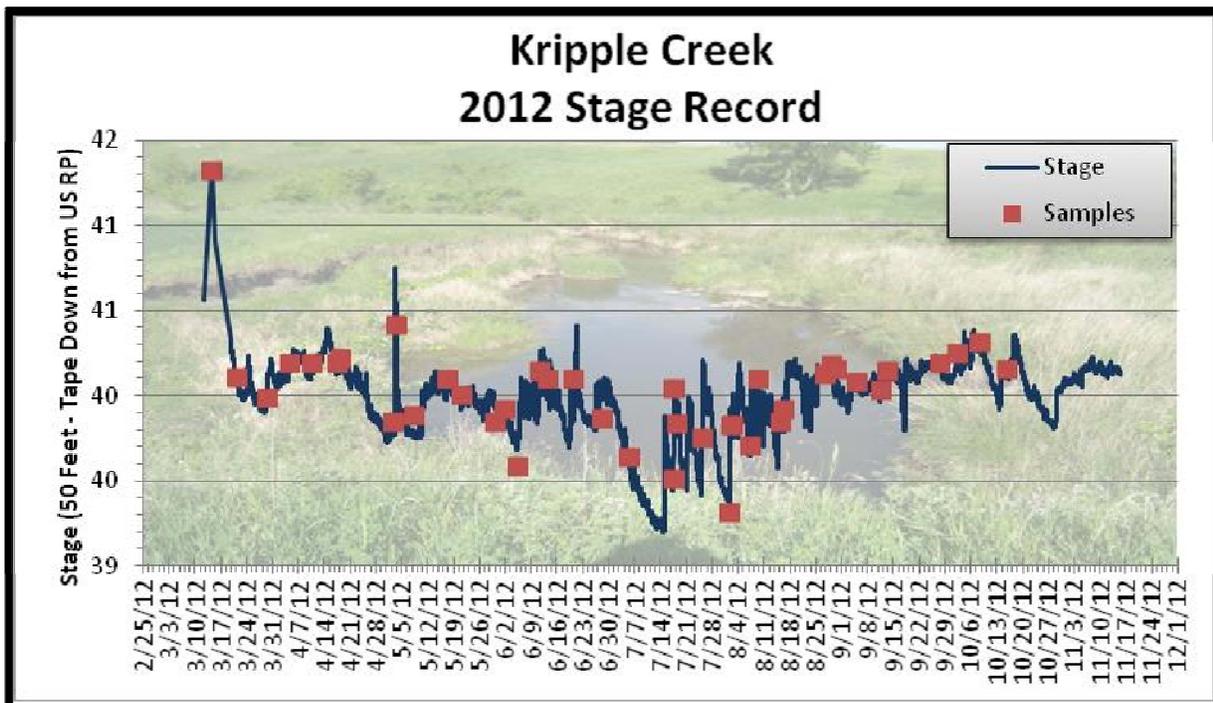
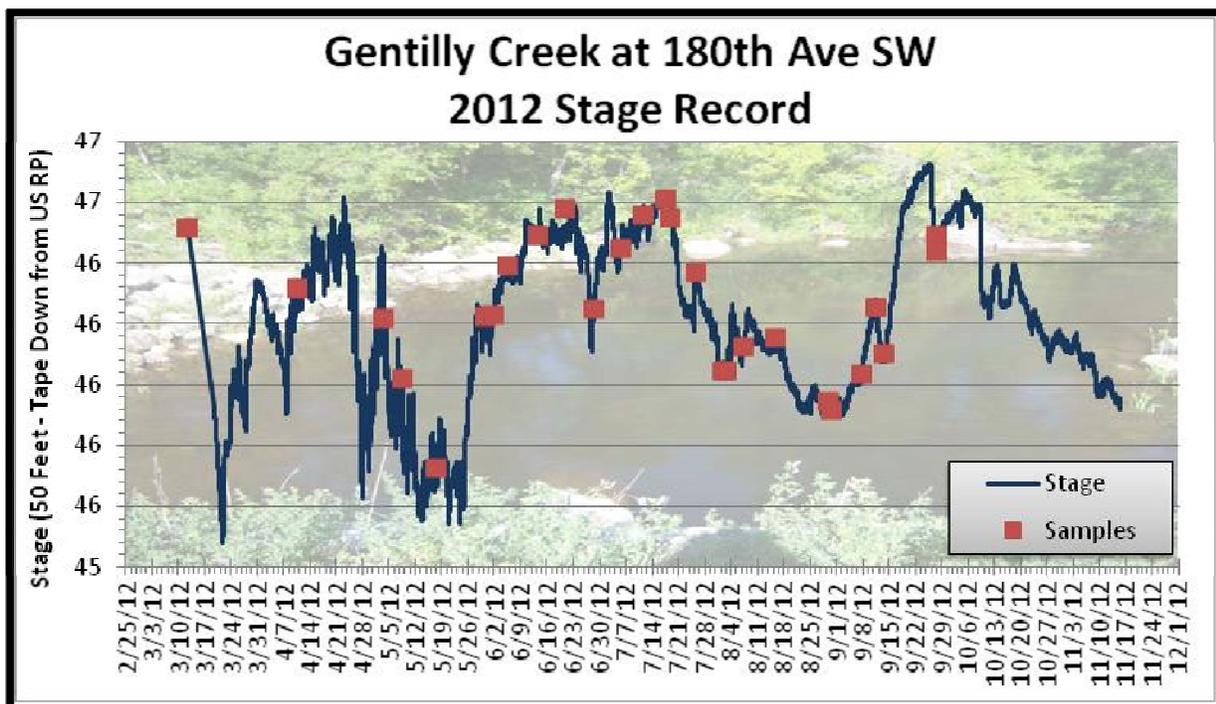
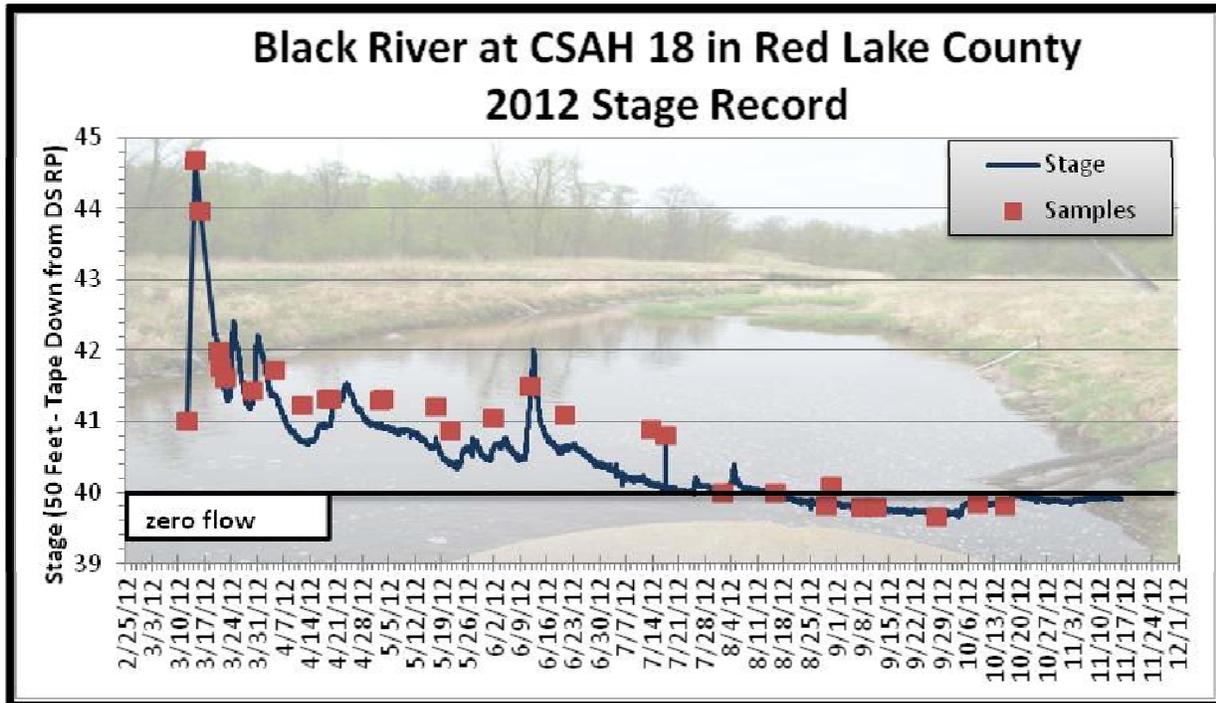


