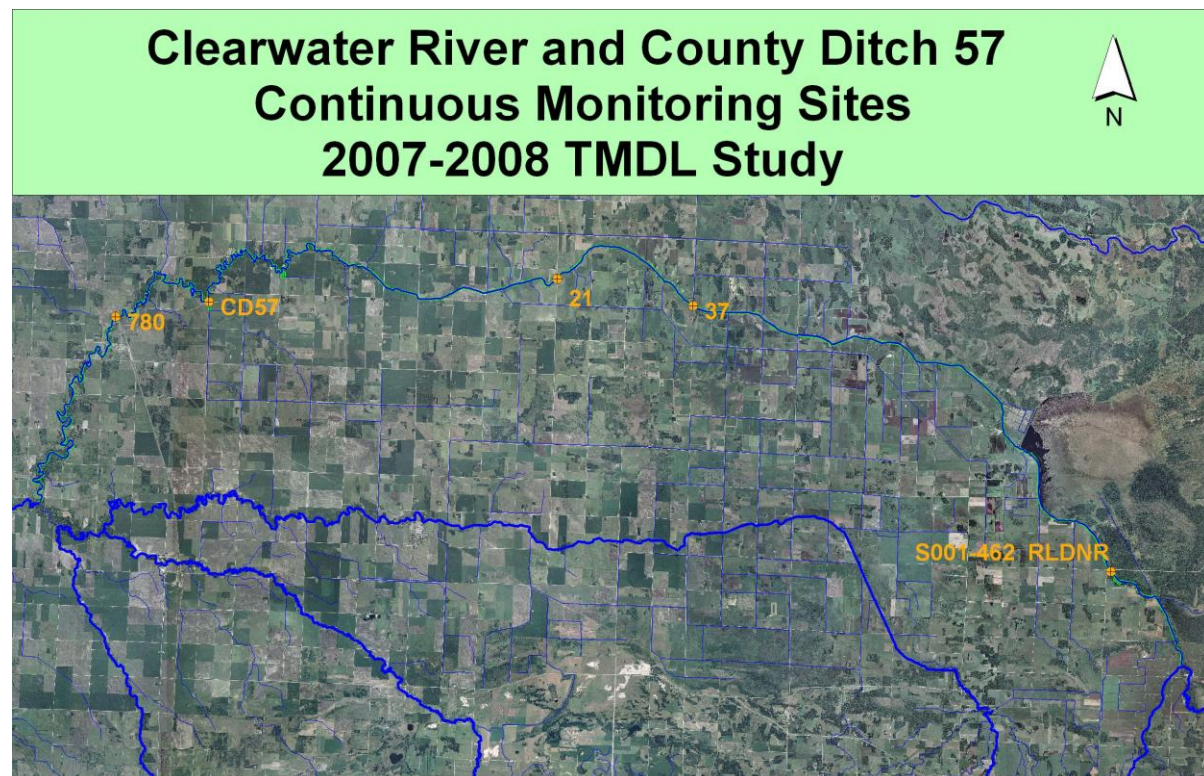
By: Corey Hanson, Water Quality Coordinator
For: May 24th, 2007
RLWD Board Mtg.

Tile Drainage Study

Stage monitoring equipment has been installed at the Bachand field, Yaggie field, and in the Hill River. A logging rain gauge is also installed at the Bachand site. For this year, I also added a HOBO level logger a tail water gauge for the Bachand site. RMB Environmental Laboratories, Inc. has solved the problem we were having with orthophosphorus results being higher than total phosphorus results. They have found that silica in the water sample artificially increases the orthophosphorus measurements. It doesn't have an effect on total phosphorus results. This means that the total phosphorus readings we have been getting for the tile study have been correct, but the orthophosphorus analysis results have been higher than the true concentrations.

