

# Monthly Water Quality Report | May 2008

By: Corey Hanson, Water Quality Coordinator  
 For: June 26, 2008  
 RLWD Board Mtg.

## Clearwater River Dissolved Oxygen and Fecal Coliform TMDL

May was the last month for the main effort of the E. coli sampling for this study. After this month, I have now collected 5 samples at each of 6 sites (2 on each impaired reach) during each calendar month from April through October. There were few cases in which there were significant levels of E. coli in the first two months of the year. Site #157 on Silver Creek (west of Clearbrook) was the only site that didn't meet water quality standards during the months of April and May.

<i>Standard = 126 MPN/100ml as a geometric mean of no less than 5 samples in a calendar month</i>	Clearwater River		Lost River		Silver Creek	
	<u>780</u>	<u>37</u>	<u>782</u>	<u>51</u>	<u>81</u>	<u>157</u>
<b>Monitoring Site</b>						
<b>Location</b>	Plummer USGS	CR96	Oklee USGS	CR7	CR11	1 mi W of Clearbrook
<b>April '08 Geometric Mean E. coli (MPN/100 ml)</b>	5	3.5	4.2	3.4	2.3	15.9

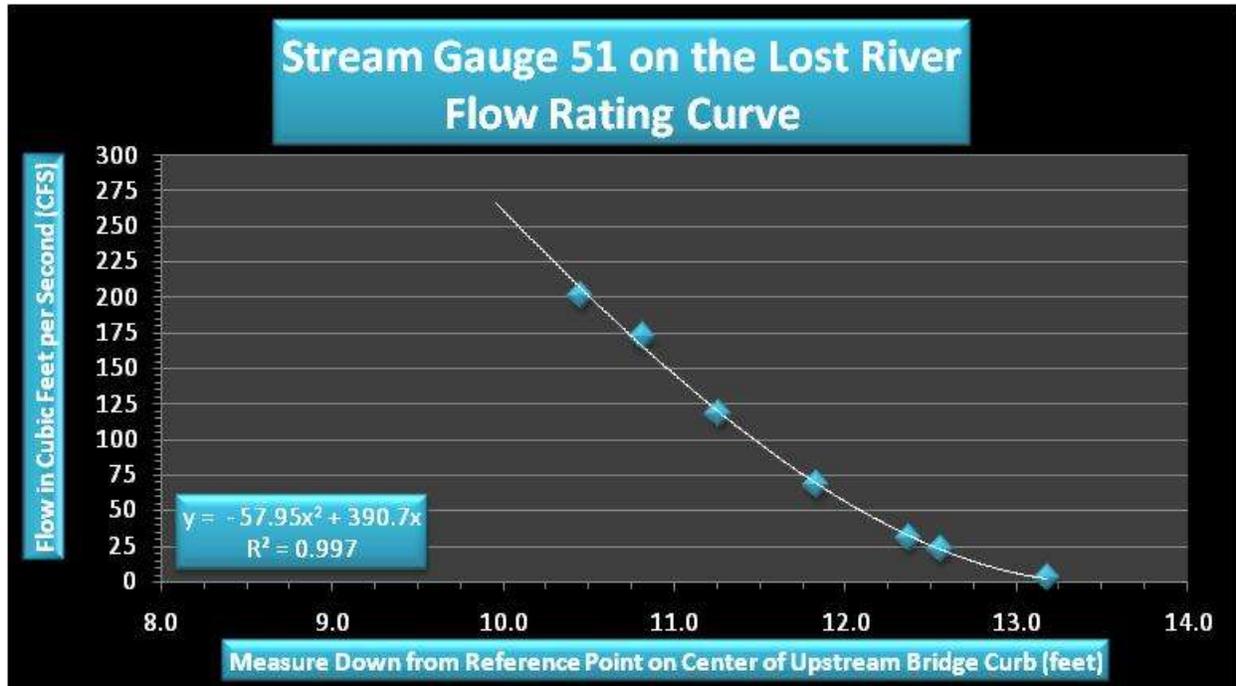
  

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<b>Monitoring Site</b>						
<b>Location</b>	Plummer USGS	CR96	Oklee USGS	CR7	CR11	1 mi W of Clearbrook
<b>May '08 Geometric Mean E. coli (MPN/100 ml)</b>	4.6	5.1	6	5.9	3.8	187.3

Continuous dissolved oxygen monitoring will continue through June. Every two weeks, the Eureka Midge DO logger that has been deployed is replaced with a clean, calibrated Midge with fresh batteries.