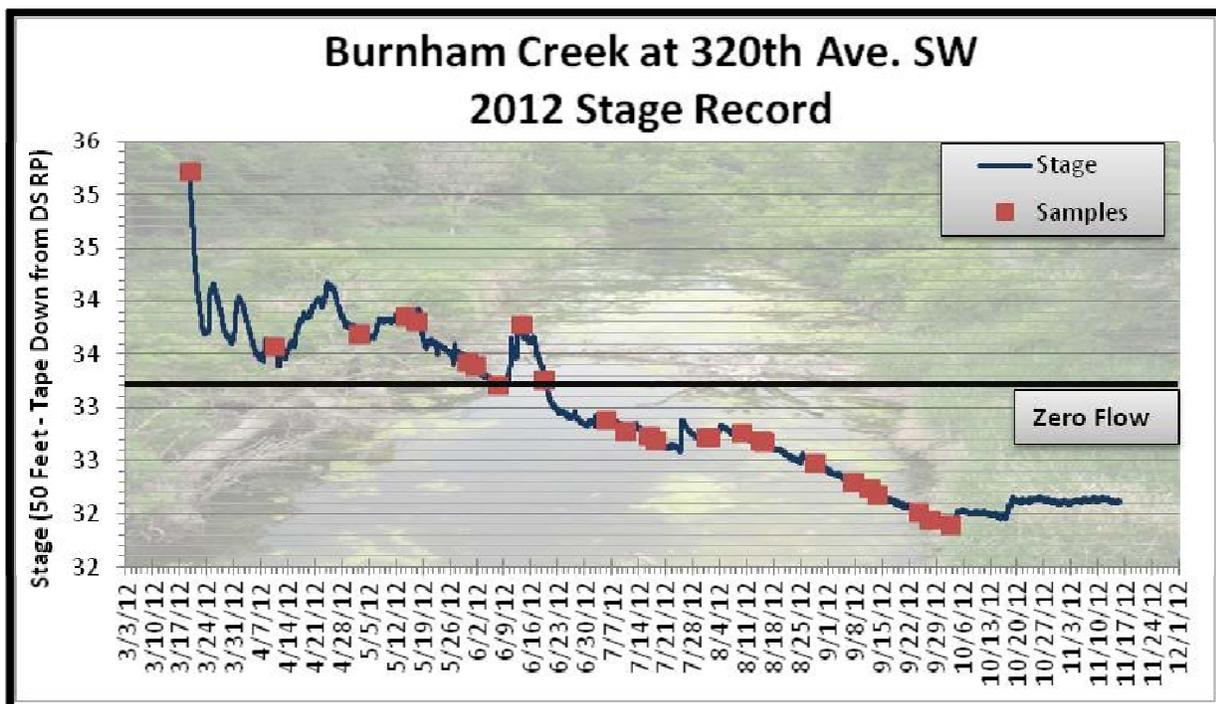
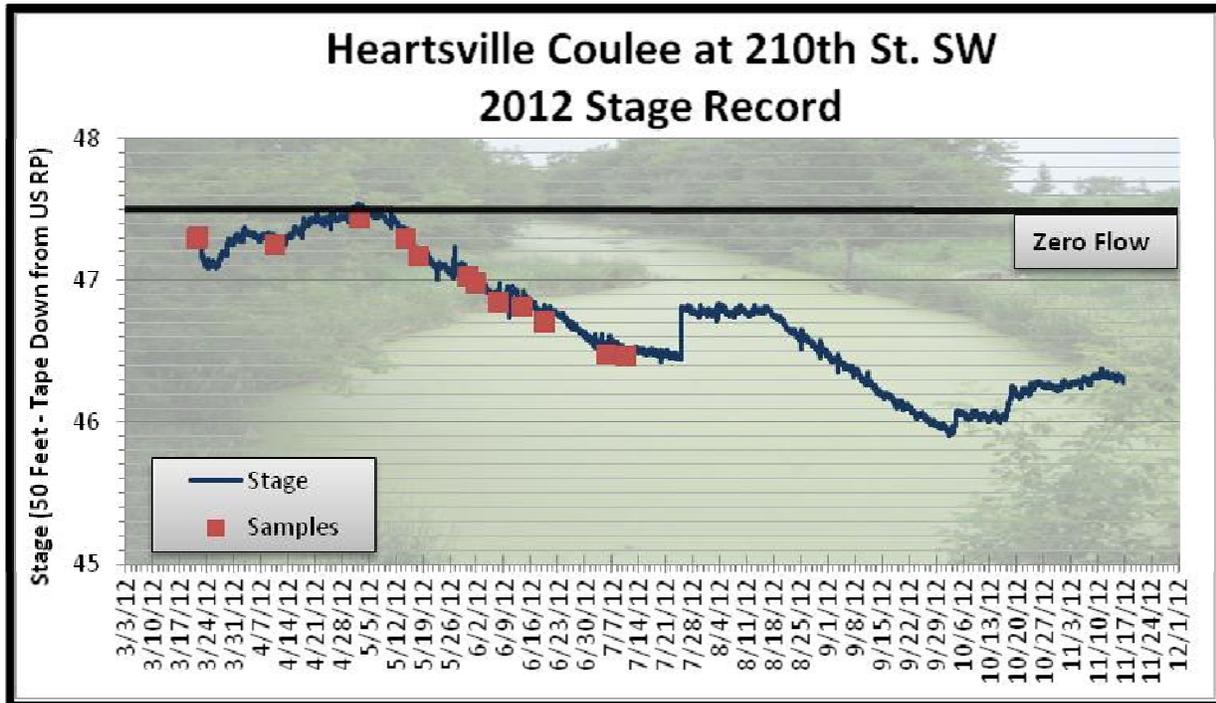
Red Lake River Watershed Assessment Project
(Watershed Restoration and Protection - WRAP)