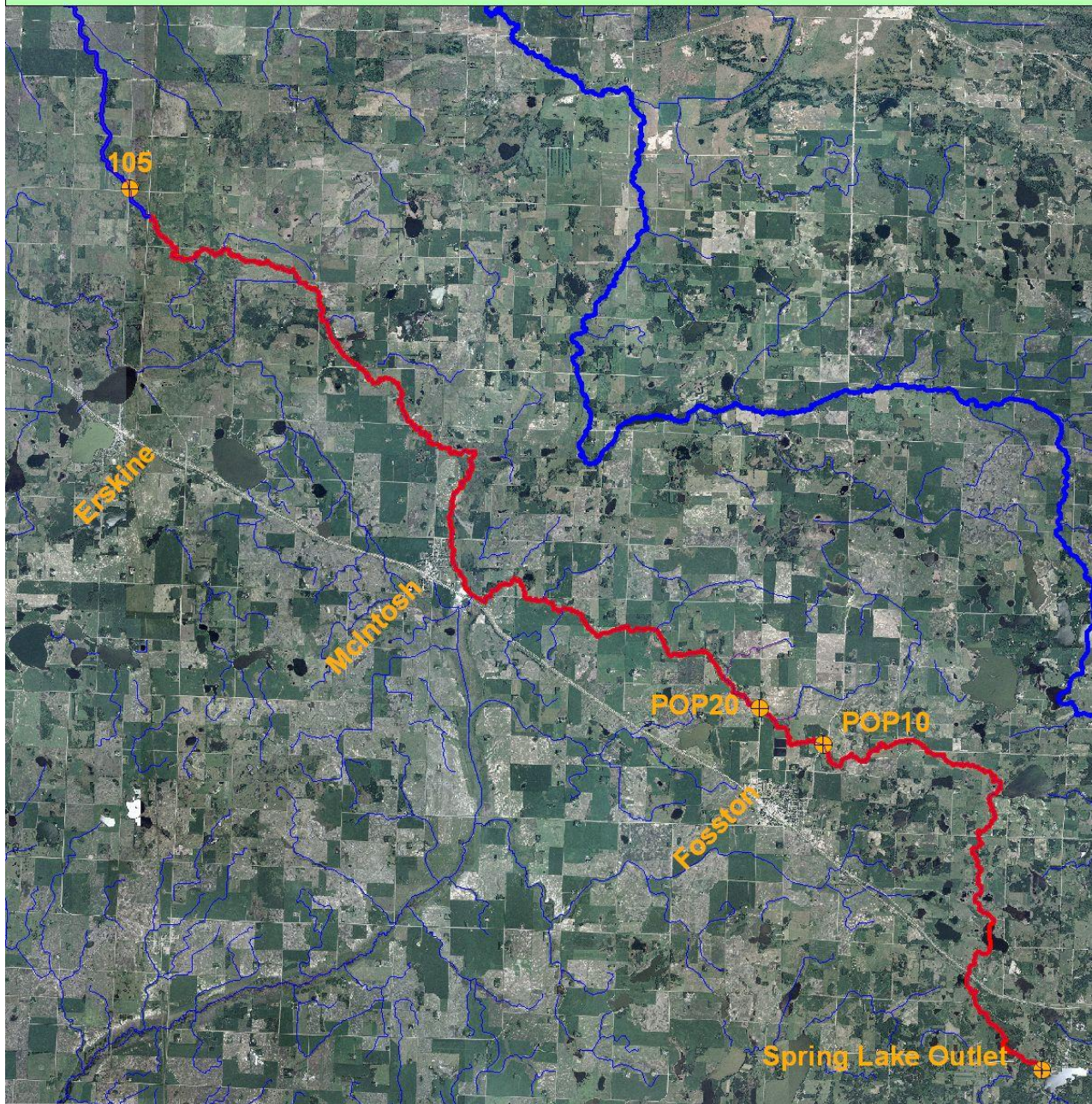
Clearwater River Dissolved Oxygen and Fecal Coliform TMDL

Most of the April progress on this project involved working with the MPCA to order equipment. The following maps show where monitoring sites are planned for this year. The only change suggested by the MPCA would be to move the POP10 Poplar River monitoring site upstream of Fosston to the WINPOP River Watch site downstream of McIntosh to focus more on verification of impairment than the bracketing of stressors.

