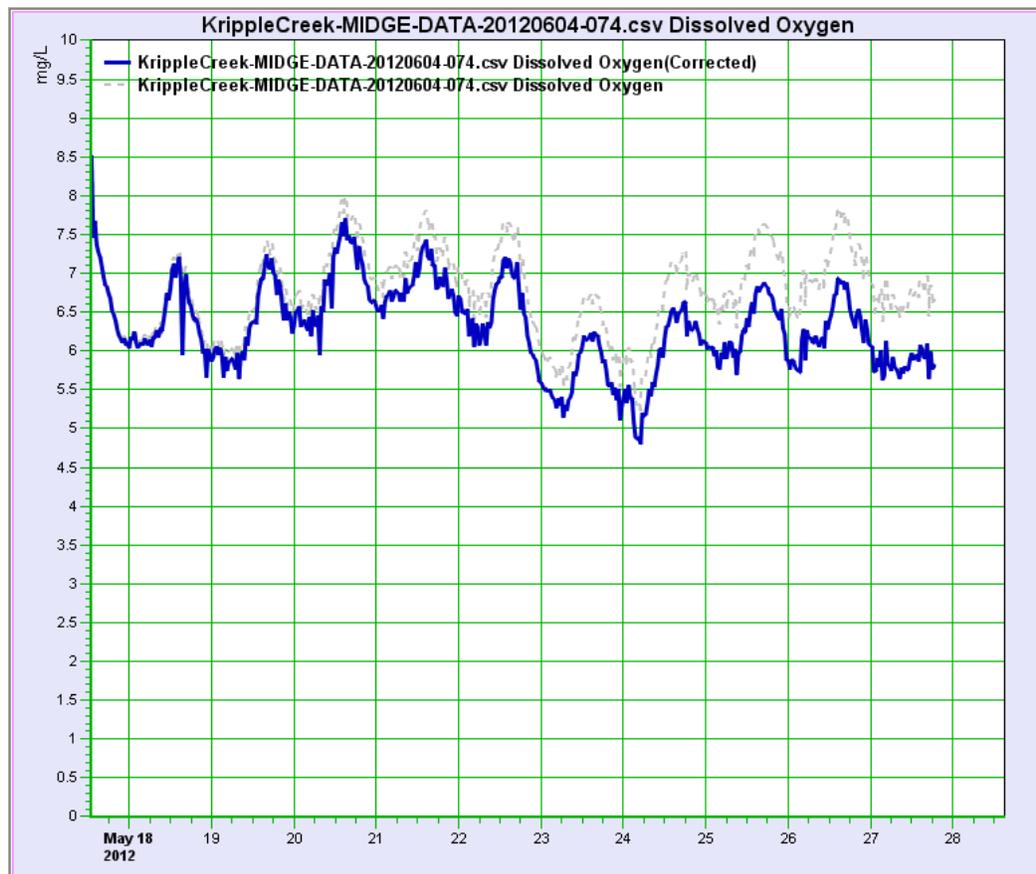


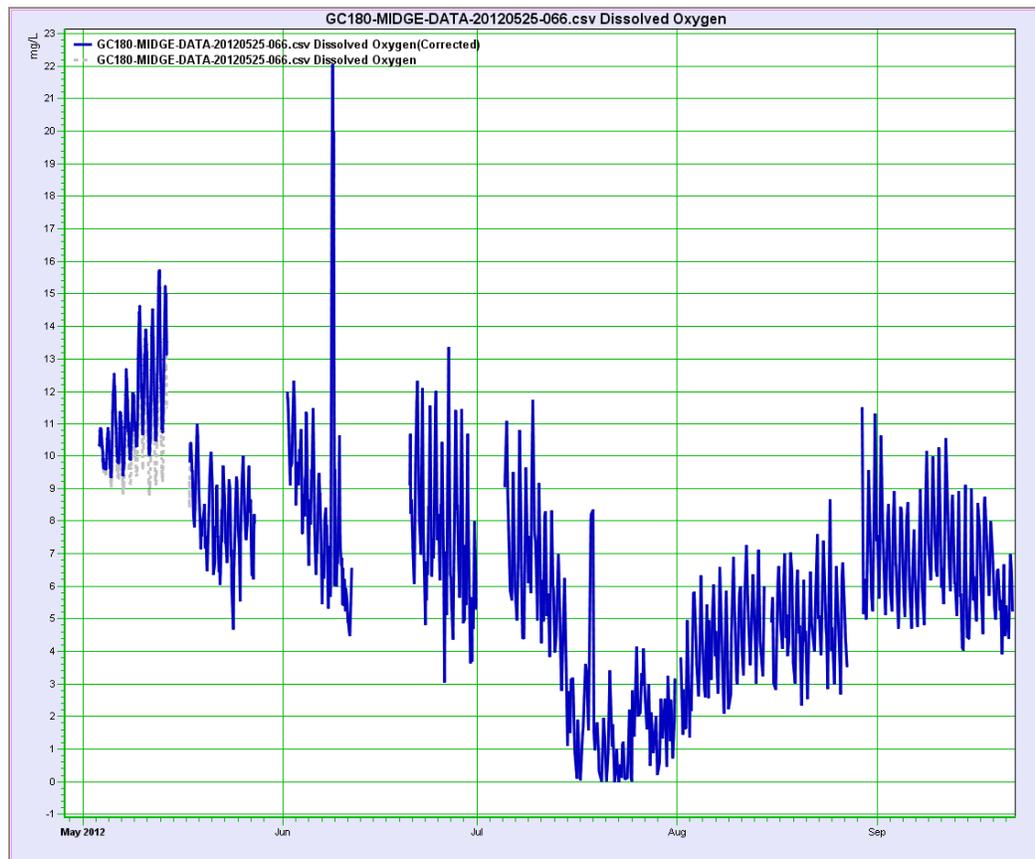
Red Lake River Watershed Assessment Project
(Watershed Restoration and Protection - WRAP)

A budget was created for Phase II of the project. Denise Oakes will be taking over as the new MPCA Project Manager for this project. The original Project Manager, Jim Courneya, was awarded the position of Watershed Unit Supervisor in the Detroit Lakes office.