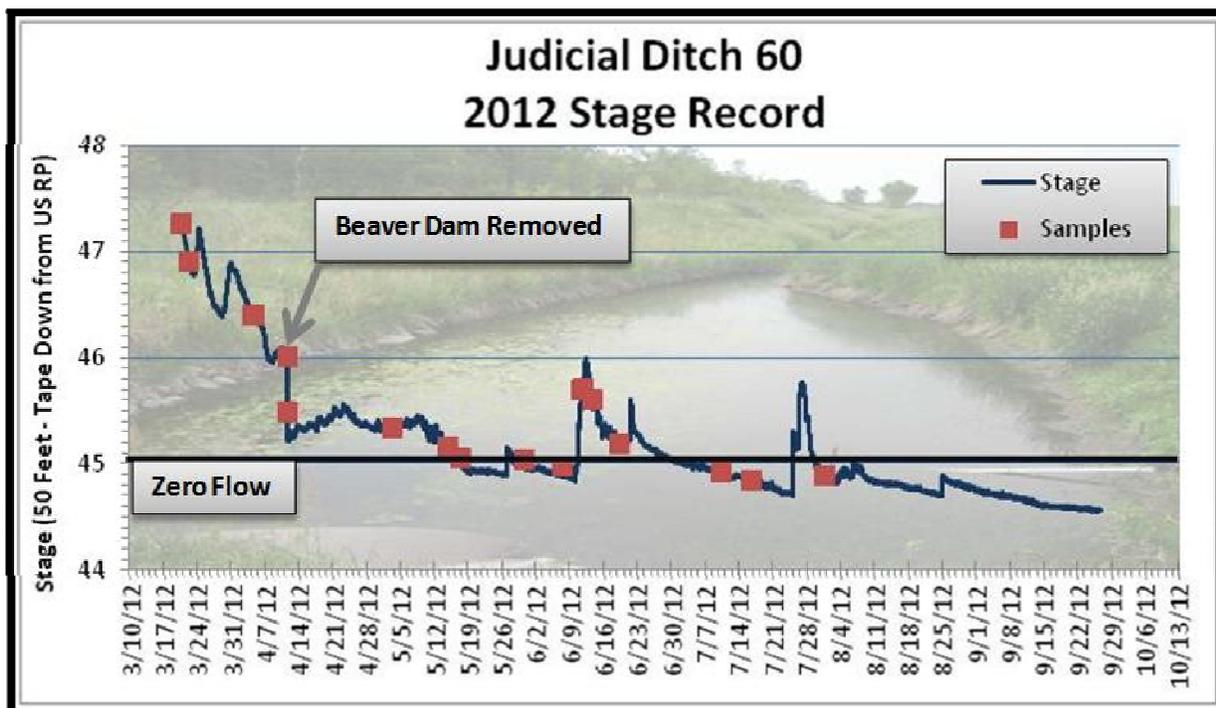
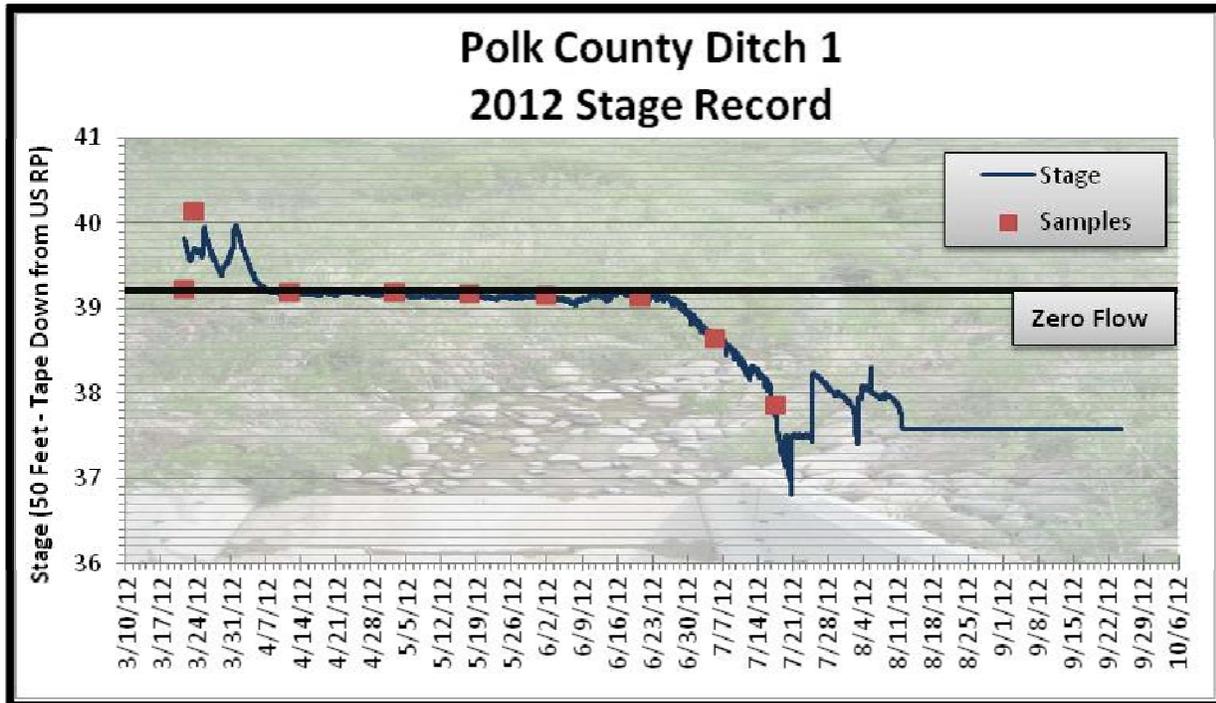
Additional money was available from the MPCA for this project. The work plan's budget was amended to provide more funding for LIDAR Stream Power Index development, water quality monitoring, and the evaluation of existing data. The biological data collection task had its budget trimmed down to a minimal level. A net amount of \$9,900 was added to the budget.