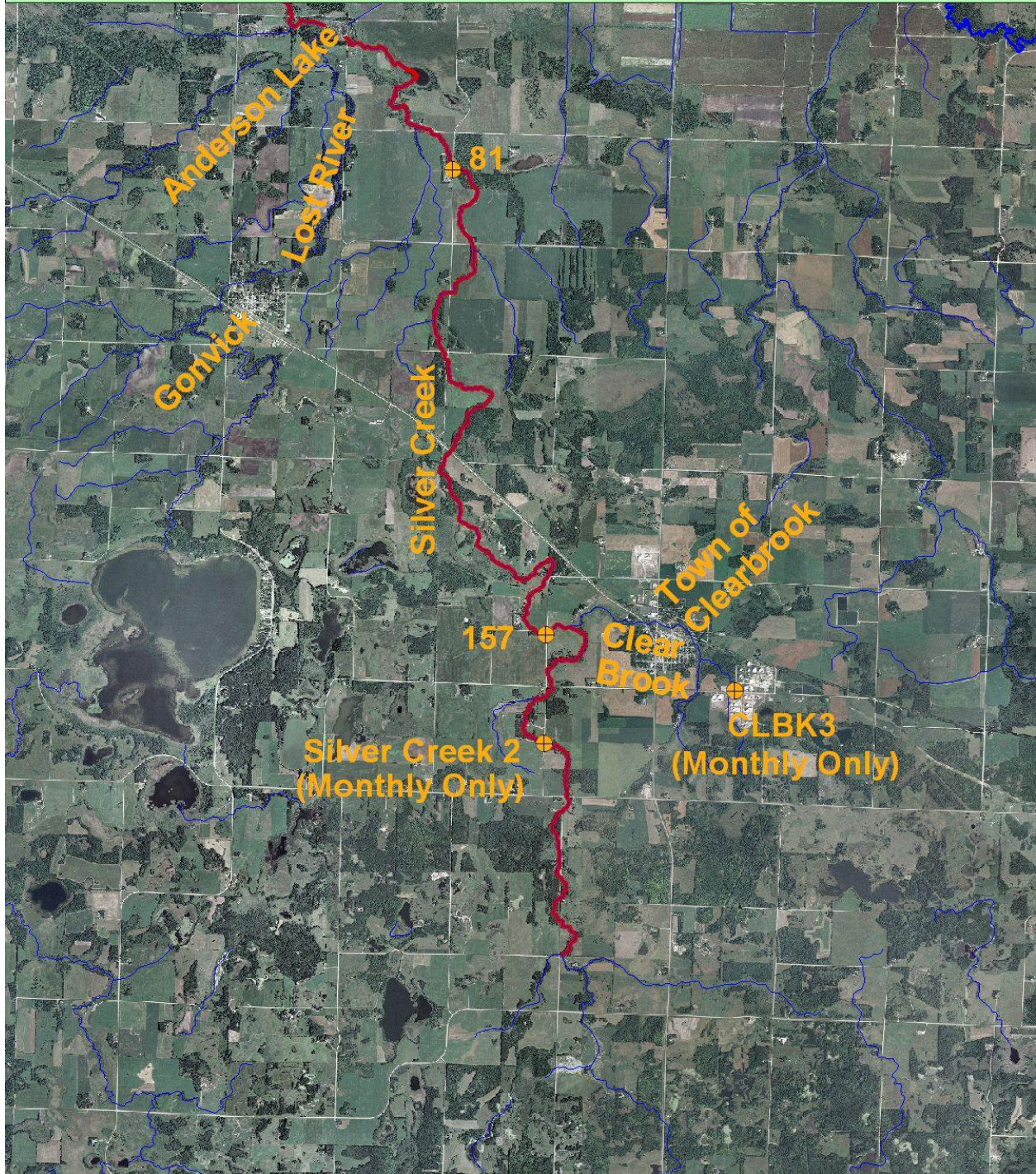


Clearwater River Dissolved Oxygen and Fecal Coliform TMDL Study

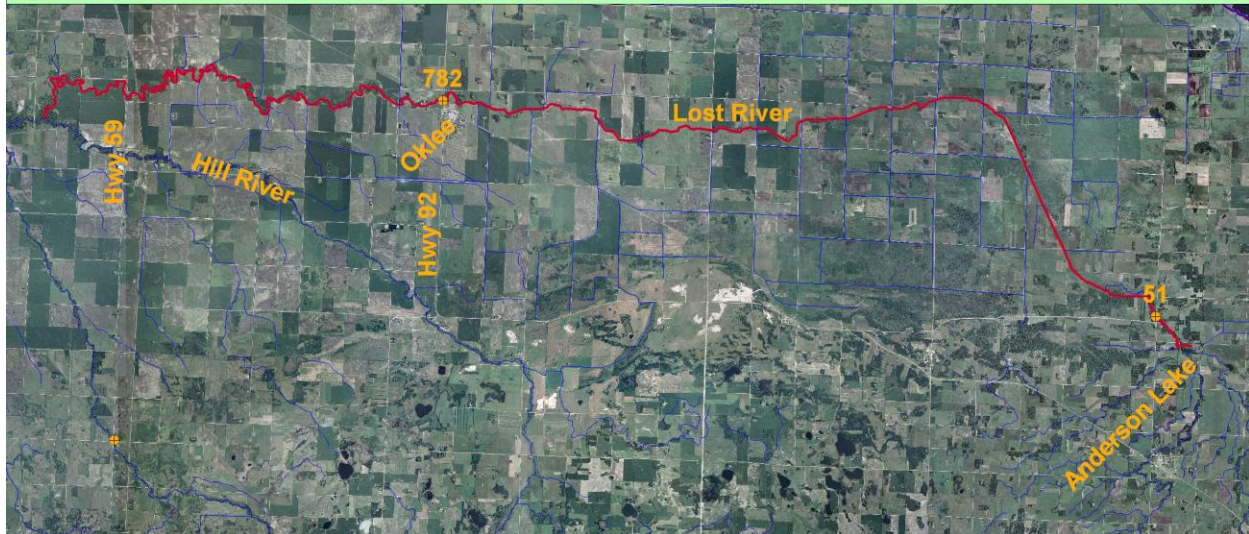
Poplar River Dissolved Oxygen Impairment 2007 Continuous Monitoring Sites



Clearwater River Dissolved Oxygen and Fecal Coliform TMDL
2007 Silver Creek
Fecal Coliform Monitoring Sites



Clearwater River Dissolved Oxygen and Fecal Coliform TMDL Lost River Fecal Coliform Impairment 2007 Sampling Sites



Thief River Watershed Sediment Investigation

Much of the work done for this project in April involved site selection, work plan development, and some sample collection. I am still working on improving the work plan for the project as time allows and as new ideas present themselves. Sites have been chosen for the Clean Water Partnership portion of the project and for the additional monitoring Agassiz NWR.