Being done with a major part of the monitoring effort will allow more time to be spent on writing the TMDL report.

A total of 17 flow measurements were made for this project's monitoring sites during the month of May. Most of the flow rating curves for the TMDL monitoring sites are nearly usable. Any additional measurements will help improve the accuracy of the curves and the associated equations that will be used to transform stage records into flow records.



## RLWD Long-Term Monitoring Program

Samples and/or field measurements were collected at 9 of the 40 RLWD long-term monitoring sites in the month of May. Due to the low temperatures and lack of runoff, water quality has been quite good at most sites this spring.

## Thief River Watershed Sediment Investigation

- Six flow measurements were made during the month of April for this study.
- Downloaded stage data from HOBO water level loggers.
- Samples were collected at all the monitoring sites
- The five RLWD-owned and the six USFWS-owned Eureka Manta continuous water quality monitoring sondes continue to be maintained on a bi-weekly schedule.
- The USFWS/USGS crew has had some difficulty running their continuous monitoring equipment. Their equipment has had some problems that probably are related to the damage caused by the UPS during shipping. The cracked housings were replaced, but there may have been more damage to electronics and seals that weren't immediately visible.

## Project 60E (Brandt Channel and Grand Marais Creek Project Water Quality Monitoring)

- The two turbidity logging probes (Stevens-Greenspan TS300) were cleaned and calibrated.
- Water level data was downloaded from the HOBO water level loggers.

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## Gully 6 Erosion Control Project Monitoring

Summer employee, John Carlson, conducted this year's photo monitoring of the Gully 6 (project #82H) erosion control project. There still is a small area of erosion on the downstream side of the cross-vein weir where the rip-rap should probably be extended to armor the bank. The stream barbs probably haven't been as effective as they were intended as there is still some erosion going on around the bend in the river, although the erosion doesn't seem as bad as it was a couple of years ago. The only stream barb that is directing flow seems to be the one furthest downstream. The others are just deflecting flow. Instead of guiding the water down the center of the channel, the furthest downstream structure is directing flow toward the opposite bank. This created some extra erosion for a couple years, but it now seems like the bank is becoming more stable and getting a chance to re-vegetate.



## Tile Drainage Study

- HOBO water level loggers were installed at all the Red Lake County stage monitoring sites.
- HDR Engineering and RLWD staff fixed the Bachand flume by raising it high enough so that it will be affected less by backwater and will contribute less to "headcutting" erosion within the field.
- Nate Dalager, Keith Winter, and I met a couple of times to discuss the study.
- The rain, barometric pressure, and air temperature logging equipment was also installed.

