

Monthly Water Quality Report | March 2008

By: Corey Hanson, Water Quality Coordinator
For: April 24th, 2008
RLWD Board Mtg.

Clearwater River Dissolved Oxygen and Fecal Coliform TMDL

- Most of the March work on this project involved coordination and preparation for the April 3rd, 2008 Stakeholders' Advisory Group Meeting.
- Identification of potential sources will involve ground-truthing of potential sources (identify areas of concentrated grazing, manure application near streams, WWTFs). The EERC will also use GIS files from the NRCS, Counties, and the MPCA to identify feedlot locations for the development of the SWAT model.



RLWD Long-Term Monitoring Program

In 2006, I submitted a proposal for the monitoring of new stream reaches within the RLWD that was included in the Red River Watershed Management Board's (RRWMB) Clean Water Legacy Act (CWLA) Surface Water Assessment Grant (SWAG) application. This 3-year proposal was not funded. Wayne Goeken re-submitted the RRWMB application for the 2007 CWLA SWAG

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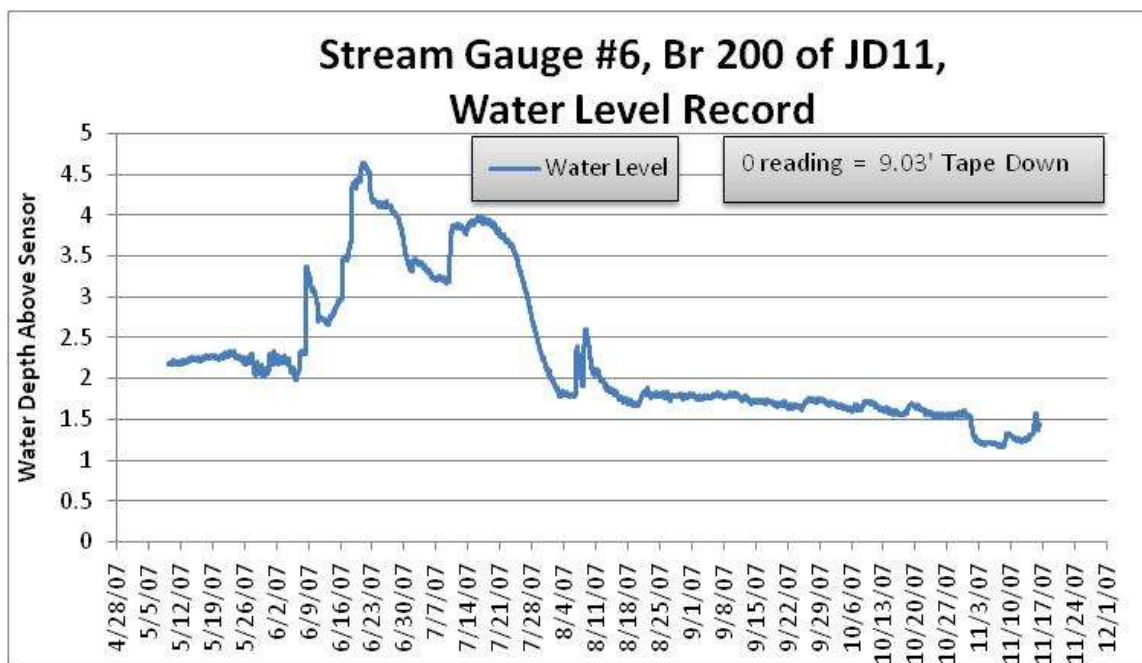
as a one-year project and was successful. This project includes money for monitoring to be done by the RLWD. The four new sites in Beltrami County (Lower Red Lake watershed) will be monitored along with several new sites in the Red Lake River and Clearwater River watersheds:

- Blackduck River
- Cormorant River
- Darrigan's Creek
- O'Briens Creek
- Lower Badger Creek
- Cyr Creek
- Kripple Creek

The first round of monitoring at all district monitoring sites (38 sites, 4 times a year, full set of parameters) will commence when "ice-out" occurs in April. Site establishment forms have been completed and submitted to the MPCA for these sites. The CWPREDLK project establishment form has been updated to include these sites.

Thief River Watershed Sediment Investigation

- Monitoring methods and forms were reviewed with Rochelle Nustad of the USGS. The USGS will be using their ADAPS software to analyze data from in and around the refuge, so continuous monitoring equipment will be set up to take measurements every 15 minutes instead of the 30 minute time step used at other sites. The USGS software can more easily handle the larger bunches of data.
- Started going through the data collected with continuous water quality monitoring equipment in 2007.
- Analyzed the data collected with HOBO Water Level Loggers in 2007.