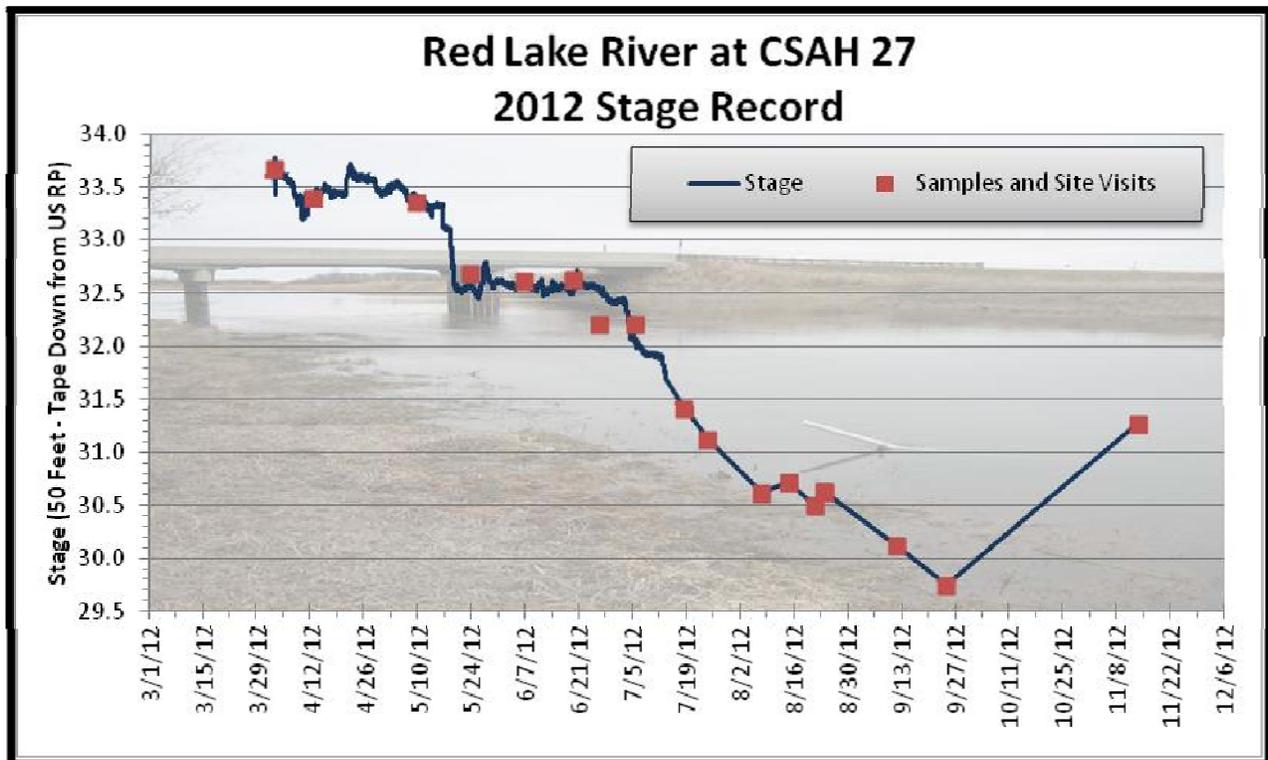
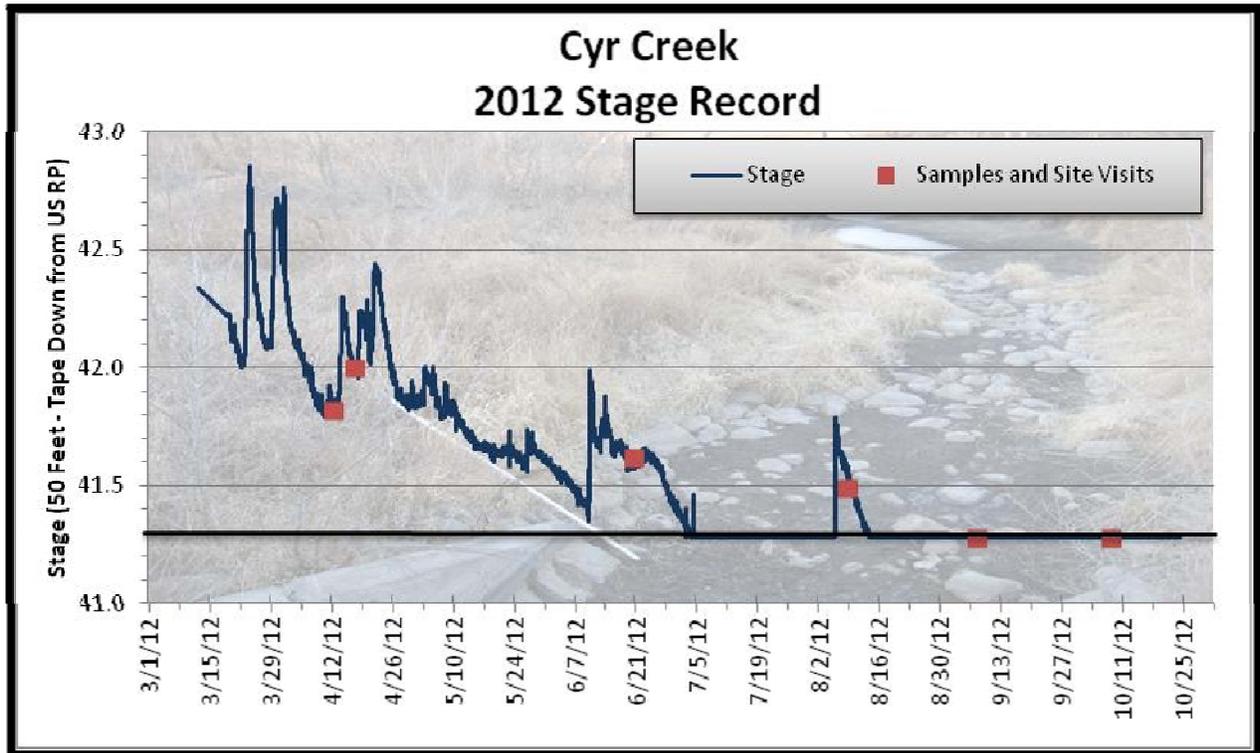
- Task 3 – Continuous Water Quality Monitoring
 - During the summer, sondes were deployed for many two-week periods at six sites in the Red Lake River watershed. Before the data is analyzed, the two-week chunks of data are compiled and then corrected to compensate for fouling drift and calibration drift that occurs during deployment.
 - Continuous water quality data from Kripple Creek was compiled and corrected. Later in the summer, as flow stagnated, the equipment failed to produce accurate results for very long into each deployment. This stream may need to be monitored again in 2013 with optical dissolved oxygen sensors to ensure accuracy, even in stagnant conditions. The equipment functioned well in May. Even in May, there was a day where dissolved oxygen dropped below the water quality standard of 5 mg/L. Additional monitoring would be important for verifying whether or not the creek is actually meeting the standard.