- Task 5 – Stage and Flow Monitoring
 - The DNR plans to install telemetry at the Mud River gauging site at Highway 89.
 - 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 from event-based monitoring sites was 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 December. There are some more sites remaining that will be completed in January.





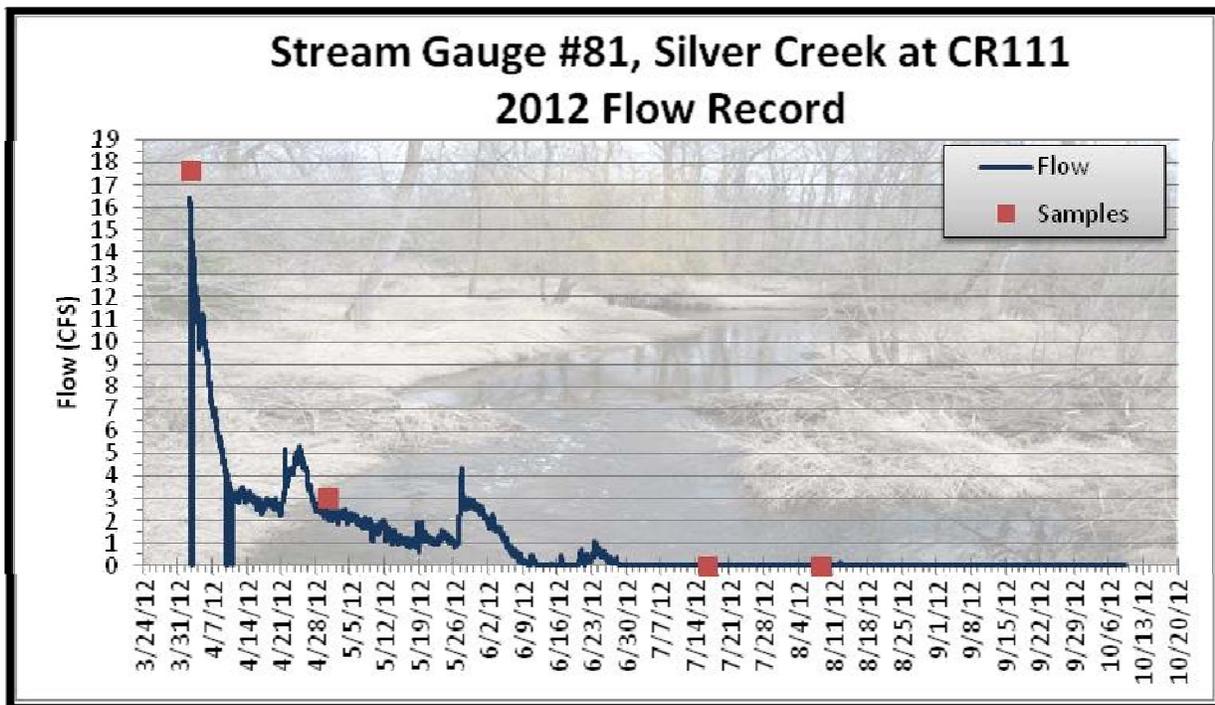




- Task 10 – Civic Engagement
 - Lori Clark is planning a “World Café” event in the watershed that will involve a meal for participants (covered by a separate grant) and small group discussions about specific topics.
 - Civic group presentations, public library presentations, a public update meeting for 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.

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 Silver Creek was transformed to flow and plotted during the month of December. The Silver Creek hydrograph shows that flow ceased in the stream in late June. Even the maximum measured rate of flow in 2012 was low for this stream.

