

By: Corey Hanson, Water Quality Coordinator  
For: May 26th, 2011  
Red Lake Watershed District Board Meeting



### **Stream Gauging**

- Flow measurement at stream gauge 71 on Polk CD2
  - Tape-down: 9.55 feet
  - Flow: 204 CFS
- Flow measurement at stream gauge 40 on the Thief River (Agassiz Bridge)
  - Stage: 1139.80
  - Flow: 1950 CFS
- Stage readings in the Thief River watershed

### **Grade Stabilization for Sediment Reduction in the Thief River**

- Danni Thorstad (Marshall County SWCD) talked to landowners along south side of CD20 within the project area. He was able to have nearly all of the landowners sign temporary access easements to allow the surveying and equipment access needed to complete the project. We should be able to get the remaining easements completed in May.
- Surveying will be done when the water levels recede (probably in May).

### **Thief River Watershed Assessment Project (Watershed-Based TMDL)**

- The RLWD received a completed contract from the MPCA to sign on April 4<sup>th</sup>, 2011.
- The long awaited contract for this project was officially executed (signed and made official) on April 21, 2011.
- Bruce Paakh (MPCA) installed an ultrasonic stream gage at the CR7 crossing of the Thief River (RLWD stream gage number 40).

### **Thief River Watershed Assessment Monitoring Surface Water Assessment Grant**

- Provided the Marshall and Pennington County water planners with sampling schedules for both years of the project.
- Distributed calibration supplies to the Marshall and Pennington County water planners.
- Recorded GPS coordinates for new monitoring sites.
- Completed STORET/EQuIS station and project establishment forms.

**Upper Thief River Buffer Initiative Town Hall Meeting at the Whiteford Town Hall**

- Whiteford Town Hall was filled with landowners. NRCS, SWCD, and RLWD representatives talked about water quality issues in the Thief River watershed and BMP incentive programs that are available. Landowners shared their thoughts on conservation programs – what they like and what they'd like to see changed with the programs.
- CRP
  - 90% cost share to establish CRP
  - Continuous CRP – filter strips and side-water inlets.
    - 10 – 15 year contract
    - \$67/acre average rental rate + additional 20% for filter strip + \$100/acre one-time incentive payment at sign-up.
    - Needs to be located on perennial stream, river, ditch, tributary to river.
  - Farmers don't want to see trees growing up in ditches
  - Haying is currently not allowed, but you may mow, spray, burn, or clip for weed control.
  - Farmers would like to be able to hay CRP. If not for all CRP, haying should at least be allowed for riparian buffers along legal ditch systems and field borders.
  - Additional incentives may be needed to compete with crop prices.
- EQIP
  - Field borders and side-water inlets.
  - Can hay
  - Payments much lower
  - Filter strips can be hayed once a year
  - Field borders can be hayed more than once as long as 12" of cover before winter exists.
  - 10 year lifespan (contract ~4 yrs)
- Grassed waterways
  - Harder to do in this area – need more topography for them to work correctly.
  - SWIs are a good alternative to grassed waterways
- Side Water Inlets
  - Cost share for side water inlet (SWI) installation
  - Incorporate SWIs into filter strips
  - Can be funded by CRP
  - SWIs are called “grade stabilization structures” under the EQIP program.
  - \$2800/SWI for smaller watersheds
- Landowners seemed interested, liked the idea of adding the benefit of haying CRP, and liked the higher payments that are currently offered by CRP. There were some ideas on possible locations for projects. Corey Hanson and Lisa Newton will look into writing a Clean Water Legacy Act grant application. Kevin Gietzen, NRCS, will also be involved.
- Looked at some erosion problems after the meeting with some of the landowners.