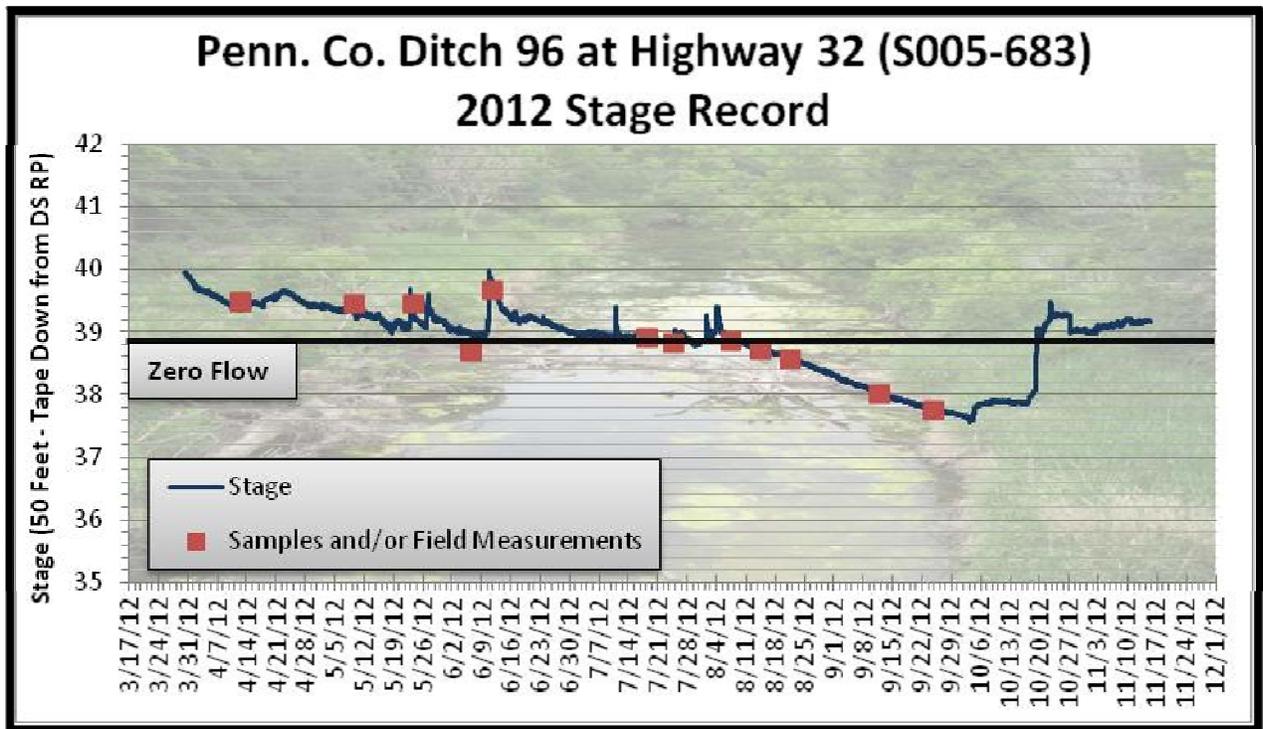
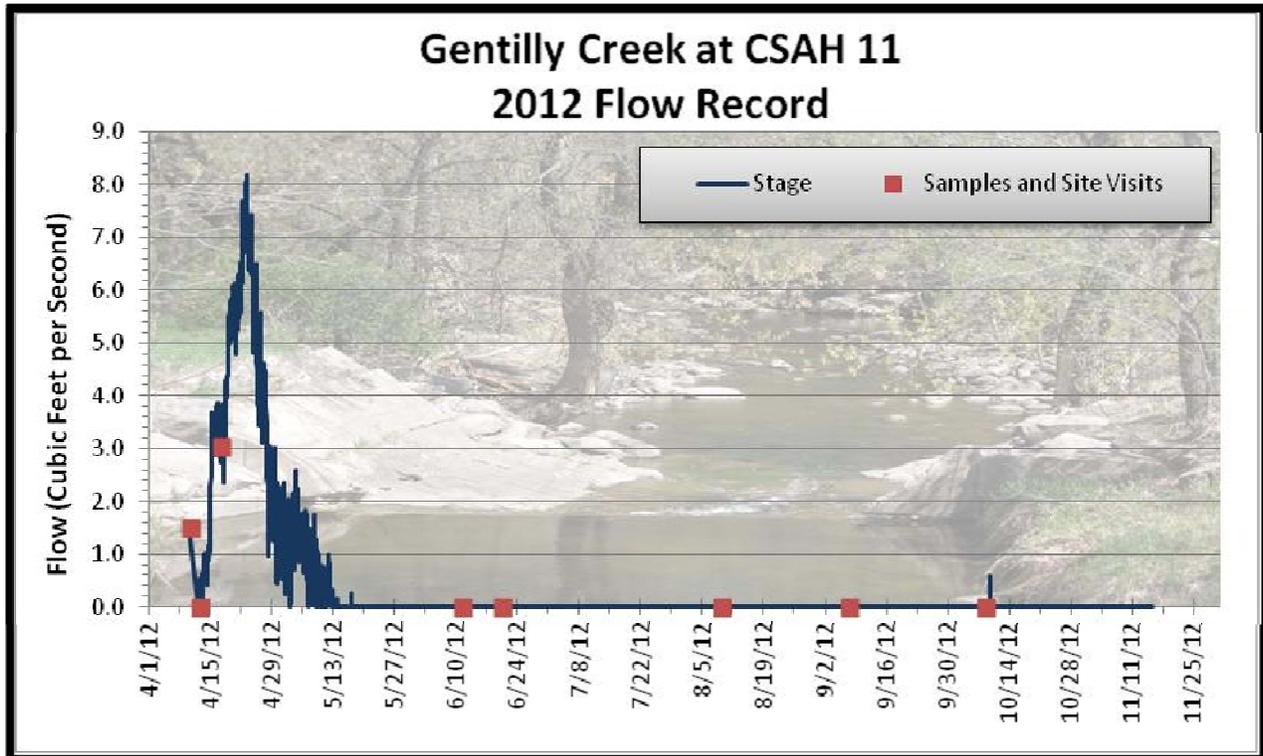


- The continuous dissolved oxygen data from Gentilly Creek (at the crossing south of the Snow Sled Inn on 180th Ave SW) was compiled and corrected. There were extended periods of zero or near zero flow in Gentilly Creek during the summer of 2012. The dissolved oxygen sensors at this site remained submerged in water because of the water pooled behind a downstream beaver dam. Because of the stagnant water, however, dissolved oxygen levels frequently dropped below the water quality standard of 5 mg/L.



- Task 5 – Stage and Flow Monitoring
 - Raw HOBO Water Level Logger data was converted to water level records and exported to CSV files.
 - HOBO Water Level Logger stage records were compiled, plotted, and converted into flow records (where flow rating curves exist).
 - Data sets from event-based monitoring sites were compiled first and sent to State staff.
 - The following graphs display stage or flow records for the sites from which data was compiled, transformed, and plotted during the month of January. There are some more sites remaining that will be completed in January.





- Task 10 – Civic Engagement
 - Lori Clark is planning a “World Café” event in the watershed that will involve a meal for participants and small group discussions about specific topics.
 - Civic group presentations, public library presentations, a public update meeting for the Upper Red Lake River watershed, a public update meeting for the Lower Red Lake River watershed, an open house event at the RLWD, coordination with school field trips (if possible), coordination with Chamber of Commerce events, and website development are in the plans for the first six months of 2013.
- Task 11 – Identification of Sources and Solutions
 - A culvert inventory for the hydro-correction of LIDAR data continued in December. Alisha Mosloff, the RLWD Water Quality Assistant continues to work part-time and help with this project during the school year. She finished the culvert inventory for the Red Lake River watershed in early January.
 - The digital elevation model (DEM) surface that will serve as the foundation of the stream power index analysis was built. The culvert inventory will be used to “burn” flow paths into the surface where there are bridges and culverts.

Thief River Watershed Assessment Project
(Watershed Restoration and Protection - WRAP)