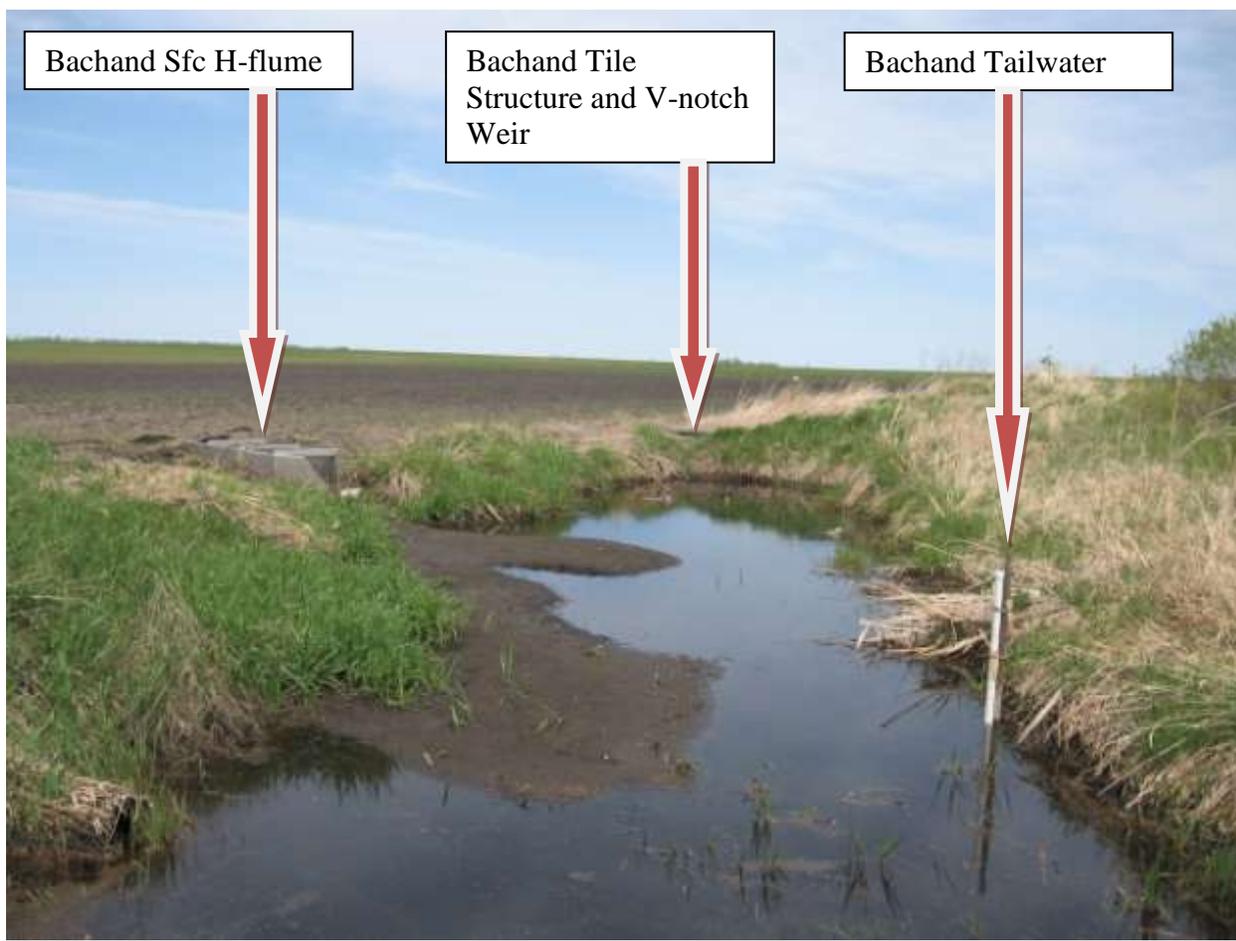
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Bachand  
H-flume  
Before  
Raising



Bachand  
H-flume  
After  
Raising



Bachand Sfc H-flume

Bachand Tile  
Structure and V-notch  
Weir

Bachand Tailwater

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## Other Notes

- Ordered cables for the new flow equipment necessary for its operation that were, for some reason, not included as part of the package we purchased.
- Incorporated comments into the Standard Operating Procedures for Water Quality Monitoring in the Red River Watershed Document, Revision 7. The revision was approved at the May 30<sup>th</sup> RRBMAC meeting with a couple more additions/changes.

## June and July Tasks

- Make some significant progress 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.
- 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.
- Bi-weekly maintenance of continuous water quality monitoring equipment.
- Monthly maintenance of continuous stage monitoring equipment.
- Complete the first and second rounds of sampling at RLWD long-term monitoring sites.
- Flow measurements
- E. coli sampling in July at sites #782 (Lost River) and #37 (Clearwater River, channelized reach)

## May Meetings and Events

- **May 19<sup>th</sup>, 2008** – Water quality update to the RLWD Board of Managers
- **May 30<sup>th</sup>, 2008** – Red River Basin Monitoring Advisory Committee Meeting, Fertile.
  - SOP revision
  - SWAG Monitoring
  - New hire, RRWMB water quality monitoring person for the southern part of the basin: Evelyn Ashiamah Finch

## Future Meetings/Events

- **June 23<sup>rd</sup>, 2008** - Red River Basin Water Quality Team Meeting at the RLWD, 10am
  - One of the topics will be tile drainage, I will be giving a presentation on the results of the tile drainage study.
- **June 30<sup>th</sup>, 2008** – Red River Basin Monitoring Advisory Committee Meeting, Fertile, 9:30 am
- **July 9<sup>th</sup>, 2008** - Marshall County Water Resources Advisory Committee, 9:30am
- **July 24<sup>th</sup>, 2008** – Water quality update for the RLWD Board of Managers meeting.
- **July 28, 2008** - Red River Basin Water Quality Team Meeting in Moorhead, 10am
- **July 30, 2008** – TMDL Stakeholders' Meeting in Clearbrook.
- **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
- **September 25, 2008** - Water quality update for the RLWD Board of Managers meeting.

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- **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