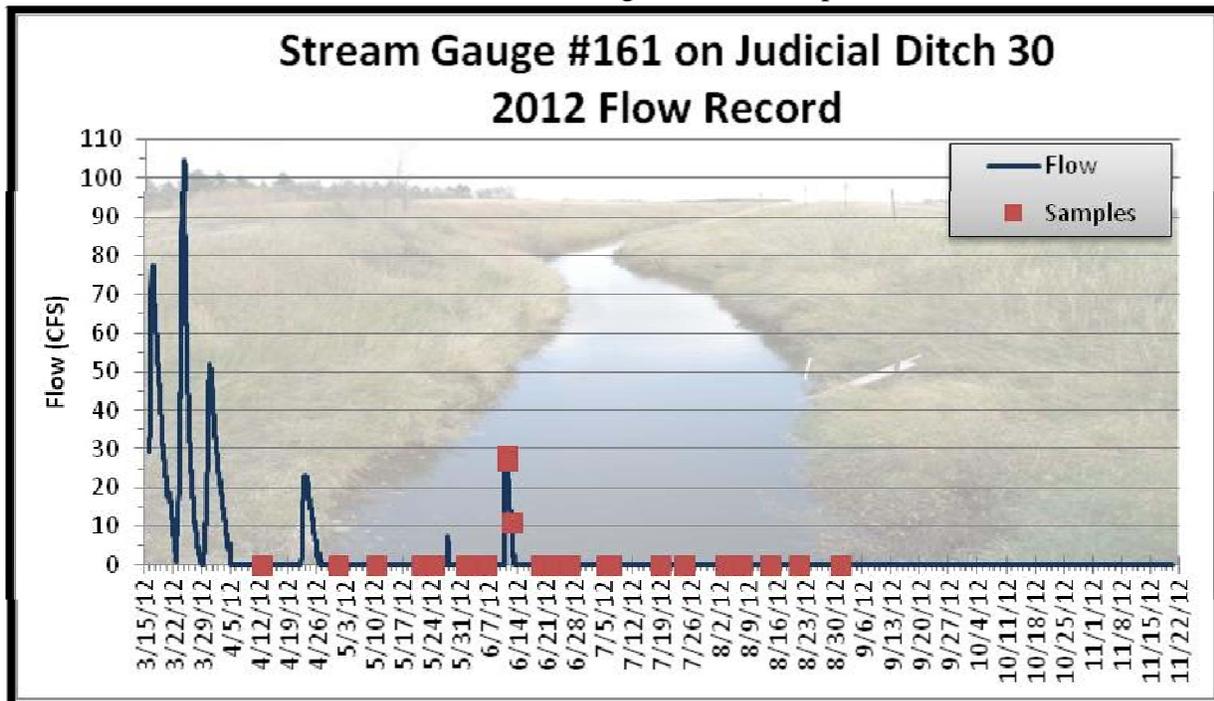


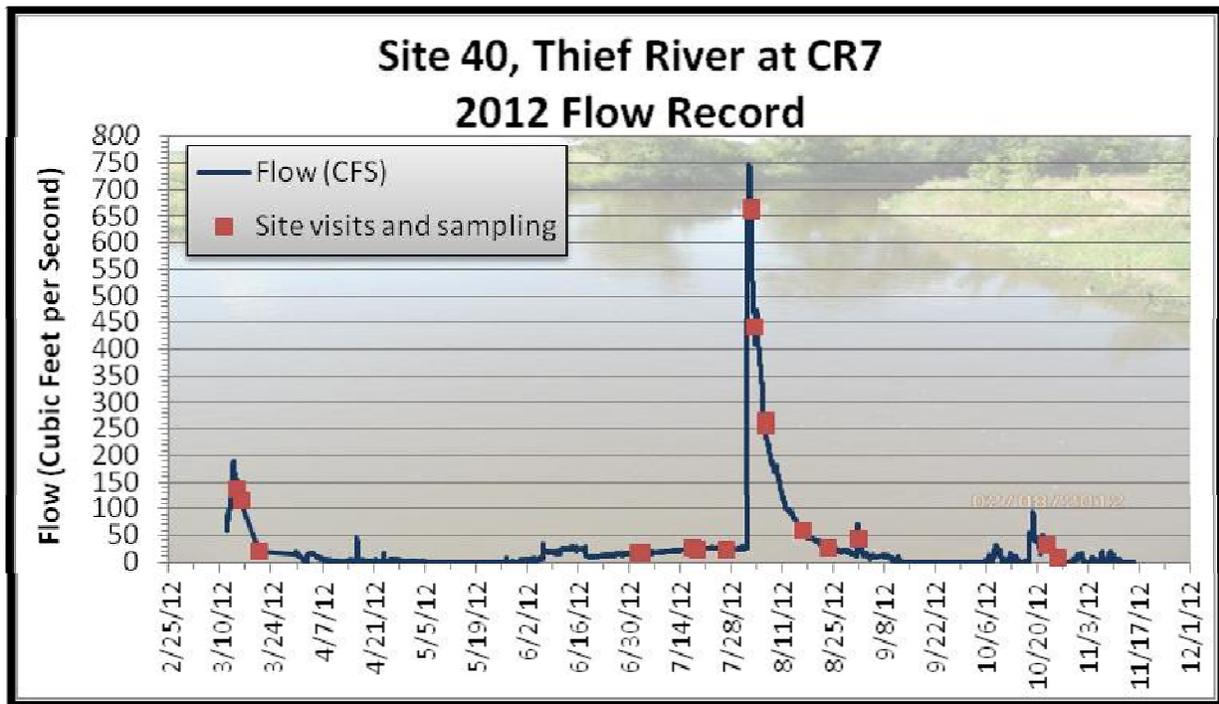
