

By Corey Hanson, Red Lake Watershed District Water Quality Coordinator. 2/5/2020.



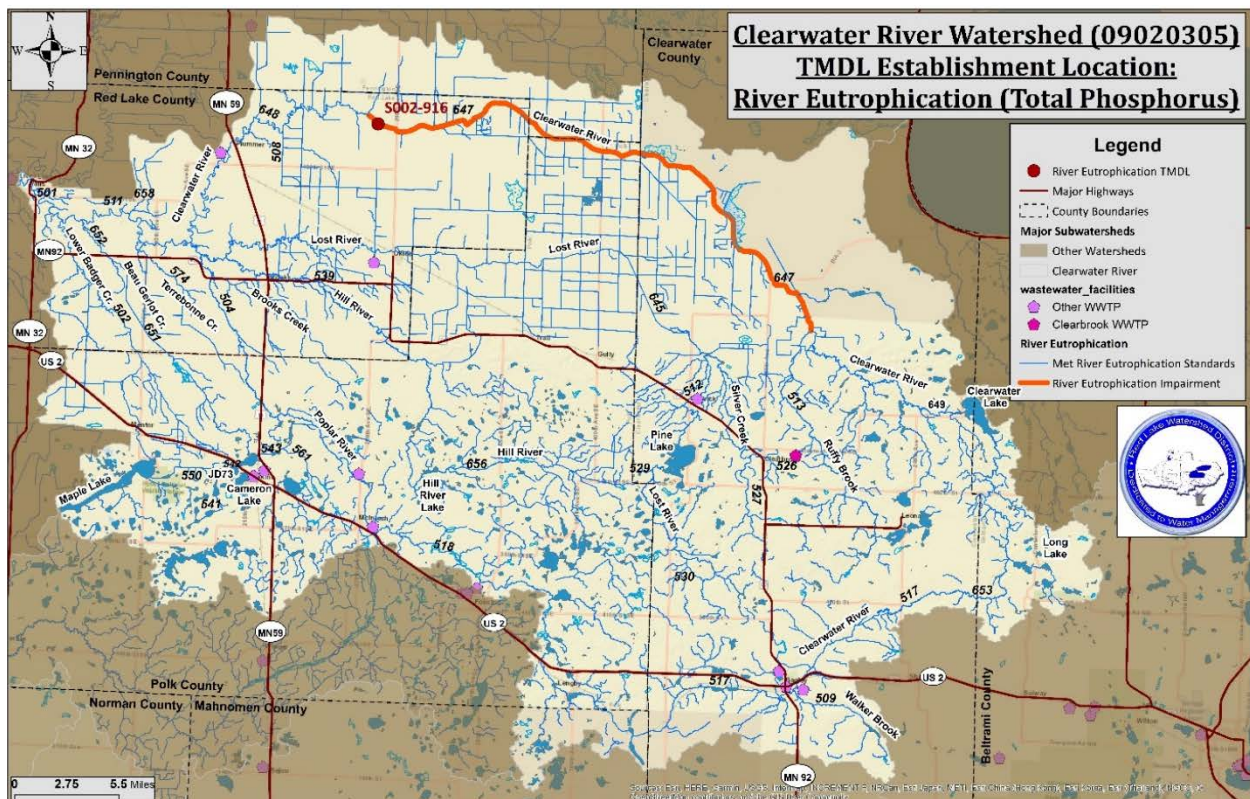
2020 Draft List of Impaired Waters

- Changes to impaired waters listings within the Red Lake Watershed District
 1. Thief River from Agassiz Pool to the Red Lake River, 09020304-501: TMDL plan approved; EPA category changed from 5 to 4A
 2. Mud River assessment unit 09020304-507 (headwaters to JD 11) was split into two new assessment units (09020304-567 and 09020304-568) at a point (-95.694, 48.318) NW of the St. Petri Lutheran Church. The dissolved oxygen and *E. coli* impairments of 09020304-507 were both carried forward to both new assessment units.
- New impairment listings within the Red Lake Watershed District
 1. Marshall County Ditch 20 (09020304-548), Clifford Lane NW to an unnamed ditch upstream of Sharon Road, impaired due to poor fish bioassessment results
 2. Moose River (09020304-565), outlet of Moose River Impoundment to Morel Road NW, impaired by poor fish bioassessment results
 3. Mud River (09020304-567), headwaters to -95.694 48.318, impaired due to poor benthic macroinvertebrate assessment results
 4. Mud River (09020304-568), -95.694 48.318 to JD 11, impaired due to poor benthic macroinvertebrate assessment results
 5. Mud River (09020304-568), -95.694 48.318 to JD 11, impaired due to poor fish bioassessment results
 6. Thief River (09020304-504), Thief Lake to Agassiz Pool, impaired due to poor fish bioassessment results