**Crookston Stormwater**

- The RLWD has provided Green Corps (University of Minnesota, Crookston) employee Michael Knudson with a HACH 2100P portable turbidimeter and a sampling device. He will be monitoring water quality at the outfalls of stormwater drainage systems in Crookston . With the data he collects, we will be able to assess the turbidity in stormwater runoff from the city relative to state water quality standards and turbidity levels in the Red Lake River.
- Grant funds will be pursued in order to complete a project that involves stormwater modeling, design work, and education. We want to get to a point where cities like Crookston and Thief River Falls (potential future designated MS4 communities) will have a plan for how they can cost-effectively minimize pollution from stormwater runoff. Ideally, city staff (especially planners) will be educated on stormwater management strategies that can be incorporated into new developments from the beginning. That should make stormwater management much easier than if it has to be retrofitted into a developed area.

**Spring Gravel Dam Breach**

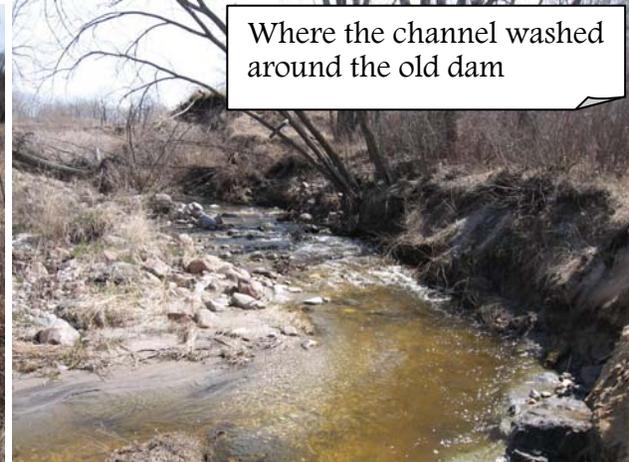
- Measured turbidity upstream and downstream of the dam breach site during spring runoff. Turbidity more than doubled from the first crossing upstream to the first crossing downstream of the site. The turbidity upstream of the area was safely below the threshold set by the State water quality standards. The turbidity downstream exceeded the State water quality standard for turbidity.
- Organized a meeting at the site with Loren Sanderson (RLWD), Dave Friedl (DNR), Scot Kahan (USFWS), Garry Bennett (DNR), and Nate Dalager (HDR Engineering).
  - Consensus was that this has the potential to be a great stream restoration project.
    - Discussion focused on having a stream through the old pool area instead of restoring the pool.
    - Restore connectivity, start with this area, expand to the entire reach of Burnham Creek
    - Restore natural stream function.
  - Dave Friedl would like to conduct reconnaissance from this stream/ditch down to the Red Lake River. This would be the next step toward making this project a reality.
    - What is the scale of the project? Multiple phases?
    - What are the objectives of the project?
  - USFWS has habitat money that could be applied to the project
  - DNR habitat staff could help with the project
  - Water temperature logging at the site was recommended in order to learn more about what species the waterway can support.
  - This project has a lot of potential partners

- Dave Friedl found mussel shells, which is a good sign in terms of the aquatic life potential.
- The USFWS will be restoring a bunch of wetlands in the Melvin Slough WPA south of the dam site.
- If we can define the project and objectives, then Scott (USFWS) can provide us with a letter stating what the USFWS can
- Post-meeting discussion at the RLWD office:
  - If a full pool restoration is no longer part of the project, is there another way to create flood storage through this project? (from post-meeting discussion at the RLWD office)
  - Will the county support the project (it's a county ditch)?
  - Will the RLWD Board support the project without flood retention (habitat connectivity is specifically mentioned in the RLWD 10-year plan)?
  - Is there a compromise that will provide some flood storage while still providing aquatic habitat connectivity?
  - Can fish travel from the Red Lake River to this site? Yes, they've traveled much further in other cases.

Nice, stable, cobble-bottomed channel upstream.