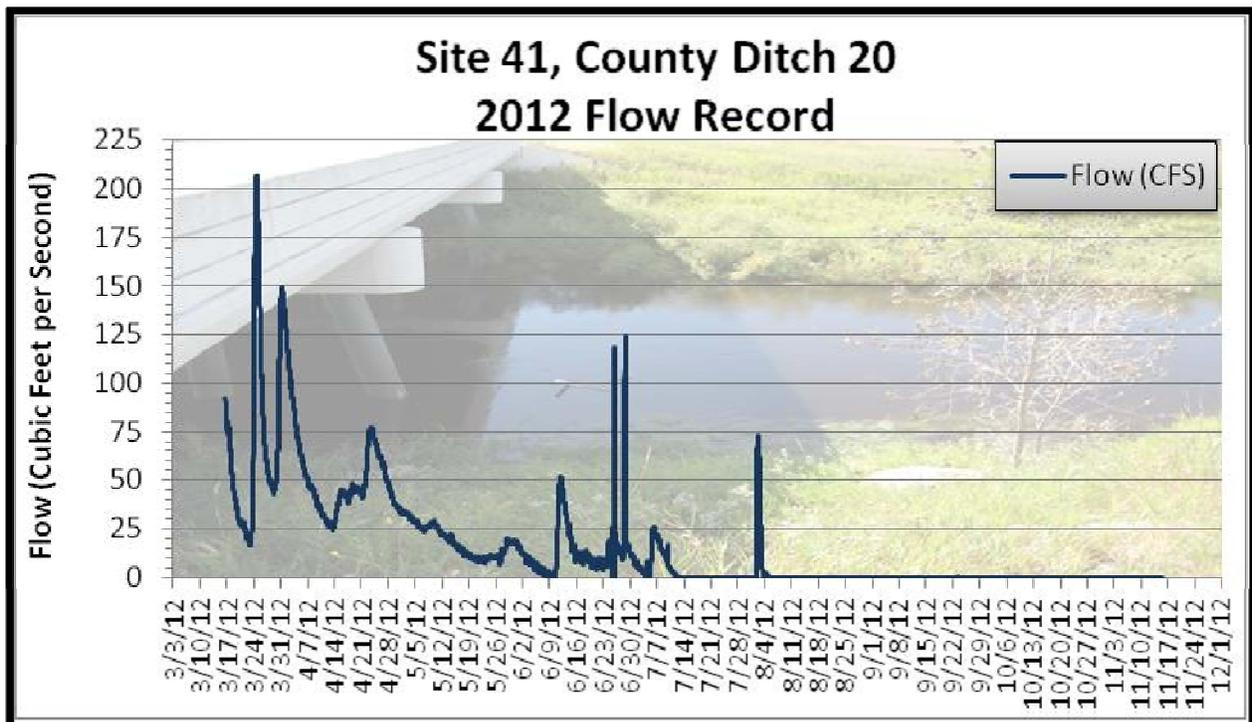
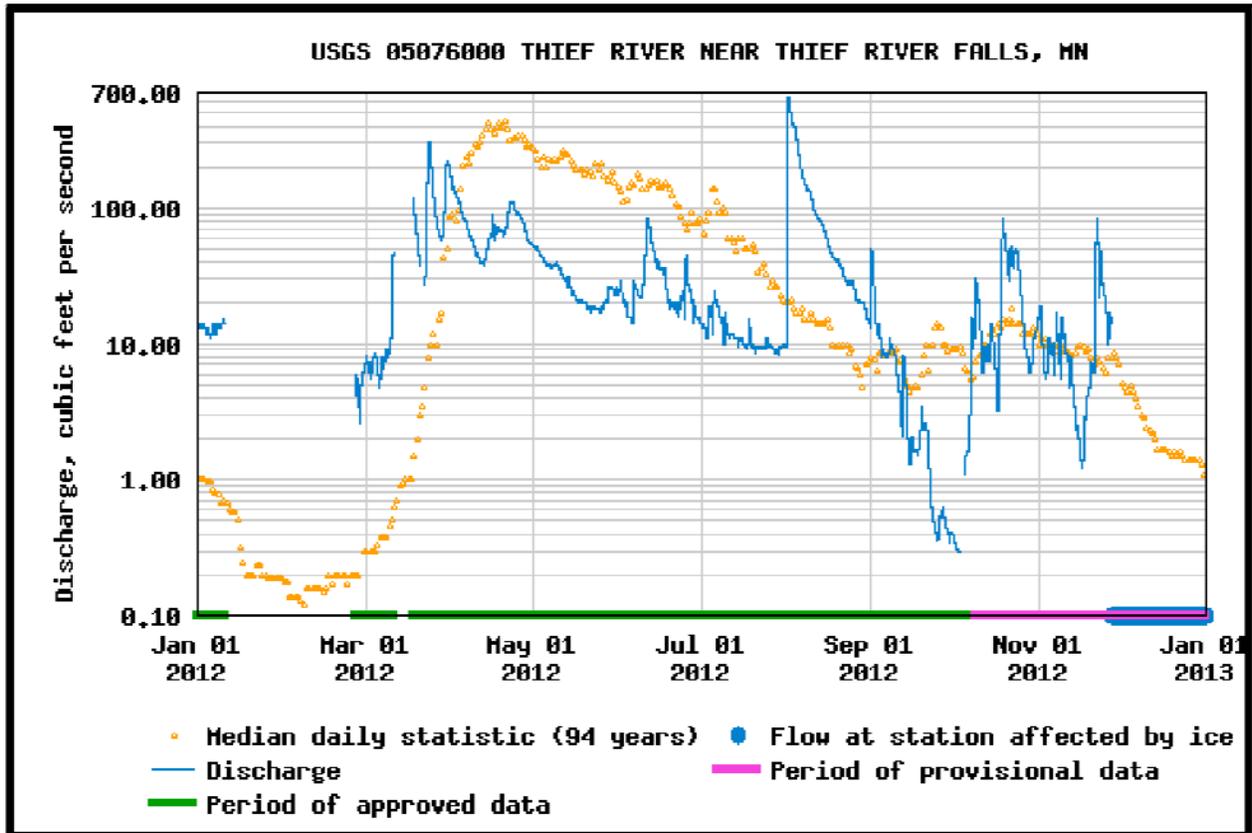
The work plan was edited for this project via a change order to move money from completed tasks (water quality sampling) and tasks where less money is needed (biological monitoring) to tasks that need more funding (identification of sources and solutions – LIDAR terrain analysis).

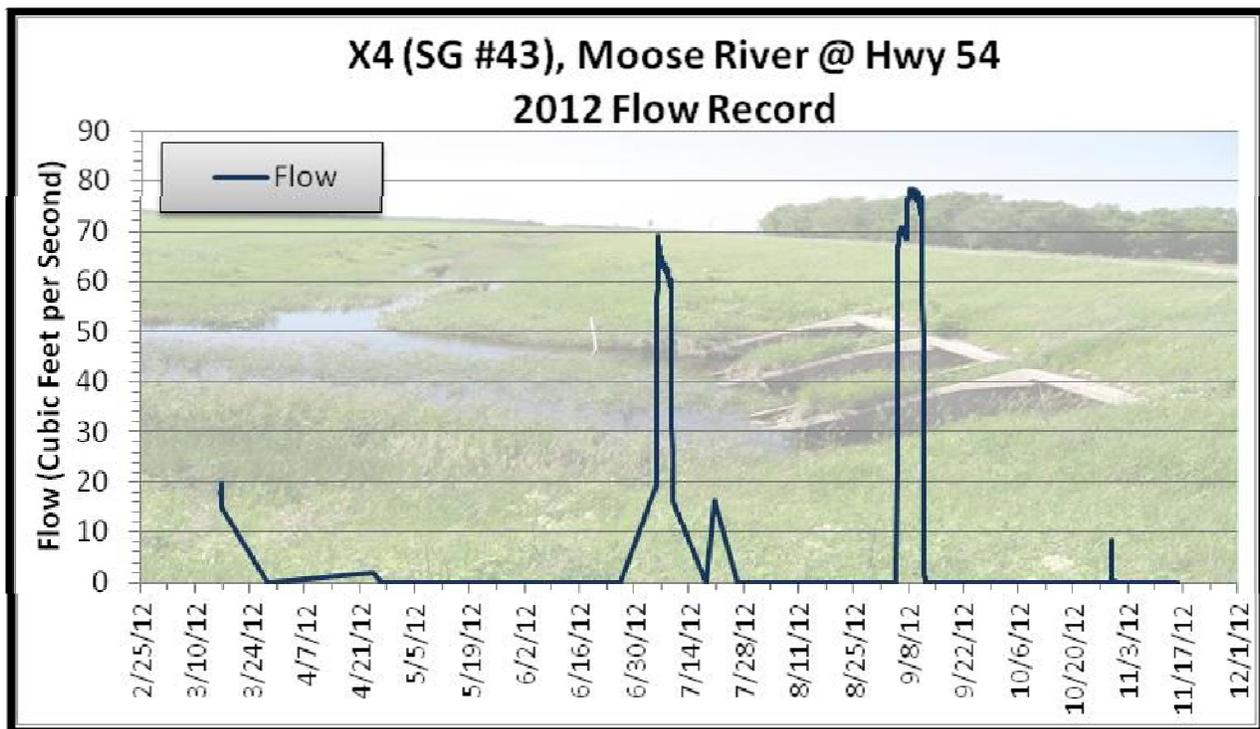
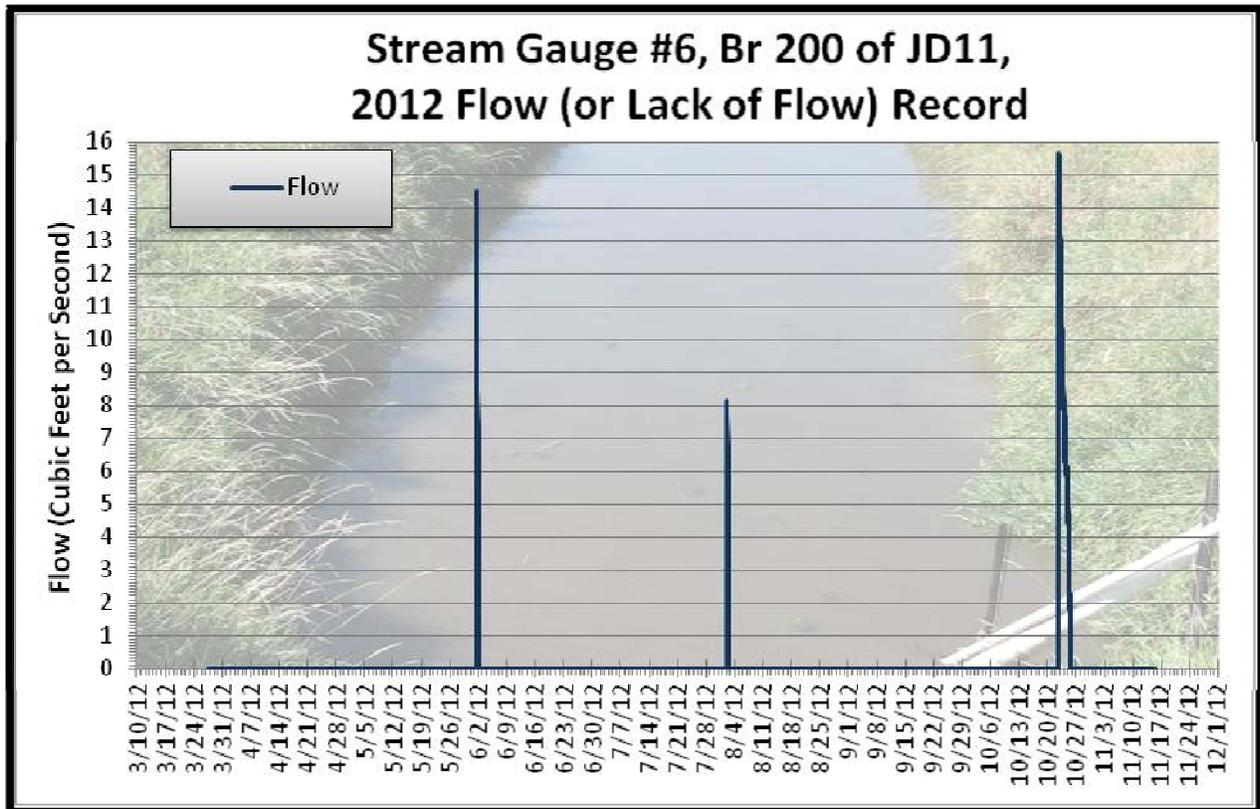
- Task 5 – Stage and Flow Monitoring
 - The DNR plans to install telemetry at the Mud River gauging site at Highway 89.
 - More 2012 stage and flow data from HOBO water level loggers was compiled.