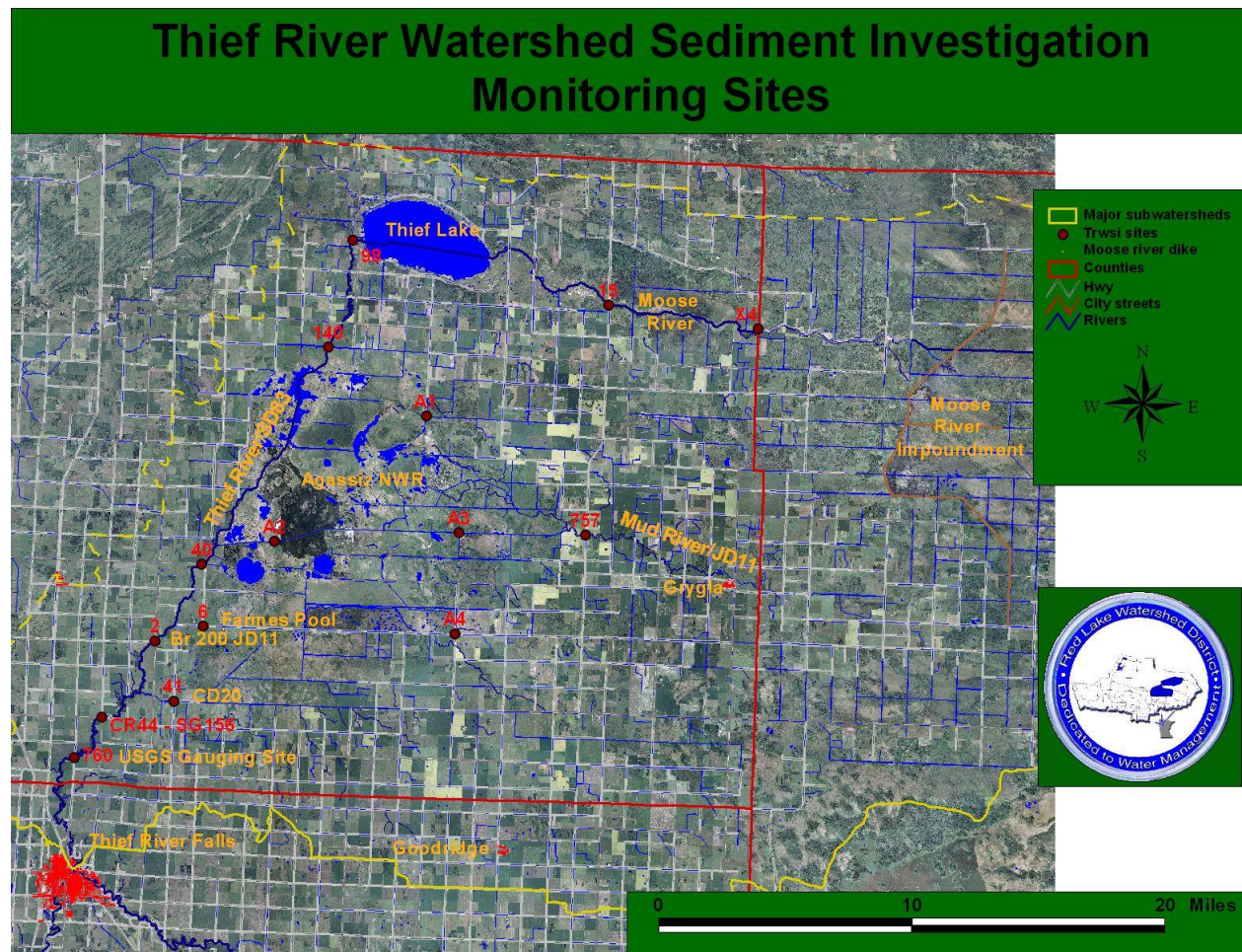
The student worker for the project, Kristen Fritz, will begin working on May 6th at Agassiz NWR.

We have the option of asking for an extension at the beginning of the project. This would extend the project from 3 years to 4 years. It would allow us to use up to a year for data analysis, report writing, developing recommendations, TMDL work plan development, and modeling. Under the 3-year schedule, we would either have to fit all of that work into just a few months or make sacrifices in the quantity and quality of data being collected.

The USGS has a contract with Agassiz NWR to collect flow measurements and water quality sample at the 4 Agassiz NWR monitoring sites. The USGS will create flow rating curves based upon these measurements. I have helped with the collection and shipping of samples. This was also a good opportunity to observe some newer flow measurement technology in action (acoustic Doppler).