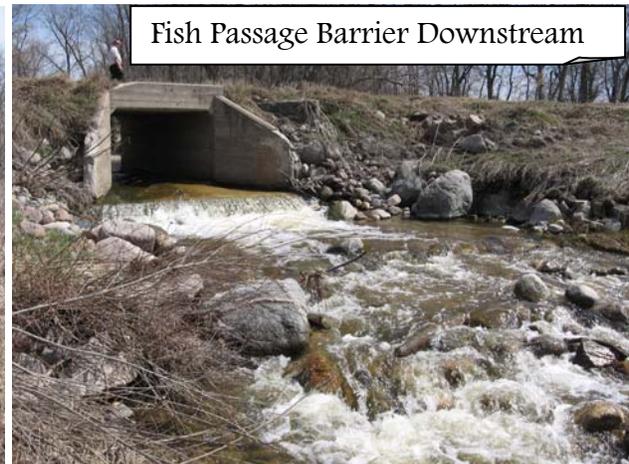
Where the channel washed around the old dam



Finding active head-cuts downstream of the breach



Fish Passage Barrier Downstream



**District Monitoring**

- Began the first round of sampling for the RLWD district monitoring program in late April.
- A plume of sediment was entering the Mud River at Grygla from Branch 95 of JD11. I followed the plume back to one of the lower grade stabilization structures where the ditch bank was actively eroding on the downstream side of the structure. The water in the ditch was fairly clear upstream of that point.

**April 2011 Meetings and Events**

- **April 2011** – First round of RLWD long-term monitoring for 2011.
- **April 1, 2011** – Anticipated start date for the Thief River Watershed Assessment Monitoring SWAG project. It may start sooner. Actual monitoring will begin in May.
- **April 6, 2011** – Thief River Town Hall landowners' meeting at the Whiteford Town Hall
  - What are their views on erosion problems?
  - What are their views on incentive programs?
  - Present our buffer initiative idea.
  - Gauge their opinions on what it would take to compete with crop prices and get buffers installed.
- **April 15, 2011** – Meeting with Mike Knutson and Dan Svedarsky – Crookston Stormwater Study planning.
  - The RLWD purchased a dipper sampler that Mike will use for sampling stormwater outlets this summer.
  - Mike will be testing the water with one of the RLWD's HACH 2100P portable turbidimeters.
- **April 18, 2011** - Meeting with Mike Knutson and Dan Svedarsky – Crookston Stormwater Study planning, 7 AM.

- **April 18 - 20, 2011** – “Ditching Dilemma” Science of Healthy Streams Class, Fergus Falls
  - Understanding Systems – Landscape Level (Ian Chisholm)
  - Ditch Law, Policy, and Application (Bruce Albright)
  - Understanding Streams and Ditch Related Issues
  - Understanding Systems – The Human Element
  - Turbidity Impairments and Ditches
  - Fluvial and Ecological Concepts in Ditch Systems
  - Field Tour: Tour of local ditching and restoration projects: Fergus Falls area



- Environmental accounting
- Restoring Stream Functions to Altered Waterways: Case Examples and Application
- Presentations and my notes are available at the RLWD.
- **April 21, 2011** – The Thief River Watershed Assessment Project is officially executed by the MPCA, so work can begin of this project.
- **April 22, 2011** - Meeting with Mike Knutson and Dan Svedarsky – Crookston Stormwater Study planning, 3 PM.
- **April 25, 2011** – Red River Basin Water Quality Team
  - We learned more details about the changes in the MPCA’s statewide water quality assessment schedule. Shannon Lotthammer (St. Paul MPCA office) spoke to the group.
  - Instead of assessing the entire state once every two years, the MPCA will be assessing each major subwatershed (i.e. Thief River, Clearwater River) just once every ten years.
    - There are 81 8-digit HUC watersheds in Minnesota. Approximately 8 will be assessed each year.
  - Change was needed because of an exponential increase in data and reductions in the amount of staff available for assessment work.
  - New 303(d) Lists of Impaired Waters will continue to be finalized on even years.
  - Delistings of impairments can still take place during an annual review.
  - Assessments will take place every year.
  - The MPCA plans to conduct Intensive Watershed Monitoring (IWM) in each watershed once every ten years. Surface Water Assessment Grants (SWAG) are

awarded to local agencies/organizations in order to accomplish the water quality sampling component of the IWM. The MPCA conducts biological monitoring during the first year of monitoring in each watershed.