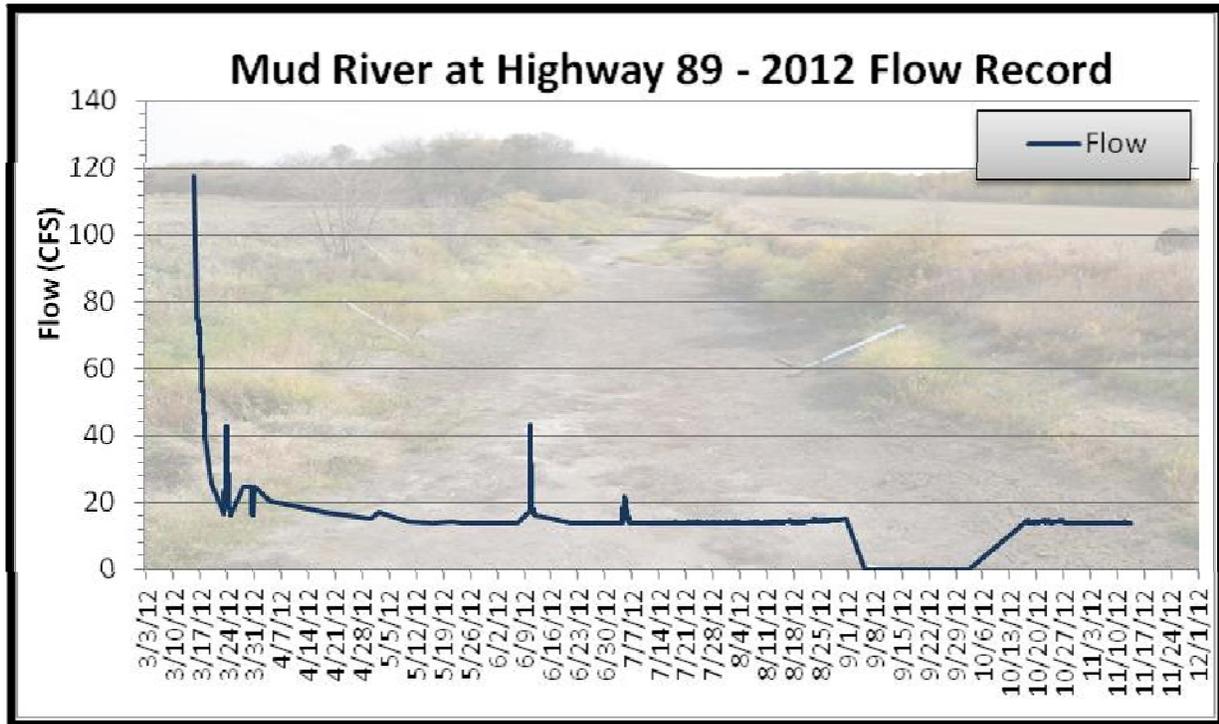
There are some additional sites that will be completed in January.