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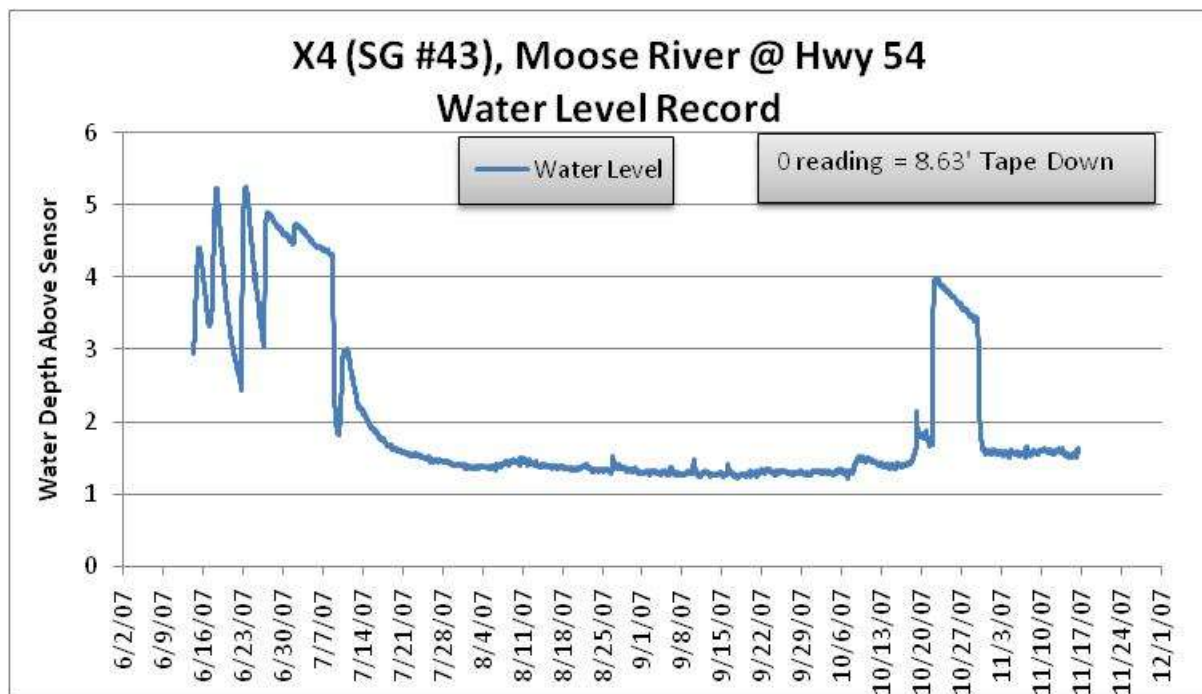
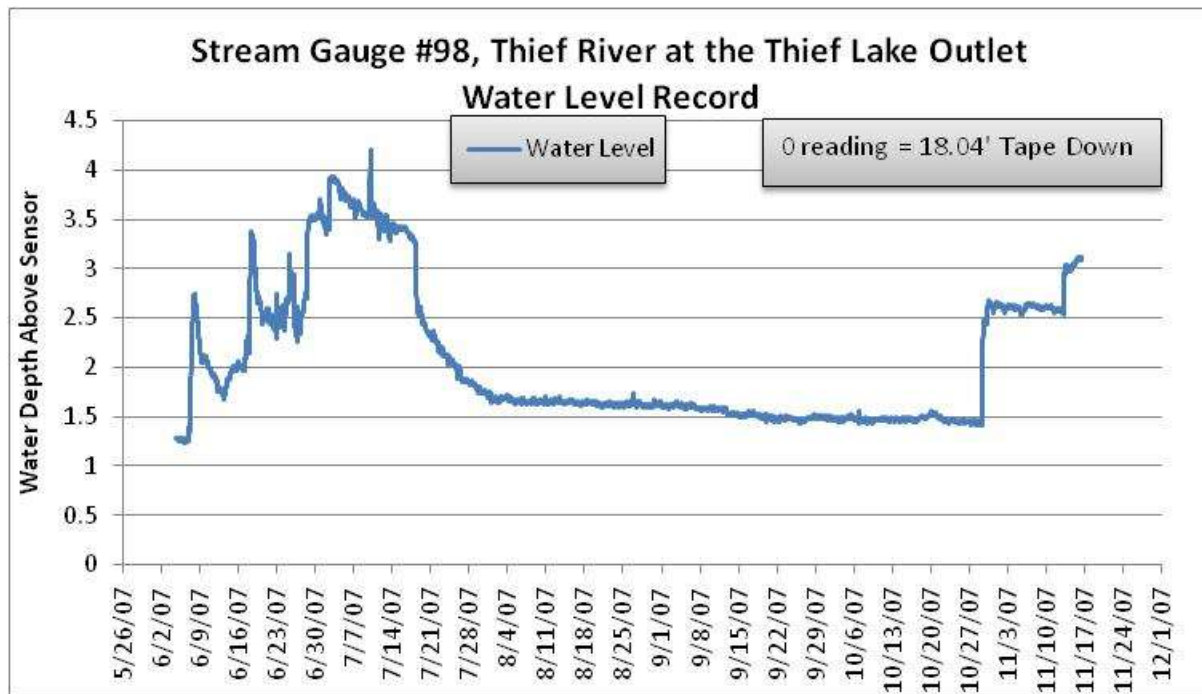
Stream Gauge #2, Thief River at CSAH 12 Water Level Record