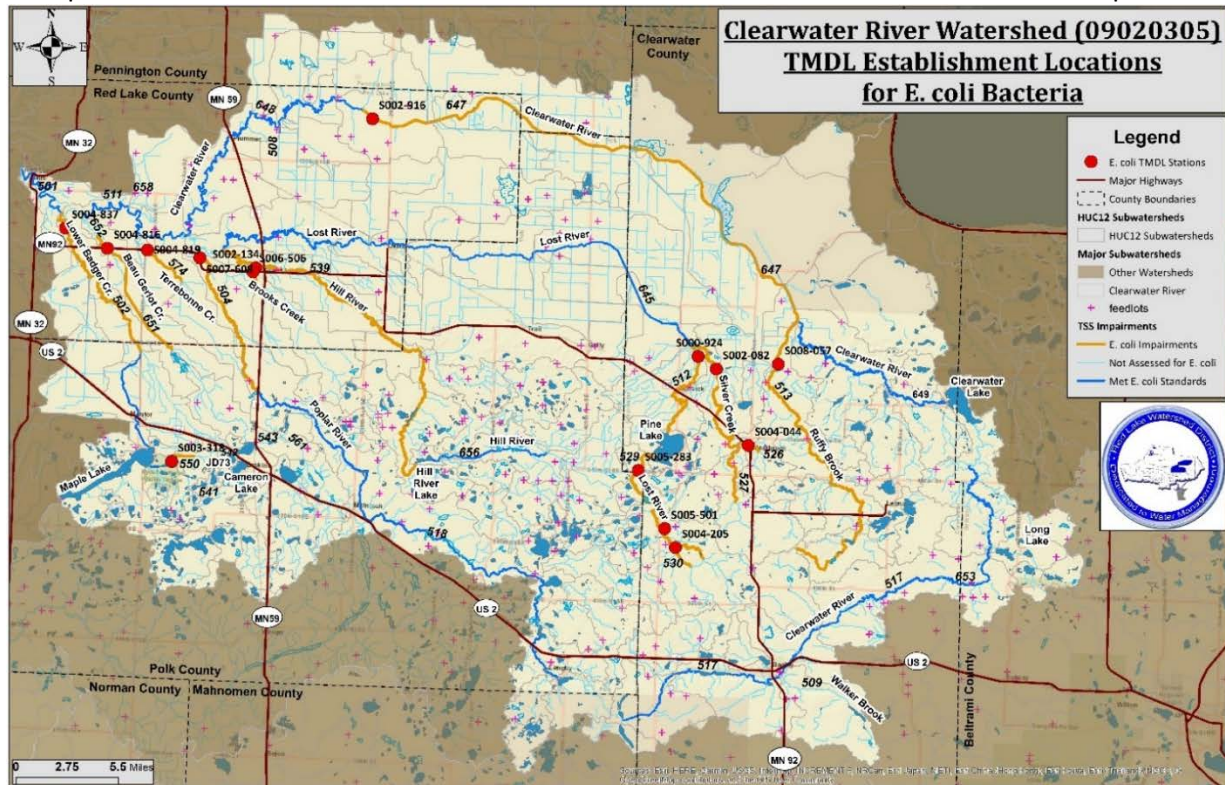
7. Branch 183 of JD 11 (09020304-534), CSAH 219 to 290th Ave NE, impaired by low dissolved oxygen
8. Branch 200 of JD 11 (09020304-511), 270th Street NE crossing near the Lost River Pool outlet to 180th Ave NE, impaired due to poor benthic macroinvertebrate assessment results
9. Branch 200 of JD 11 (09020304-511), 270th Street NE crossing near the Lost River Pool outlet to 180th Ave NE, impaired due to poor fish bioassessment results

Clearwater River Watershed Total Maximum Daily Load and Watershed Restoration and Protection Strategy