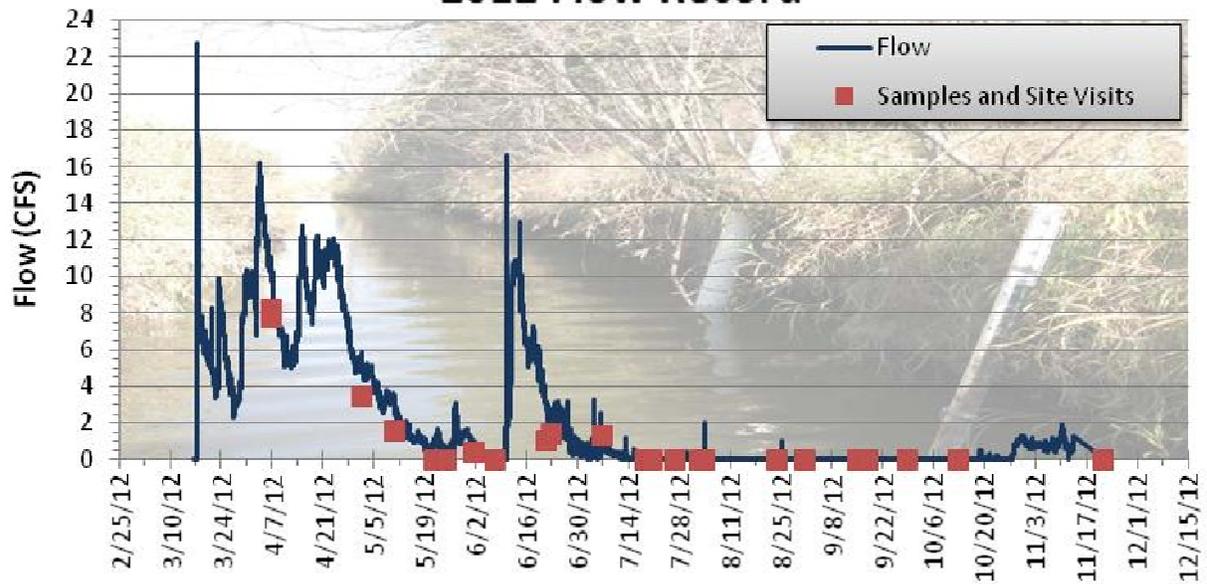
RED LAKE WATERSHED DISTRICT
MONTHLY WATER QUALITY REPORT

January 2013

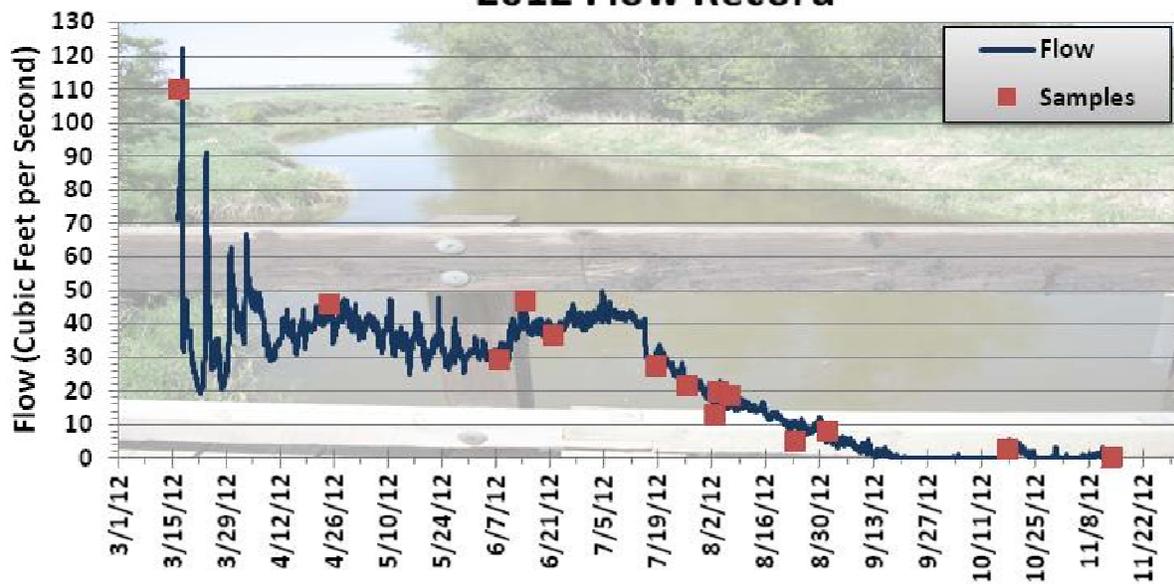




Branch A of JD21 at County Road 48 2012 Flow Record



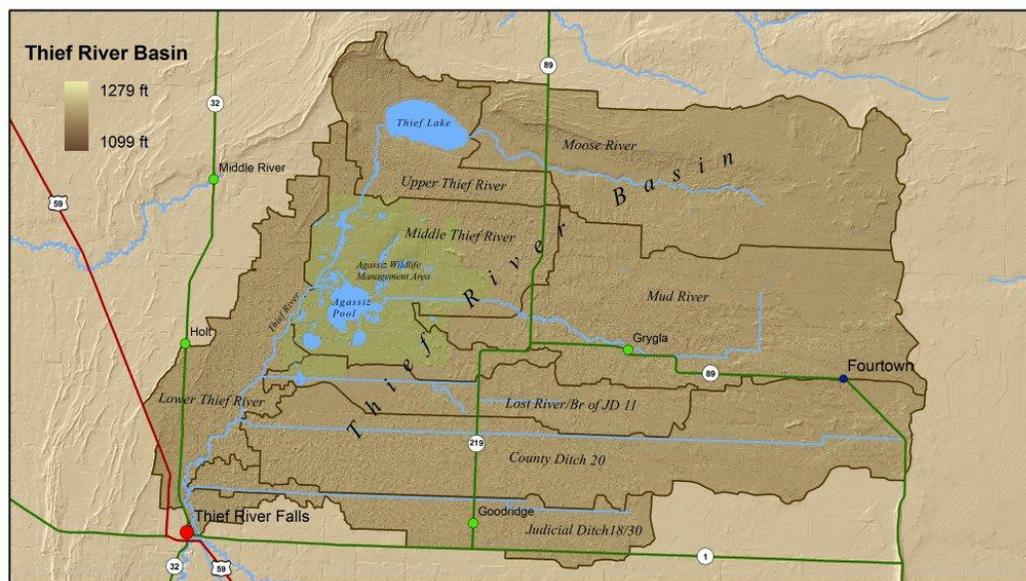
Thief River at 380th St. NE - N of Agassiz Refuge 2012 Flow Record



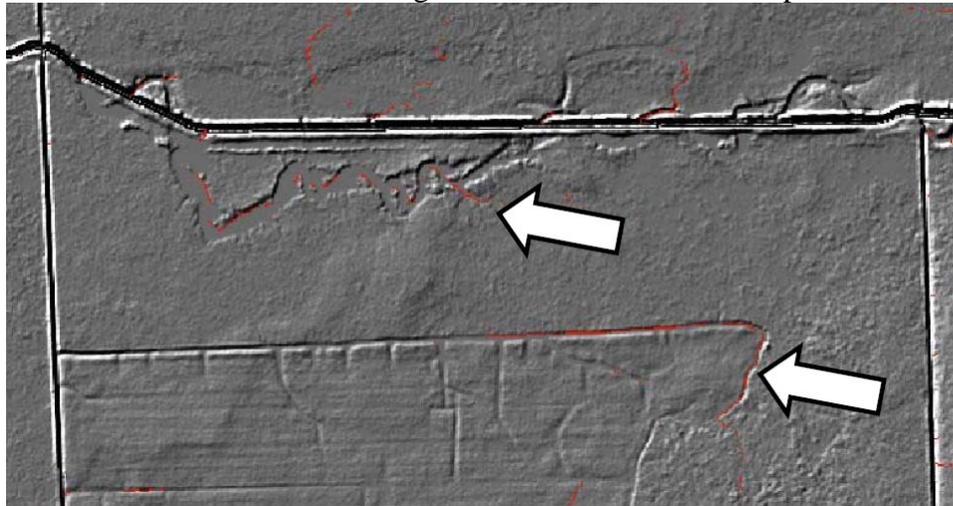
- Task 6 – Channel Stability Assessment
 - Photos were organized and the best ones were posted online.
- Task 9 – Data Entry
 - 2012 monitoring data was entered and submitted to the MPCA for entry into the EQuIS database.
 - Completed a data review for this project.
- Task 11 – Civic Engagement
 - Lori Clark will be mapping social networks within the watershed.
 - Lori attended a RLWD Board meeting to talk about upcoming civic engagement events and get feedback from the Board.
 - A “World Café” event was held for the Thief River watershed at the Black Cat Bar and Grill in Thief River Falls. With help from Lori, the RLWD received a grant from In Commons and the Meadowlark Institute to cover some of the expenses from this event. The event was well-publicized and well attended. The format of having multiple small-group discussions generated a significant amount of ideas and opinions. The groups discussed and shared their answers to three questions that were posed.
 - How does the Thief River add to my family’s quality of life?
 - Boating, fishing, scenery, drainage, snowmobiling, drinking water, and wildlife corridor were some of the answers.
 - If the Thief River was managed to its highest potential, what additional benefits would it provide my family?
 - Answers included better drainage, recreation, more constant flows and water levels (less flashiness and more base flow for aquatic life), less flooding, more game fish, less erosion, less sedimentation, better water quality, better access to the river, better tasting water in the city of Thief River Falls, lowered costs of water treatment, and “good neighbors upstream and downstream.”
 - How can the local agencies and landowners manage the river itself and the land adjacent so that the river can reach its full potential?