Roger Fisher of the MPCA has written a draft Quality Assurance/Quality Control Plan for the project. I will be adding additional QA/QC measures for the continuous monitoring based on recent guidelines from the USGS and the British Columbia Ministry of Environment.

The following map shows the locations of the monitoring sites that have been chosen for the project. The A1 – A4 sites are those that are part of Agassiz NWR’s “piggyback” project. Sites were chosen along the Thief River to “bracket” impoundments and to show how water quality changes throughout the watershed. There also are a couple of monitoring sites on ditches that flow into the Thief River system. Continuous stage monitoring will take place at all sites. Continuous water quality monitoring (turbidity, dissolved oxygen, pH, temperature, and conductivity) will take place at the sites A1, A2, A3, A4, 140, 40, 757, 41, and 760.



Project 60E

I completed eLink progress reports for this project and the ditch inventory project in April. The monitoring equipment is in place. A routine of monthly cleaning and maintenance is part of my schedule for this summer (while there is still water to be monitored).

April (and other past) Meetings and Events

- ❖ **April 3rd** – Carnegie Training Class - Graduation
- ❖ **April 9th** – Pennington Co. Water Resource Advisory Committee Meeting – 9am
 - New Water Planner: Rachelle Winter
 - Revision of the SWCD's 5-year plan will begin this year. The process may be extended for 2 years if necessary.
 - Pennington County SWCD has plans and a cost estimate for the Jerome Street Stream Bank Project. The total cost is estimated at \$85,000. The SWCD gets \$15,000 each year for these projects, so they will need to seek other funding sources.
 - The Water Planning Committee welcomes assistance in getting public input for the next revision of their 5-yr plan.
 - Penn SWCD water quality monitoring
 - Will be adding e-coli sampling
 - Sharing sonde with the Marshall County Water Planner
 - Received sonde use training from Danni Halvorson
 - SWCD office needs a copy of the RLWD 10-yr Plan
 - Rachelle has updated the SWCD website at www.nwmnswcd.org
 - Goose Lake outlet may be reconstructed.
- ❖ **April 11th** - Marshall County WRAC – Holt CC
 - There will be flyovers in Marshall County to inspect for Wetland Conservation Act violations this year
 - Thief Lake froze to the bottom this year. This killed minnows (which is desirable for waterfowl production) but may have been harmful to aquatic plants.
 - There will be a speaker on groundwater at the October meeting.
 - The WRAC voted to use the Water Plan cost share money (\$2,800) to help pay for seeding needed for the Red River Valley set-aside project. The Middle-Snake-Tamarac River Watershed District and the Marshall County SWCD are implementing this project, which is largely funded by BWSR (\$45,000). It involves stabilization of ditch banks using buffers strips planted with grass and woody vegetation (likely lower shrubs instead of larger trees).
 - Snake River Flood Control Project is complete. Even though it is not fully operational, the project is estimated to have saved the City of Warren and surrounding areas \$8.7 Million in economic damages.
- ❖ **April 13th** – eLink Challenge Grant progress reports completed
- ❖ **April 15th** – Challenge grant progress reports to BWSR are due
- ❖ **April 19th** – Red Lake River Corridor Enhancement Project meeting – Thief River Falls City Hall, 6:30pm
 - I will be helping to put together 4 geocaches that will be established as part of the event. One will be placed in St. Hilaire by Stacy Myhrer and Rob Lacoursiere. Another will be placed along the Red Lake River somewhere east of Thief River Falls by Joe Courneya. This will be my volunteer contribution to the project. The International Water Institute is providing some of the trinkets to place in the caches, ammo boxes to serve as caches, and labels. I will be placing caches at Sportsman's Park in Red Lake Falls and somewhere in Fisher as well.