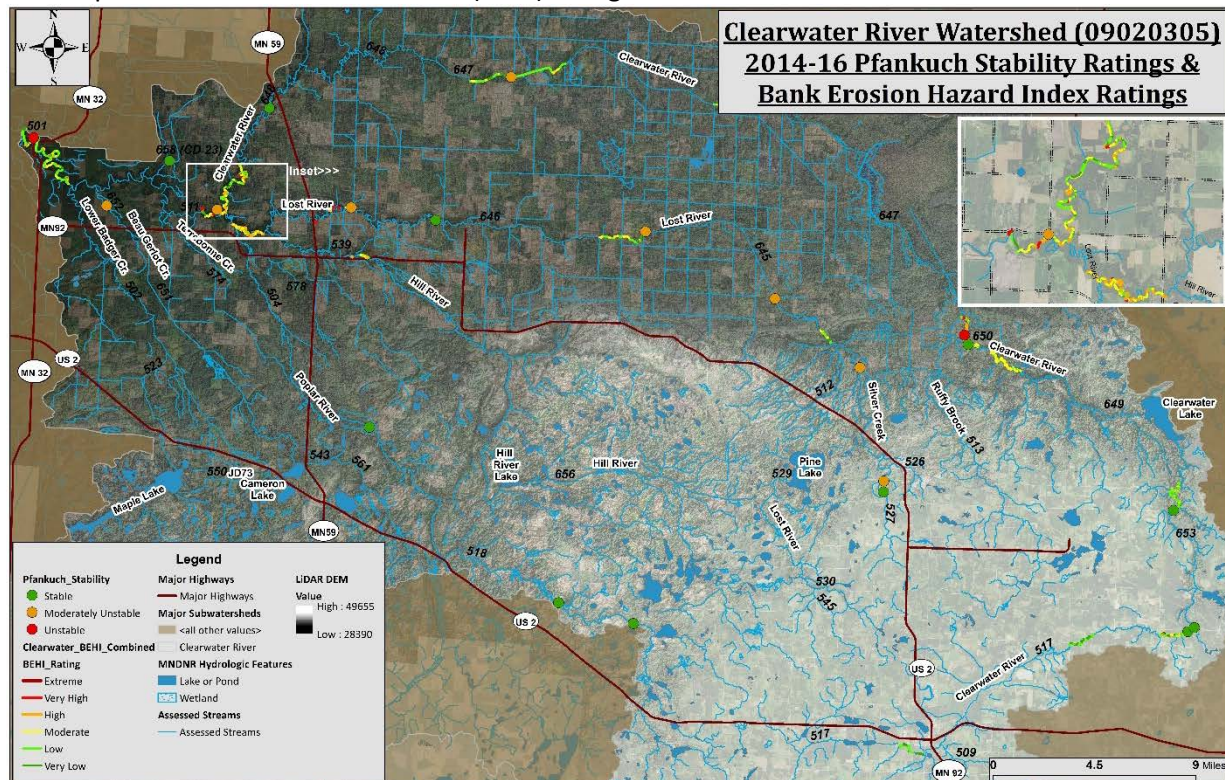
District staff worked on a detailed review and revision of the Clearwater River Watershed Total Maximum Daily Load document. A number of small text edits were found during the review of Sections 1-7 and applied to improve the document. Some edits were made to the wasteload allocations for *E. coli* bacteria. Load reduction calculation methods were compared to make sure that the most representative statistics were being used in this TMDL. MPCA staff provided clarification for some conflicting information about permitted flow rates from wastewater treatment facilities in the Clearwater River watershed. The Clearwater River total phosphorus TMDL for the river eutrophication impairment was revised to use a different TMDL calculation strategy. The TMDL was established using seasonal average concentrations/loads rather than a load duration curve. Work began on revising lake total phosphorus TMDL summary tables and revised iterations of the lakes' BATHTUB models. The map of total suspended solids TMDL establishment locations was updated to include locations of wastewater treatment facilities.



A map of feedlot locations within the Clearwater River Watershed was added to the TMDL report.



The map of Bank Erosion Hazard Index (BEHI) ratings in the Clearwater River watershed was revised.



Bartlett Lake Management Plan

District staff, city of Northome staff, MPCA staff, DNR staff, and SWCD worked on the planning of a public meeting to kick off the Bartlett Lake management planning process.



DECEMBER 5 BARTLETT LAKE MANAGEMENT PLANNING KICK-OFF

5:00-7:00

The public is encouraged to attend this open house event to hear updated information and give input on the management of Bartlett Lake.



VIEW THE REPORTS

GIVE YOUR INPUT

SPEAK WITH
RESOURCE
PROFESSIONALS

FIND OUT HOW YOU
CAN HELP

REFRESHMENTS
PROVIDED

NORTHOME CITY HALL

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Northome, MN 56661
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River Watch