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 3 – Continuous Water Quality Monitoring
 - Final cleaning, calibration, and data retrievals were completed for multi-parameter sondes that were deployed in the Thief River watershed.
- Task 5 – Stage and Flow Monitoring
 - Raw HOBO 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 from event-based monitoring sites was compiled first and sent to State staff.





- 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.
 - 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.
 - Lori has scheduled a “World Café” event for the Thief River watershed. With help from Lori, the RLWD submitted a grant proposal to cover some of the expenses from this event.

How do you use the Thief River and its tributaries?
Do you feel these are high quality water resources?
How would you like to see these managed in the future?

Join us for a community discussion about the:

Thief River

Tuesday, January 29th, 2013
Black Cat Sports Bar & Grill
Thief River Falls, MN
Supper served from 5:45 - 6:30 p.m.
Discussion from 6:30 - 8:00 p.m.

This event is FREE (including the meal with a reservation) and open to the public



RSVP by Jan. 25th

Red Lake Watershed District
(218) 681-5800

*Space is limited,
Reserve your spot soon!*

- Task 12 – Identification of Sources and Solutions
 - Jim Blix has been working on a Stream Power Index for parts of the Thief River watershed.

Red Lake River and Grand Marais Creek Assessment (Surface Water Assessment Grant)

- A progress report was completed for the Red Lake River and Grand Marais Creek Surface Water Assessment Grant Project.
 - Expenditures
 - Completeness assessment
 - QA/QC data assessment
- Photos from this project were also compiled, labeled, and mailed to the MPCA project manager.
- Calibration records were gathered from project partners and sent to the MPCA project manager.

Other Notes

- Completed a data review for the 2012 RLWD district monitoring EQUIS submittal.
- Minnesota Board of Water and Soil Resources Clean Water Fund (CWF) Grants were awarded to several local agencies.
 - RLWD and West Polk County SWCD– Burnham Creek
 - Red Lake County SWCD – Clearwater River stormwater project
 - Pennington County SWCD – SSTS imminent health threat project.
 - Clearwater County SWCD – Buffers and side water inlets along the Clearwater River.
- 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.
- Further streambank re-sloping and stabilization was completed for the Grand Marais Creek Cut-Channel Stabilization Clean Water Fund Project. This work, on the downstream (west) side of Polk County Road 64, is similar to the work done to the east of that road.