- There will also be some erosion assessment that will take place along the river. I will laminate a set of instructions for a simple visual assessment and place them and a field book in a Ziploc bag and provide them to whoever is keeping track of the bad erosion sites along the way. They will also take photos of the sites. The photos can be matched to the site descriptions using the time-date stamps on the files.
- There will be a sale of raffle tickets for a 16 foot birch bark canoe.
- Wayne Goeken is looking for section leaders for the Lower Red Lake to Thief River Falls and Crookston to East Grand Forks sections of the trip. These people will be in charge of lining-up camping spots with willing landowners, making sure there are enough life jackets, and collecting waiver/photo release forms from participants.
- Printing of brochures will be left up to the individual entities that are distributing them.
- There will be an effort to tie the project into Google Earth. A virtual tour could be created and photo points (Panoramio) could be placed along the river.
- Next meeting – May 10 @ EGF Campbell Library
- ❖ **April 23rd** – Red River Basin Water Quality Team – Moorhead, 10am
 - Sediment presentation – How much is too much?
 - TMDL progress, five responses for managing transport and delivery of excessive sediment.
 - Keep weight off of unstable streambanks
 - Protect channel stability – reduce flows and prevent erosion
 - Maintain vegetative cover to reduce runoff
 - Provide upland storage to minimize extremes in flow
 - Design conservation practices for critical seasons
 - Developing a process for prioritizing watersheds
- ❖ **April 24th** – Presentation to the RLWD Overall Advisory Committee
- ❖ **April 26th** – Met with Kristin Fritz, student worker for the Agassiz portion of the Thief River Study (from UMC), to go over her role in the project.
- ❖ **April 27th** – Red River Basin Monitoring Advisory Committee
 - Safety was stressed – use of flashers, vests, and cones.
 - SOP change: Duplicates samples will still be collected 10% of the time overall, but they will be collected in a manner that will allow for a 10% duplicate sample rate for each sample collection method. Duplicates will be collected on every tenth hand-dipped sample and for every tenth sample collected with a Van Dorn sampler.
 - There will be data assessment training this fall.

Future Meetings/Events

- ❖ **May 10th** – Red Lake River Corridor Enhancement – 6:30 @ East Grand Forks Public Library
- ❖ **May 14th** – Meeting with Pete Fastner and Jim Courneya of the MPCA to discuss the Thief River Watershed Sediment Investigation.

- ❖ **May 21st** – Meeting with Lisa Schierer and Bruce Paakh of the MPCA to review Clearwater River Dissolved Oxygen and Fecal Coliform TMDL study monitoring sites.
- ❖ **May 25th** – Red River Basin Monitoring Advisory Committee - Canceled
- ❖ **May 28th through June 10th** – Red Lake River Rendezvous 40th Anniversary Canoe/Kayak Expedition
- ❖ **June 5th** – Pennington County Water Resources Advisory Committee meeting – 9 AM, Penn. SWCD conference room
- ❖ **June 6th** – Red River Basin Commission Tour – I will be presenting on the tile drainage water quality study
- ❖ **June 7th – 10th** - Canoeing on the Red Lake River Rendezvous – erosion assessment.
- ❖ **June 13th** - Marshall County WRAC – Middle River
- ❖ **June 19th – 20th** – USGS water quality monitoring training in Brainerd.
- ❖ **June 25th** – Red River Basin Water Quality Team – Thief River Falls
- ❖ **July 23rd** – Red River Basin Water Quality Team – Moorhead
- ❖ **July 31st** – Final reports due for ditch inventory and project 60E BWSR Challenge Grant projects
- ❖ **August 1st** – Thief River Watershed Sediment Investigation semi-annual report is due.
- ❖ **August 8th** - Marshall County WRAC
- ❖ **August 27th** - Red River Basin Water Quality Team – Thief River Falls
- ❖ **September 24th** - Red River Basin Water Quality Team – Moorhead
- ❖ **October 10th** - Marshall County WRAC
- ❖ **October 22nd** - Red River Basin Water Quality Team – Thief River Falls
- ❖ **November 26th** - Red River Basin Water Quality Team - Moorhead

Other Notes

- I conducted the first round of our long-term monitoring program in late April/early May.