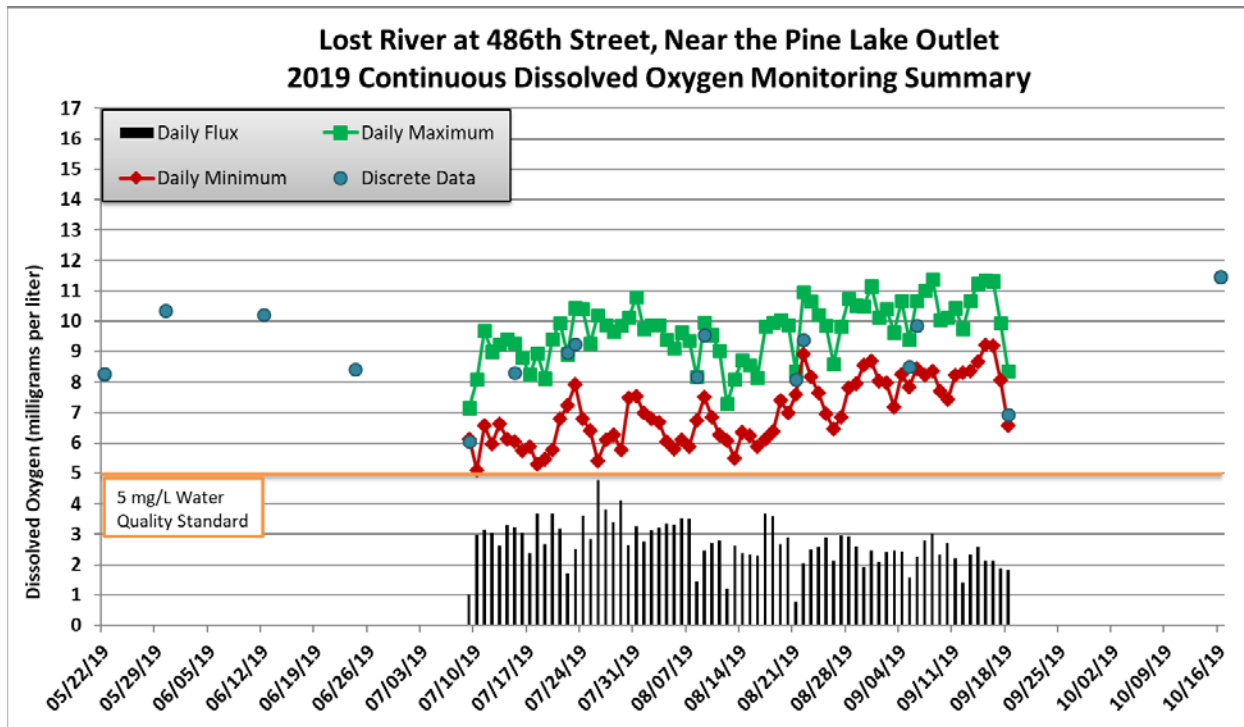
District staff helped the Thief River Falls and Red Lake County Central River Watch groups with a November round of water quality measurements. District staff met with the Win-E-Mac River Watch team to review data. District staff and International Water Institute staff met in Crookston to begin planning the 2020 River Watch Forum.