 - Some of the shared ideas included education, access to the river for recreation, better communication among agencies, community awareness, properly installed side water inlets, bank stabilization, increase tile drainage, regulate drainage, don’t impede flow in the river, remove sediment from wildlife wetlands, fish ladders at dams, living snow fences, retain water on the landscape, buffers along waterways, work together, more impoundments, restore meanders, increase payments for conservation incentive programs, figure out where E. coli problems are coming from, and “wear slippers, so you can’t dig your heels in.”



- A Thief River Watershed Restoration and Protection Project Stakeholders' Update meeting was planned and scheduled for February 20th, 2013.
- Civic group presentations, public library presentations, a public update meeting for the Upper Red Lake River watershed, a public update meeting for the Thief River watershed, an open house event at the RLWD, coordination with school field trips (if possible), coordination with Chamber of Commerce events, and website development are in the plans for the first six months of 2013.
- Jim Blix created a high quality map of the watershed that will be used on brochures and other informational items that are created for the Thief River.



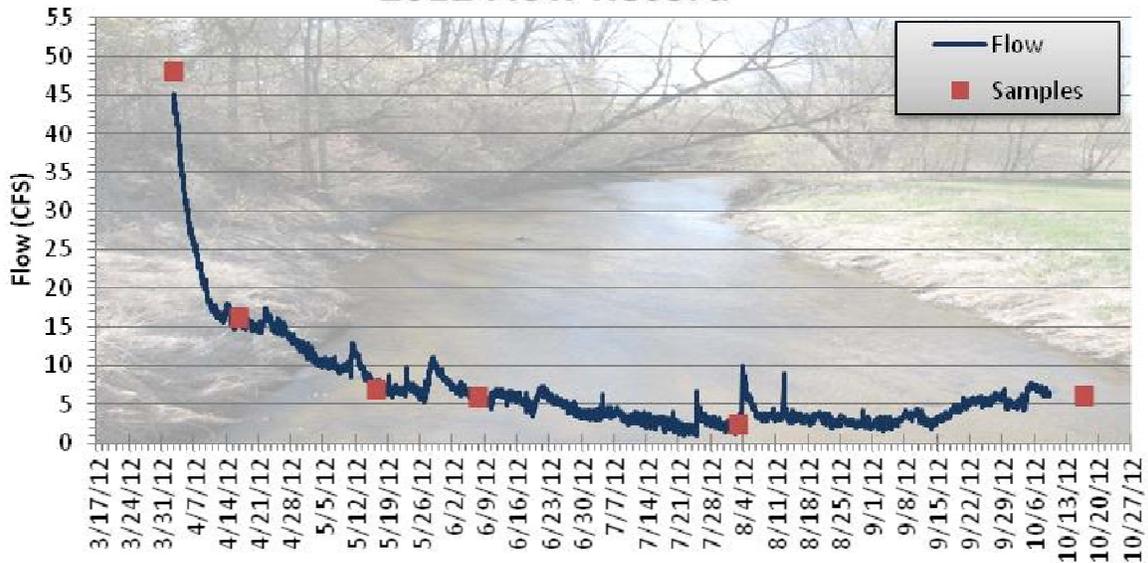
- Task 12 – Identification of Sources and Solutions
 - Jim Blix has been working on a Stream Power Index for parts of the Thief River watershed. Stream Power Index layers have been generated for some of the subwatersheds of the Thief River. The layers can be “filtered” so that they only display the highest values with the highest risk of erosion problems. More work needs to be done on the task of determining the threshold at which SPI values begin to predict erosion problems. The pixelated SPI layers don’t show up well on maps, though. So, shapefiles based on the SPI results will need to be generated so that the features can be made larger and more visible on a map.