December Meetings and Events

- **December 7, 2012** – Red River Basin Monitoring Advisory Committee, Sand Hill Watershed District, 9:30 am.
 - The International Water Institute is working on improving the River Watch website and developing a mobile data entry app for smart phones and tablets.
 - Bruce Paakh from the Minnesota Pollution Control Agency reported on the Buffalo River Stressor Identification project .One recurring stressor upon aquatic life was that lots of headwater streams are being farmed-through. There is a loss of primary production (photosynthesis) within the aquatic ecosystem. The MPCA has completed a Watershed Monitoring and Assessment Report for the Buffalo River watershed. The agency should be working on a report like this for the Thief River in 2013.
 - Mike Ell from the North Dakota Department of Health presented information on the State’s revised ambient water quality monitoring network. A study revealed that an 8-sample monitoring schedule is the most efficient schedule for predicting loads in a long-term monitoring program (April x 2, May, June, July, August, October, and January). They also found that trends in concentration levels can be efficiently determined by using a 6-sample monitoring schedule (April, May, June, August, October, and January). The winter samples had a minimal effect, so trends could also be reliably identified using a 5-sample schedule that excluded winter sampling. The RLWD currently samples long-term monitoring sites four times each year. This study tells us that we should consider adding another set of samples at our long-term sites if we want to track trends over time. This would add an additional \$6,500 - \$8,000 to the general water quality budget, dependent upon who is doing the sampling.
 - <http://pubs.usgs.gov/sir/2012/5216/>
 - The NDDH uses a program called QWTREND for analyzing trends in water quality data. It searches for real trends by eliminating seasonal and flow-related variability in the dataset.
 - The Red Lake DNR conducted a mussel survey in the Red Lake River.



- The Red Lake Department of Natural Resources, with technical assistance from Minnesota Department of Natural Resources, Northern Engineering and Consulting INC, and Red Lake Builders are collaboratively working together on the Mud River stream restoration in the town of Redby along the south side of Lower Red Lake in the Red Lake Reservation. They are excavating a new 500' channel to meander the stream as well as adding in riffles and pools to restore the stream's pattern, profile, and dimension as it used to be before the dam was put in the 1920's. If you drive by (on CSAH 1) you will notice the excavator creating a new meandering channel. You will also notice a lot of wood at the site. This is better than rock riprap as it provides excellent habitat for fish. It is also a natural, cost effective method of bank stabilization. The ultimate goal of the RLDNR project is fish passage by reconnecting Mud River to Red Lake. This year, a new bridge crossing Mud River will be constructed and the old dam and bridge will be removed. Rock arch riffles will be placed to maintain the water slope. These riffles will be great spawning areas for walleye and other fish such as trout. Check out the seasonal RLDNR newsletters for more updates and details about this project:
<http://www.redlakednr.org/>



- **December 10, 2012** – Pennington County Water Resources Advisory Committee meeting
 - Because the Judicial Ditch 30/18 drainage area is pretty well covered by buffers and side water inlets, the Pennington County Soil and Water Conservation District will be using the Board of Water and Soil Resources Clean Water Fund grant money to stabilize the grade of the lower portion of the ditch system, near the Thief River. The initial surveying for this work has been completed. They plan to review the results to see if there is enough of a gradient to install grade stabilization structures.
 - The Halvorson erosion control project along the Thief River is ready for construction. The contractor, Jeff Olson, could start construction as soon as the end of 2012, if the weather cooperates.
 - The Erickson erosion control project will go on as planned, with the support of the new landowner.
 - Dairy herds in Pennington County have been downsized and liquidated, partially due to the recent drought, so that there are only three dairies remaining in the county.
 - Lori Clark presented a summary of the socio-economic report for the Red Lake River watershed. She also led the group in a social network mapping activity.
 - The NRCS used the Agricultural Water Enhancement Program to install some side water inlets in the county.

Plans for January 2013

- Thief River Watershed Restoration and Protection Project.
 - Complete a report on the existing data that is available for the watershed.
 - Stream power index analysis of sub-basins in the Thief River watershed.
 - Create a web page dedicated to the Thief River Watershed
 - Finish cleaning and calibrating continuous water quality monitoring equipment.
 - Compile and apply corrections to continuous water quality data.
 - Compile flow monitoring data.
- Red Lake River Watershed Assessment Project
 - Complete a report on the existing data that is available for the watershed.
 - Create a webpage dedicated to the Red Lake River
 - Finish cleaning and calibrating dissolved oxygen loggers.
 - Compile and apply corrections to continuous dissolved oxygen data.
 - Compile flow monitoring data.
 - World Table civic engagement event.
- Data review for the Red Lake River WRAP EQuIS submittal.
- Compile, transform (to stage), and plot water level data from HOBO Water Level Loggers that were deployed in the Clearwater River watershed.
- Final E-Link reports for BWSR CWF projects.
- Final Report for the Thief River Surface Water Assessment Grant

Future Meetings/Events

- **January 9, 2013** – Marshall County Water Resources Advisory Committee
- **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.
- **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 Newfolden Community Center
- **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. We’ve recently added lots of photos from our 2012 projects!

Quotes of the Month:

“I find that the harder I work, the more luck I seem to have”
– Thomas Jefferson

“You have to expect things of yourself before you can do them.”
– Michael Jordan

“It’s better to look ahead and prepare than to look back and regret.”
– Jackie Joyner Kersee