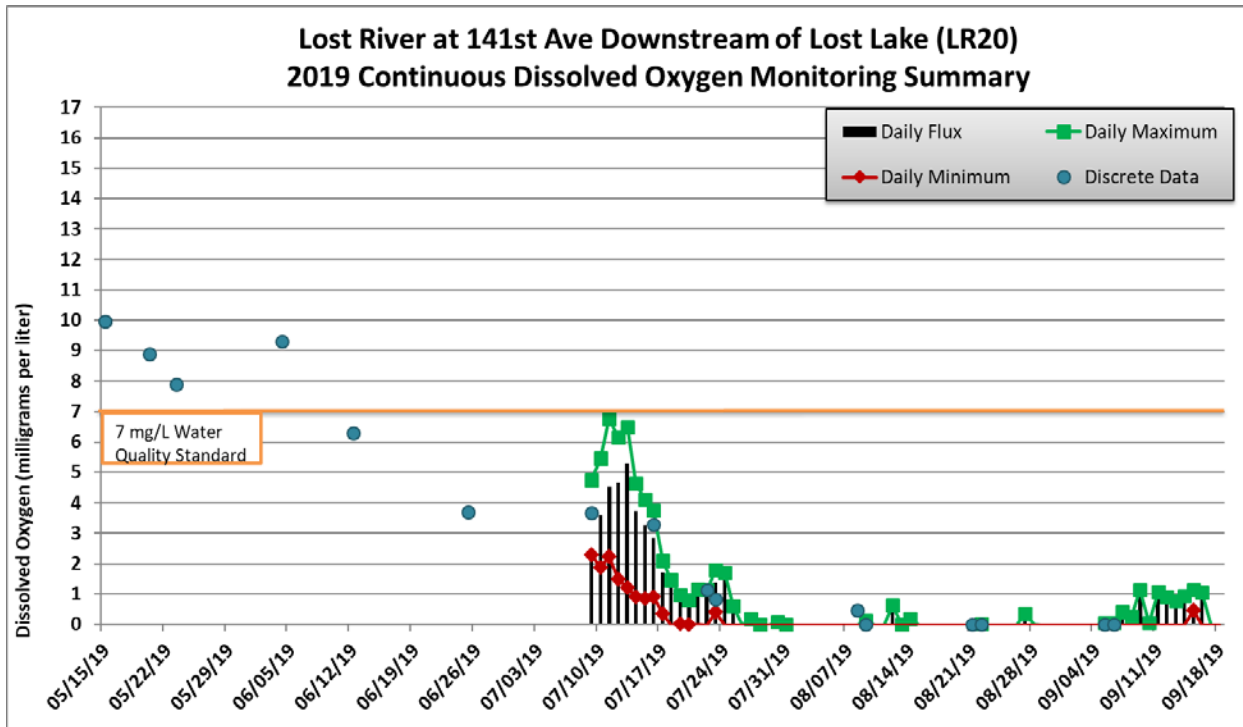
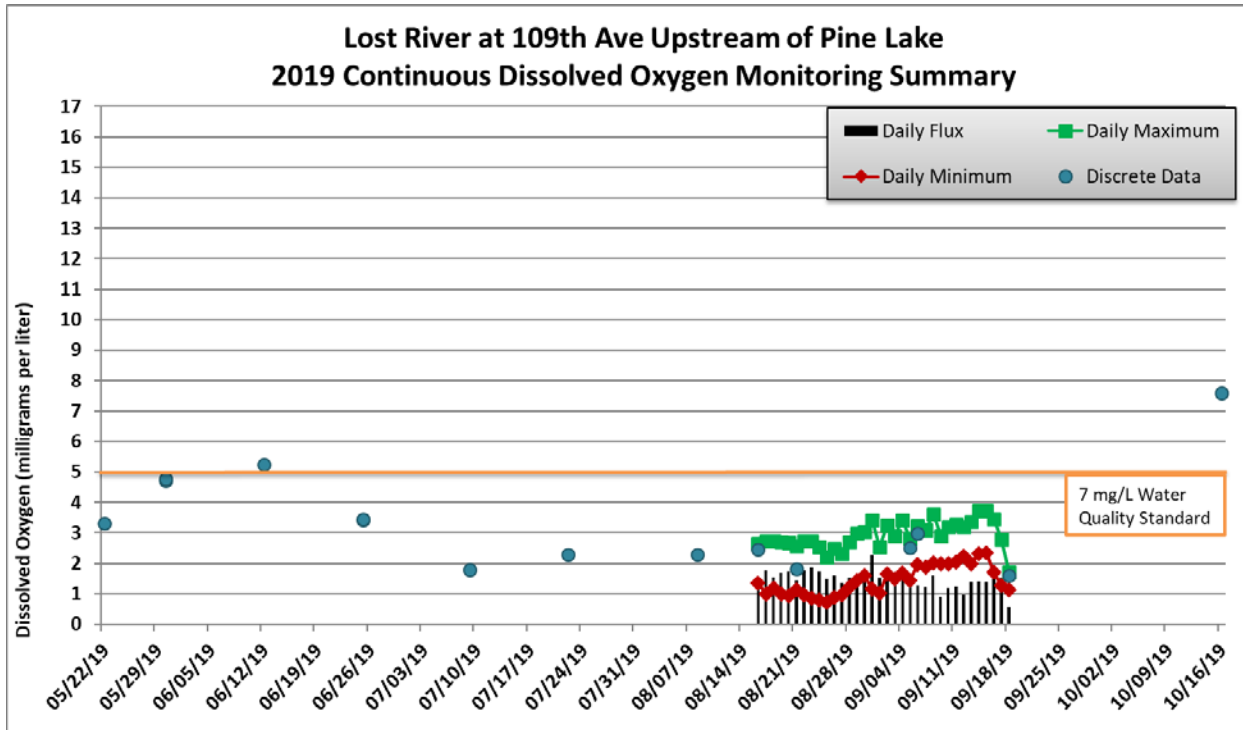
Stream Gauging