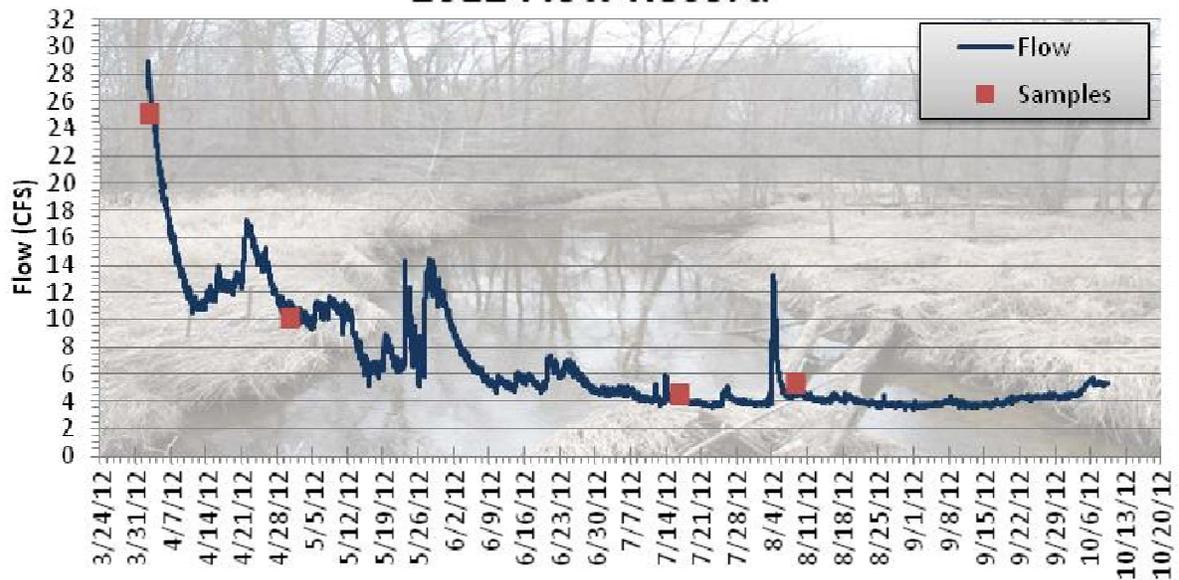
Stream Gauging

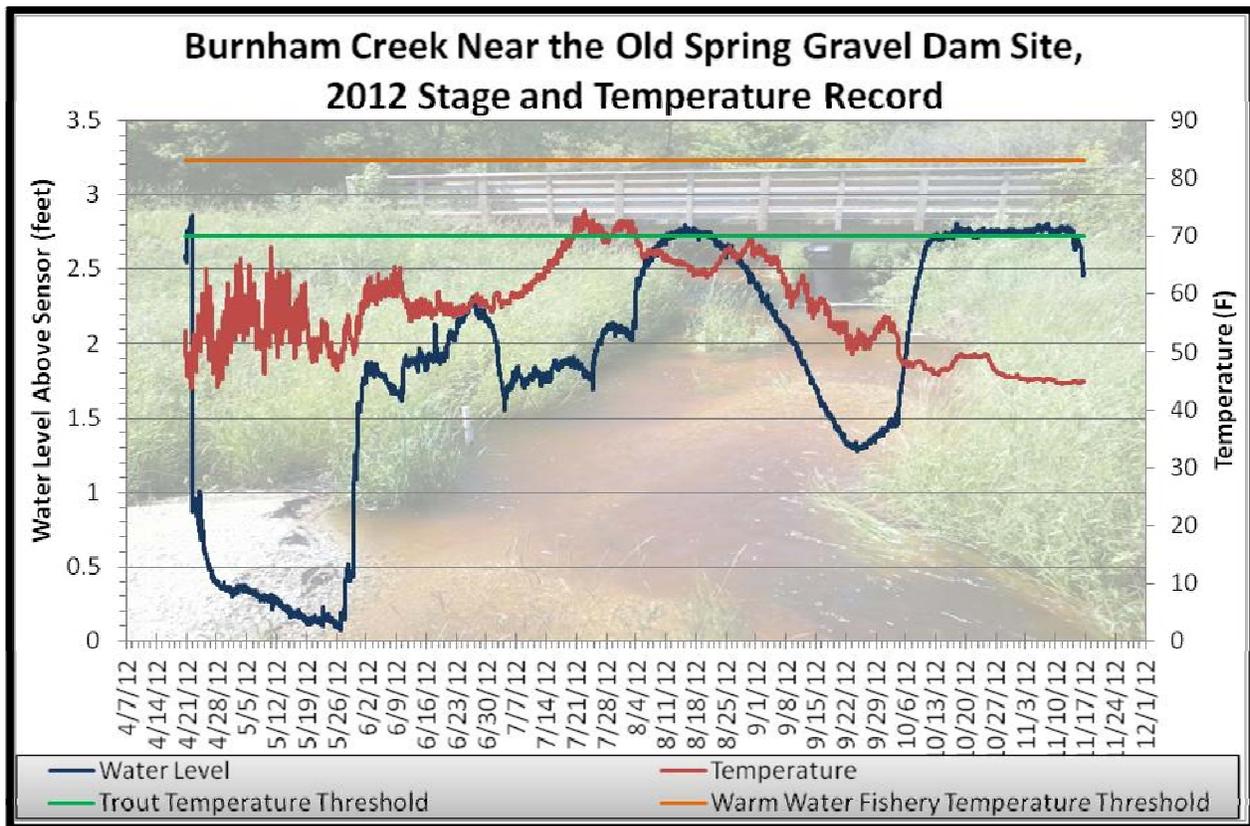
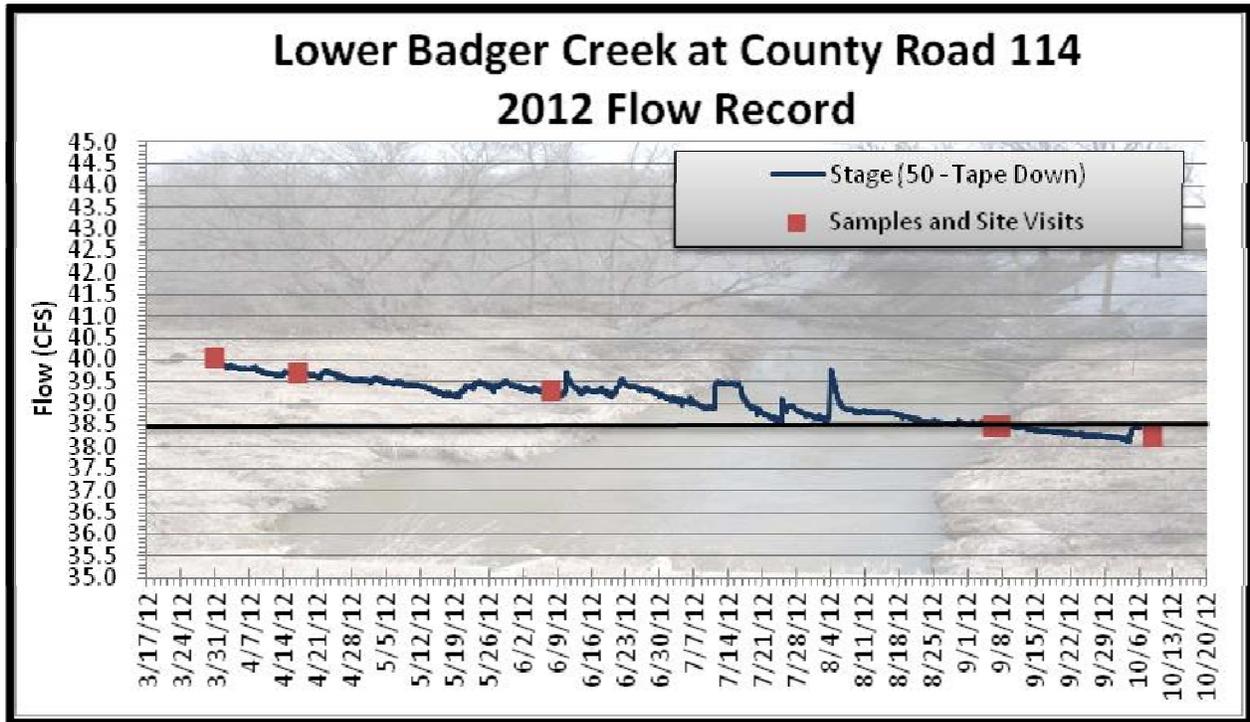
HOBO water level records from sites within the Clearwater River watershed were downloaded and compiled. This stage monitoring was conducted in anticipation of future WRAP projects within the watershed that will need flow data from tributaries of the Clearwater River. The 2012 water level data from the Hill River, Ruffy Brook, Lower Badger Creek, and the Spring Gravel Dam site (along Polk County Ditch 79) was transformed to flow and plotted during the month of January.