Site #156, Thief River at CR44 Water Level Record



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Other Notes

- Received new In-Situ TROLL 9500 multi-parameter sondes as upgrades/repairs from the In-Situ TROLL 9000 multi-parameter sondes that were damaged during sustained high flows last summer.
- Completed a draft revision of the *Standard Operating Procedures for Water Quality Monitoring in the Red River Watershed*. It is currently being reviewed by members of the Red River Basin Monitoring Advisory Committee and others.
 - Word Document:
[http://www.redlakewatershed.org/waterquality/RLWD%20SOP%20Revision%207%20\(draft\).doc](http://www.redlakewatershed.org/waterquality/RLWD%20SOP%20Revision%207%20(draft).doc)
 - PDF File:
<ftp://www.redlakewatershed.org/redlakewd/redlake/waterquality/RLWD%20SOP%20R7%20draft.pdf>
- Wrote annual report articles.
- Made some progress on data analysis for the next comprehensive water quality report and the Clearwater River Habitat/Bioassessment.
- Gathered information on the 82E buffer strips and their respective contracts and made some contacts with the counties. The NRCS will need to be contacted to look at options for enrolling the land into another program when the RLWD contracts are expired.
- Made a stream gauging checklist with the sites and their descriptions to make sure that flow measurements are collected where needed, especially for the Clearwater Dissolved Oxygen and Fecal Coliform TMDL study and the Thief River Watershed Sediment Investigation.
- Installed Project 60E HOB0 water level and barometric pressure loggers.
- Provided information for the Lower Lost River and Silver Creek Agricultural Watershed Restoration grant applications that will be submitted by Red Lake County and Clearwater County, respectively.

April and May Tasks

- Continue working on a comprehensive water quality report for the RLWD long-term monitoring program (originally scheduled for 2006)
- Continue working on the Clearwater River Dissolved Oxygen and Fecal Coliform TMDL Study Report.
- Provide information and data to the EERC for calibration of the SWAT model.
- Complete the Clearwater River Habitat and Bioassessment Project Report
- Analyze the data collected in 2007 for the Thief River Watershed Sediment Investigation and get a start on writing the final report for the project.
- Compile the continuous flow data collected with HOB0 Water Level Loggers in 2007.
- Make sure portable and continuously monitoring equipment is calibrated ready for the monitoring season.
- Install continuous monitoring equipment as the rivers and streams begin to thaw.

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- Bi-weekly maintenance of continuous water quality monitoring equipment.
- Monthly maintenance of continuous stage monitoring equipment.
- Collect a round of district monitoring samples when the rivers open up.
- Flow measurements
- Maintenance of continuous monitoring equipment once it's installed.
- TMDL E. coli sampling (5/month at 6 sites in April and May, 3 sites in July).