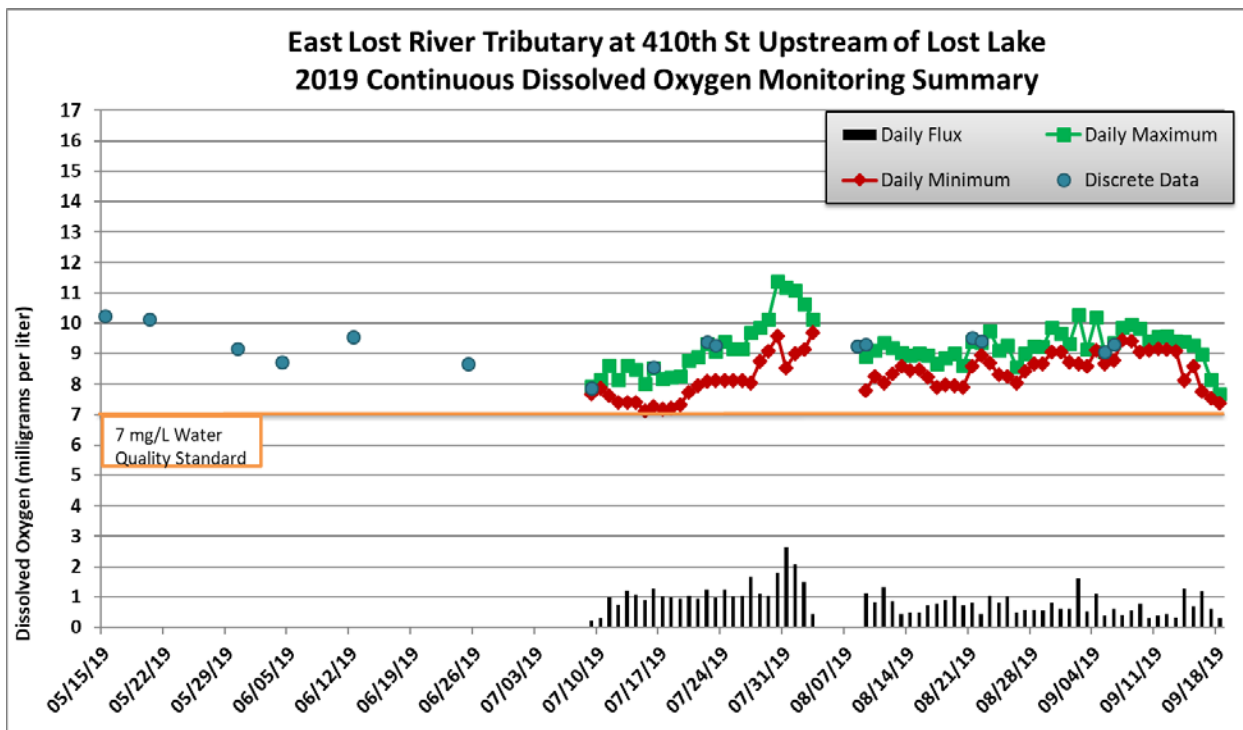
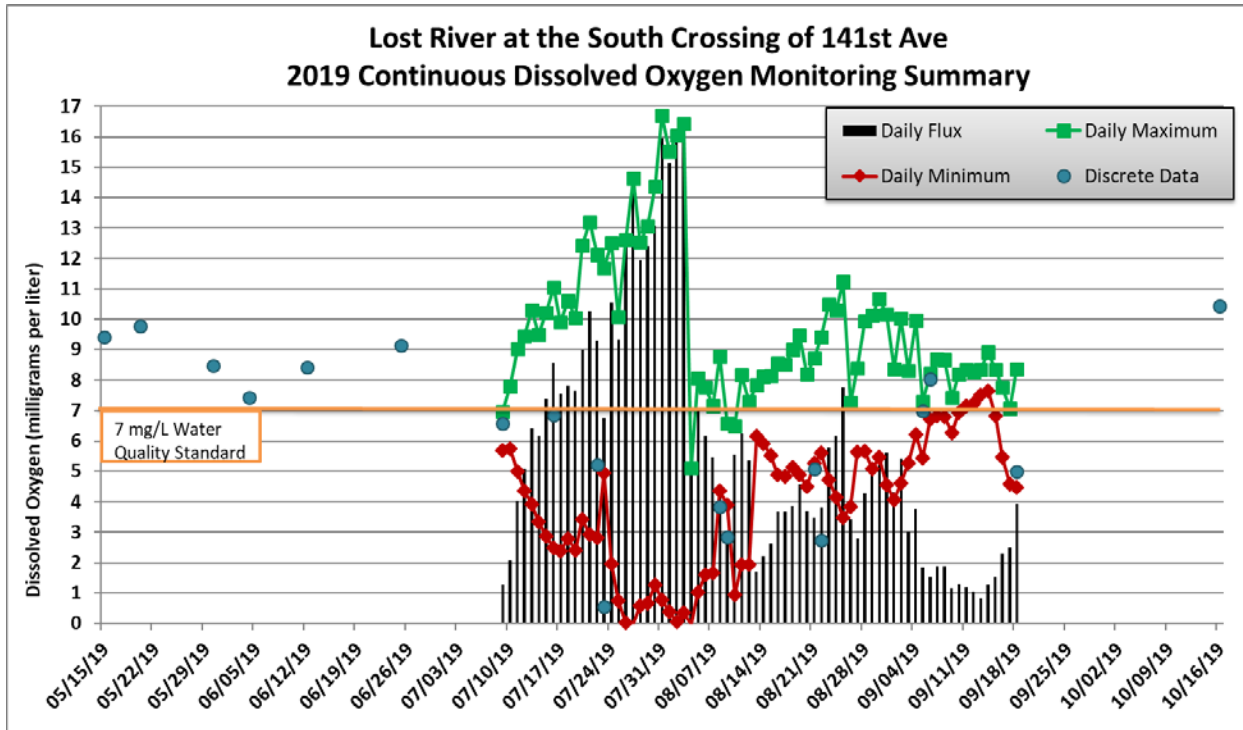
Water level loggers were retrieved from stage/flow monitoring sites throughout the District in early November.