Hill River at County Road 119 2012 Flow Record



Ruffy Brook at County Road 67 2012 Flow Record





Other Notes

- In January of 2013, we lost an active advocate for improved water quality and water management. His lifetime of public service serves as an example to which we should all aspire. He was well-read and very involved in various public meetings, city planning, and advisory committees. Don's visits to our office and the thought provoking discussions that we had will be missed.
- The Grand Marais Creek Watershed Restoration and Protection project could be starting soon.. \$115,000 in Clean Water, Land, and Legacy funds will be going to EOR Engineering to cover most of the work and \$8,400 will be going to the Red Lake Watershed District.
- Some time was spent on budgeting for 2013 and planning for the year. All of the work that needs to be done for the WRAP projects will create a very full schedule for 2013. There is more than enough work to do this summer for the RLWD water quality.
- A final Elink report for the Grand Marais Cut-Channel Stabilization Clean Water Fund Project was started.



January Meetings and Events

- **January 8, 2013** – BWSR Elink webinar
- **January 9, 2013** – Marshall County Water Resources Advisory Committee
 - The February 13th Ditch Maintenance meeting was discussed.
 - Once the Stream Power Index products are finished for the Thief River, a small meeting should be set up to discuss how they will be used with local SWCDs, NRCS, MPCA, and DNR staff.
 - Representative Peterson had \$50 million for flood retention in the Red River Basin in the Farm Bill that was proposed, but not funded.
 - The number of feedlots in the county is shrinking due, in part, to TB, retirements, and regulations.

- **Tree rows and windbreaks are dying.** Small root systems, chemicals, fungus issues, and emerald ash borers are contributing to this problem. Some species of trees are reaching the end of their life cycles and are being removed (Chinese elms). Hybrid poplar trees only last about 20 years because they grow too fast and then break. Some re-establishment is occurring, but not much. Black hill spruce trees work well in sandy soil. Although conifers take a while to grow, they are very effective. Ash used to be a go-to tree, but not anymore. Instead, cottonwood and boxelder trees are becoming more popular.



- **January 10, 2013** – Burnham Creek Watershed Restoration Project Development and Planning Meeting
 - The West Polk SWCD District Manager will take care of the administration of the project.
 - Grade stabilization structures will be constructed.
 - Fish passage problems will be addressed at three perched culverts and a NRCS weir structure using a separate grant.
- **January 18, 2013** – International Water Institute Water Quality Decision Information Tool stakeholders' Meeting.
 - The tool will function much like tax software does, it will step you through a series of questions and then prepare a report for you.
 - Users will be able to download geospatial products from the tool.
 - Users will use the tool to prioritize watersheds for BMP implementation.
 - HSPF modeling products will be available as a downloadable product.
 - Water retention opportunities can be identified with the tool.
 - Pollutant Source Assessment Reports will generate a series of maps: impaired waters, shaded relief, stream power index, sediment source loads, and nutrient loads.
 - The tool will have the ability to generate reports that describe the effectiveness (pollutant reduction percentage) of a specific BMP project.
 - A strategy and plan for long-term funding is needed.

- The tool is currently only being developed for a few pilot watersheds (Sand Hill River and Buffalo River in Minnesota).
- **January 29, 2013** – World Café event at the Black Cat Sports Bar and Grill for the Thief River WRAP civic engagement
- **January 31, 2013** – The second progress report or final report for the Thief River SWAG monitoring is due.

Plans for February 2013

- Thief River Watershed Restoration and Protection Project.
 - Produce an updated assessment of water quality conditions in the watershed.
 - Stream power index analysis of sub-basins in the Thief River watershed.
 - Create a web page dedicated to the Thief River Watershed
 - Compile and apply corrections to continuous water quality data.
- Red Lake River Watershed Assessment Project
 - Produce an updated assessment of water quality conditions in the watershed.
 - Create a webpage dedicated to the Red Lake River
 - Compile and apply corrections to continuous dissolved oxygen data.
- Finish the final E-Link reports for BWSR CWF projects.

Future Meetings/Events

- **February 1, 2013** - BWSR CWF Grant semi-annual progress reports are due.
- **February 1, 2013** - MPCA Thief River Watershed Assessment Project semi-annual progress report is due.
- **February 13, 2013** – Maintenance, Land Alterations, and Management of drainage Areas meeting at the Newfalden Community Center
- **February 20, 2013** – Thief River Watershed Restoration and Protection Project Stakeholders' Update Meeting. Ralph Engelstad Arena Imperial Room in Thief River Falls
 - Water quality conditions
 - Overall progress of the project
 - Civic engagement activities and plans
 - Findings of the Agassiz National Wildlife Refuge Water Quality Study
 - Stream channel stability assessment
 - HSPF modeling of the watershed by Houston Engineerins, Inc.
 - Marshall County SWCD's buffer initiative
 - Pennington County SWCD implementation projects
 - CD20 grade stabilization project
 - Using LIDAR data to find erosion problems
 - Biological sampling and watershed assessment by the MPCA
 - Future plans for the project
- **March 11, 2013** - Pennington County Water Resources Advisory Committee meeting, 9 am

- **March 20, 2013** - Marshall County Water Resources Advisory Committee
- **March 20, 2013** – RLWD Overall Advisory Committee meeting
- **June 30, 2013** – Expiration of the Thief River Watershed Assessment Project Contract.
- **June 30, 2013** – Expiration of the Red Lake River Watershed Assessment Project – Phase I Contract.
- **June 30, 2013** – Final report for the Thief River SWAG grant is due
- **July 30, 2013** – Due date for the final progress report and final invoice for the Thief River Watershed Assessment Project
- **July 1, 2013** – Beginning of Phase II of the Thief River and Red Lake River Watershed Restoration and Protection Projects.
- **July 17, 2013** – Marshall County Water Resources Advisory Committee
- **July 31, 2013** – Final payment request for the Thief River SWAG is due.
- **October 16, 2013** - Marshall County Water Resources Advisory Committee

Red Lake Watershed District Monthly Water Quality Reports are available online at:
<http://www.redlakewatershed.org/monthwq.html>.

“Like” the Red Lake Watershed District on [Facebook](#) to stay up-to-date on RLWD reports and activities.

Quote of the Month:

“Genius is the ability to reduce the complicated to the simple”
– C.W. Ceran