March Meetings and Events

- **March 5, 2008** – Water Quality Monitoring Training Session at UMC
 - I gave a presentation on using Standard Operating Procedures in the field.
- **March 6, 2008** – Glacial Ridge Conference, 8am – 4:30 pm at Rydell NWR Headquarters.
 - I gave a presentation on water quality issues in the Red Lake River Watershed
 - I received a copy of the final report for the 319 Grant funded Glacial Ridge Study for which the RLWD managed funds.
 - I have copies of the other presentations saved on my computer if anyone is interested. The other topics were:
 - Progress on the Glacial Ridge Master Plan and Techniques in upland Restoration
 - Standards and Guidelines for Wetland Restoration Design
 - Challenges and Successes in Engineering Wetland Restoration at Glacial Ridge
 - Application of UMAC Remote Sensing Data to the Glacial Ridge Project
 - Prairie and Wetland Carbon Sequestration
 - Overview of Soil Geography and Soil organic Content Inventory
 - Hydrology of the Beach Ridges and Glacial Ridge Region
 - Effect of Prairie Restoration on Water Budget
 - Temperature Profiles & Groundwater Surface Water Interaction
 - Monitoring Changes in wetland Plant Composition and Diversity
 - Results of 2007 Vegetation Monitoring
 - Challenges and Opportunities for Future Fire and Grazing management
 - Effects of Prairie Restoration on Avian Diversity
 - Results of Marbled Godwit and Wilson's Phalarope Surveys
 - Changes in Amphibian Diversity and Density
- **March 17, 2008** – Thief River Watershed Sediment Investigation Conference Call.
- **March 24, 2008** - Red River Basin Water Quality Team Meeting in Moorhead, 10am
 - Education for decision makers
 - I will be a presentation on the Tile Drainage Study results
- **March 27, 2008** – Water quality project update presentation for RLWD Board
- **March 28, 2008** – Red River Basin Monitoring Advisory Committee meeting at 9:30 at the Sand Hill Watershed District office in Fertile.
 - Scott Niemela and Jessica Poegel of the MPCA described their biological and water quality monitoring plans and how they will use the data in development of a Tiered Aquatic Life Use classification system for the waters of the State.

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- Right now, we either have stringent protection or not enough protection because of the blanket standards and classification (most waters given the default classification of 2B – warm water fisheries).
- The Clean Water Act calls for anti-degradation from the conditions that existed at the time of its signing on November 28, 1975.
- If a stream is improved to a higher quality use, it is protected for that new use.
- The TALU stream classification system probably won't be ready until 2020-2012
- There will be a new watershed district for the portion of the Mississippi River watershed that is upstream of the Knutson Dam on Cass Lake.
- The MPCA is planning to try doing multi-parameter watershed TMDLs in the future. This would be a good approach for the Thief River watershed after the conclusion of the Thief River Watershed Sediment Investigation study.
- We discussed the SOP document. Prior to the meeting, I distributed copies of the draft to all the RRBMAC members and other people we felt should be reviewing it. We set a date of April 30th for all comments to be submitted. I will then incorporate any necessary changes and have a “final” draft ready for review during the May RRBMAC meeting.

Future Meetings/Events

- **April 2, 2008** - Marshall County Water Resources Advisory Committee, 9:30am
- **April 3, 2008** – Clearwater Dissolved Oxygen and Fecal Coliform TMDL Study stakeholders' meeting
- **April 16, 2008** – Clearwater County Water Plan Task Force meeting, 10am, Clearwater County Court House
- **April 23, 2008** – Envirothon, I will be a backup for Rachele Winter (who is going to be having a baby in March) as a judge at the aquatics station. I am scheduled to collect samples and flow measurements in the Thief River Watershed that day and will be in the area if needed.
- **Early May, 2008** – Flow monitoring training session in Hawley, MN
- **May 19, 2008** - Red River Basin Water Quality Team Meeting in Moorhead, 10am
- **June 19, 2008** – Red Lake River Corridor Enhancement Project meeting
- **June 23rd, 2008** - Red River Basin Water Quality Team Meeting at the RLWD, 10am
- **July 9th** - Marshall County Water Resources Advisory Committee, 9:30am
- **July 28, 2008** - Red River Basin Water Quality Team Meeting in Moorhead, 10am
- **August 25, 2008** – Red River Basin Water Quality Team Meeting at the RLWD, 10am
- **September 22, 2008** – Red River Basin Water Quality Team Meeting in Moorhead
- **October 24, 2008** – Red River Basin Water Quality Team Meeting at the RLWD, 10am
- **November 5, 2008** - Marshall County Water Resources Advisory Committee, 9:30am
- **November 24, 2008** – Red River Basin Water Quality Team Meeting in Moorhead, 10am
- **December 22, 2008** - Red River Basin Water Quality Team Meeting at the RLWD