Intensive Monitoring in Lost Lake and Pine Lake Area

District staff finished compiling, correcting, and analyzing data from continuous dissolved oxygen loggers that were deployed for this monitoring effort. Continuous dissolved oxygen and temperature data from the Lost River at Lindberg Lake Road (CSAH 18) was also compiled, corrected, analyzed. The results of the monitoring were compiled within a summary report for District staff, Board Managers, consultant staff, and DNR staff. All Lost River continuous dissolved oxygen and temperature data from the Lost Lake and Pine lake area was shared with DNR staff.







Red Lake River Watershed One Watershed One Plan

While retrieving a water level logger from the Pennington County Ditch 96 monitoring site at Highway 32, District staff took photos of the CD 96 outlet downstream of Highway 32 that was a priority project for the Red Lake River 1W1P and will be stabilized using Clean Water Funds. Though slopes are well vegetated, there is evidence of slumping due to headcutting and erosion of the toe zone.

Pennington County Ditch 96 outlet, looking downstream toward the Red Lake River



Stabilization of the CD 96 outlet will help preserve fish passage by preventing the downstream end of the Highway 32 culvert from becoming perched.



Intensive monitoring of the Thief River and Red Lake River Upstream of Thief River Falls

The high flows in the Thief River were sustained throughout October and much of November. Water levels finally receded enough to allow the retrieval of the Minnesota Department of Health's Hydrolab HL4 sonde on November 25, 2019. Data was downloaded from the sonde and the sonde was cleaned. Unfortunately, the sonde had a power failure after a short time of deployment. Experimentation in the District's lab found that corrosion/deposits on connections within the battery compartment of the sonde were the cause of the power failure problem. The sonde worked well, without early power failure, after District staff polished the connections.

Thief River One Watershed One Plan (1W1P)

District staff updated the Thief River 1W1P website to post comments and revisions from the public comment period and post a notice for the public hearing.

Other Notes

- The Pennington County Sheriff Ray Kuznia issued a warning about unsafe ice conditions on the Thief River due to high flows from upstream impoundments.
<http://trfradio.com/2019/11/13/sheriff-kuznia-stay-of-the-thief-river/>
- Zebra mussel veligers have been found in Lower Red Lake:
<https://www.outdoornews.com/2019/11/08/dnr-red-lake-band-specialists-provide-update-on-zebra-mussel-larvae-in-red-lake/>
- Thief River Falls residents stained, yellowish tap water in mid-November.
- The District reimbursed the Maple Lake Improvement District for the cost of the laboratory analysis for the lake water quality samples that they collected in 2019.

Water quality related notes and minutes from the November 14, 2019 Red Lake Watershed District Board of Managers meeting.

- The Board reviewed a Grant Amendment with the Minnesota Board of Water Soil Resources to extend the Thief River 1W1P, RLWD Project No. 149A, grant from December 31, 2019 to June 30, 2020.
- The Thief River 1W1P Policy and Advisory Committee met to review the plan comments. The Public Hearing is scheduled for December 2, 2019 at 9:00 a.m. at the District office. After the hearing process, the final plan will be submitted to the LGU's for approval. A final version of the plan will be submitted to BWSR no later than February 14, 2020.
- The Red Lake River Planning Work Group met with staff from MPCA on November 5th and November 7th to finalize the tables which spell out the goals and milestones for the MPCA 319 grant using information based on the PTMApp practices. All these items are a requirement of the EPA for this grant process.
- Jesme, Managers Sorenson and Dwight and staff member Hanson will meet with staff from the MnDNR regarding the Pine Lake Project on November 18, 2019 in Mahanomen.
- Jesme received a call on November 12th, from the Thief River Falls Golf Course regarding flooding on the golf course. Jesme met with the Pennington County Sheriff, City of Thief River

Falls, Agassiz NWR and Staff member Olson to discuss submittal of a public warning to refrain from any recreational activities on the river due to abnormal high flows on the Thief River.

Water quality related notes and minutes from the November 26, 2019 Red Lake Watershed District Board of Managers meeting.