- The MPCA thinks that the new approach will allow them to have a better understanding of each watershed that they assess.
- The MPCA wants to allow time for management practices to play out.
- Anticipated assessment schedule for RLWD watersheds:
  - Thief River:
    - IWM in 2011-12
    - Assessment in 2013
    - New listings in 2014
  - Red Lake River
    - IWM in 2012-13
    - Assessment in 2014
    - New listings in 2016
  - Grand Marais Creek
    - IWM in 2012-13
    - Assessment in 2014
    - New listings in 2016
  - Upper/Lower Red Lakes
    - IWM in 2014-15
    - Assessment in 2016
    - New listings in 2018
  - Clearwater River
    - IWM in 2014-15
    - Assessment in 2016
    - New listings in 2018
- **April 26, 2011** – Pennington County Water Resources Advisory Committee, 9 AM
  - First heard from Jim Courneya that the Thief River TMDL contract had been executed by the MPCA.
  - Wade Robinson, Penn. Co. Water Planner gave a presentation on current SWCD projects. He also announced that he will be leaving for another job in May. He has accomplished a lot in the last couple of years and we'll all miss working with him.
  - There still are problems at the Basswood Trailer Court. There are two failing septic systems and raw sewage is running through yards.
  - The Goddard and Novak bank stabilization projects made it through the winter okay.
  - The SWCD will be completing the Erickson streambank stabilization project along the Thief River near the golf course this year.
  - Mike Flaagan reported that there was more ditch cleaning than usual done last fall in anticipation of a wet spring.
- **April 27, 2011** – Envirothon at Lake Bronson State Park.
- **April 28, 2011** – On-site meeting at the Spring Gravel dam breach. Loren Sanderson, Corey Hanson, Dave Friedl (DNR), Nate Dalager (HDR Engineering), Garry Bennett and Scott Kahan (USFWS) will meet at the site to discuss restoration strategies.

**Plans for May 2011**

- Facilitate progress on the CD20 grade stabilization CWF project.
- Finish the first round of 2011 District Monitoring.
- Begin working on the Thief River Watershed Assessment Project.
  - Continuous flow and water quality monitoring
    - Install HOBO water level loggers
    - Install high water deployment pipes for Eureka Manta multi-parameter sonde deployment.
  - Civic engagement contract with RMB Environmental Laboratories.
  - Flow measurements
  - Inventory of existing water quality data
- Compile water quality data collected by Pennington and Marshall County water planners for the Thief River Surface Water Assessment Grant monitoring.

**Future Meetings/Events**

- **May 2011** – Second round of RLWD long-term monitoring for 2011.
- **June 8, 2011** – Marshall County Water Resources Advisory Committee
- **June 9, 2011** – NCERA 217 – Drainage Design and Management Practices to Improve Water Quality, Fargo, ND
  - I accepted an invitation from Gary Sands to give a presentation on the results of the RLWD tile drainage study.
- **June 16, 17, & 18, 2011** – MAWD Summer Tour, hosted by the RLWD and Middle Snake Tamarac Watershed District.
- **June 22, 2011** – Land Management Field School, UMC
  - I will be giving a presentation on watershed-based TMDLs.
- **June 23, 2011** – Red Lake River Corridor Enhancement meeting at the Red Lake Falls City Hall, 7 PM
- **June 27, 2011** – Red River Basin Water Quality Team meeting.
- **July 2011** – Third round of RLWD long-term monitoring for 2011.
- **July 5, 2011** – Pennington County Water Resources Advisory Committee, 9 AM
- **July 6, 2011** – Marshall County Water Resources Advisory Committee
- **Last 2 weeks in July** – Thief River geomorphology field work
- **September 2011** – Fourth round of RLWD long-term monitoring for 2011.
- **September 14, 2011** – Pennington County Outdoor Education Day
- **September 20, 2011** – Northwest Minnesota Water Festival in Warren
- **September 21, 2011** – Northwest Minnesota Water Festival in Fertile
- **October 4, 2011** – Pennington County Water Resources Advisory Committee, 9 AM
- **November 2, 2011** - Marshall County Water Resources Advisory Committee
- **January 3, 2012** – Pennington County Water Resources Advisory Committee, 9 AM