- The Thief River 1W1P, RLWD Project No. 149A, public hearing will be held on December 2, 2019 at 9:00 a.m. at the District. After the hearing is held and upon approval of the Policy Committee to move forward, the plan will be taken to each LGU for action.
- The Board reviewed a request from Midwest Amphibious, LLC., requesting an extension until October 16, 2020, for the Agassiz NWR- Ditch 11 Silt Removal, RLWD Project No. 180B. Motion by Dwight, seconded by Sorenson, and passed by unanimous vote, to approve the request by Midwest Amphibious, LLC, for an extension on the Agassiz NWR-Ditch 11 Silt Removal Project, RLWD Project No. 180B until October 16, 2020.
- Discussion was held on a meeting that was held for the Pine Lake Project, RLWD Project No. 26, with the following individuals in attendance: Managers Dwight and Sorenson, Administrator Jesme, Water Quality Coordinator Corey Hanson, Engineer Nate Dalager and staff from the MnDNR. Jesme stated that at the meeting MnDNR staff indicated that there is no chance of receiving a permit for an impoundment upstream of Pine Lake. Discussion was held on the possible replacement of the outlet structure, downstream channel restrictions, revisions to the operating plan to allow for additional flood damage reduction, and fish passage. Jesme indicated that the District could apply for a CPL grant for fish passage. Dalager stated that different operational value would give a better star value. Discussion was held on drawing down lower water to help with oxygen levels. It was the consensus of the Board to set up a meeting with the MnDNR to look at alternatives to move forward, with a potential Project Work Team meeting in January. Motion by Sorenson, seconded by Dwight to schedule a Pine Lake Project Work Team for January 2020. Motion carried.

Meetings and Events from November 2019

- **November 5, 2019** - Red Lake River 319 Small Watersheds Focus Grant meeting (MPCA staff and the Red Lake River 1W1P Planning Work Group) to work on the work plan
- **November 7, 2019** - Red Lake River 319 Small Watersheds Focus Grant phone conference (MPCA staff and the Red Lake River 1W1P Planning Work Group)
- **November 14, 2019** – Thief River PTMApp conference call
- **November 18, 2019** – Pine Lake area flood damage reduction project meeting in Mahanomen.
 - “Sticking points” from the DNR’s point of view
 - Trout stream designation
 - Is this project the least impactful solution relative to other solutions? DNR staff did not think the Lost Lake impoundment was a least impactful solution.
 - The DNR assigned new staff to the project (Nicholas Kludt and Jason Vinje)
 - Combine the right design with specific natural resource enhancement additions.
 - DNR staff expressed concern about non-trout related natural resource values.
 - Removing the trout stream designation would remove one barrier for the project but wouldn’t guarantee that it would be permitted due to additional hurdles.
 - What are spring flow pulses like along the Lost River?

- Flow monitoring sites near Lost Lake didn't fluctuate much throughout the year.
- What fish species were documented in biological samples?
- What have index of biological integrity ratings been like downstream of other impoundments?
 - There were mixed results (good, fair, and poor) throughout the District and in neighboring watersheds. Lack of flow is a common stressor for aquatic life impairments, so it would be beneficial to consider a means for baseflow augmentation from impoundments.
- Have impoundments interrupted the movement of fish in other areas? Much of the biological monitoring has occurred downstream of impoundments within the District. However, there are some fish sampling results (missing species) from the Thief River watershed, in which there are multiple dams blocking fish passage, that indicate that fish passage barriers may be a problem.
- Are there springs in the project area?
 - Yes, there are flowing springs along the shore of Lost Lake. There is broad groundwater seepage along the east shore of the lake that made accessing the lake for sampling a little challenging (soft ground). There was one flowing spring, in particular, where water flowed from a hole in the ground, through a little channel, and into the lake.
 - The existence of springs essentially kills the project. The DNR does not allow the construction of an impoundment where there are springs.
- After learning that the Lost Lake impoundment could not proceed due to the presence of springs along the shoreline, the group discussed focusing on flood damage reduction in Pine Lake.
 - Could cabins be raised?
 - Improve enforcement of shoreline rules. Inform permittees of setbacks and building elevations that will protect them from flooding. The DNR has education grants available. Look for educational opportunities in this area.
 - DNR fisheries staff think that fish passage at the Pine Lake outlet would help re-establish fish populations in the lake after a winterkill.
 - Lowering the water level in the lake may enhance the effectiveness of aeration because there will be less influence from shallow wetlands where a high rate of decomposition and oxygen consumption occurs. Lowering the lake 6-12 inches could offset the lack of upstream retention for flood damage reduction.

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

Learn more about the Red Lake Watershed District at www.redlakewatershed.org.

Learn more about the watershed in which you live (Red Lake River, Thief River, Clearwater River, Grand Marais Creek, or Upper/Lower Red Lakes) at www.rlwdwatersheds.org.

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