RED LAKE WATERSHED DISTRICT
MONTHLY WATER QUALITY REPORT

April 2018

By Corey Hanson, Red Lake Watershed District Water Quality Coordinator. 6/4/2018.

- ✓ Clearwater River Watershed Restoration and Protection Strategy Project
- ✓ Progress on the Upper/Lower Red Lakes Watershed Restoration and Protection Strategy
- ✓ Cameron Lake, Lake Leader Article

Red Lake Watershed District Flow Monitoring Program

Deployment of water level loggers for the 2018 monitoring season began in April.

Clearwater River Watershed Restoration and Protection Strategy (WRAPS) Project

The contract for this project ended on March 31, 2018. An extension was granted and eventually executed on April 18, 2018.

- Objective 5 – Stream Channel Stability Assessment
  - MN DNR staff provided a draft version of the Clearwater River Watershed Fluvial Geomorphology report for use in writing the Clearwater River WRAPS and TMDL reports. General comments (not overly detailed, since it was a rough draft) were provided to the MN DNR.
- Objective 9 – Civic Engagement
  - Articles were written for the East Polk SWCD's Lake Leader newsletter. The SWCD decided to use one of the articles – about Cameron Lake. The article has been included in this report – on the following page.

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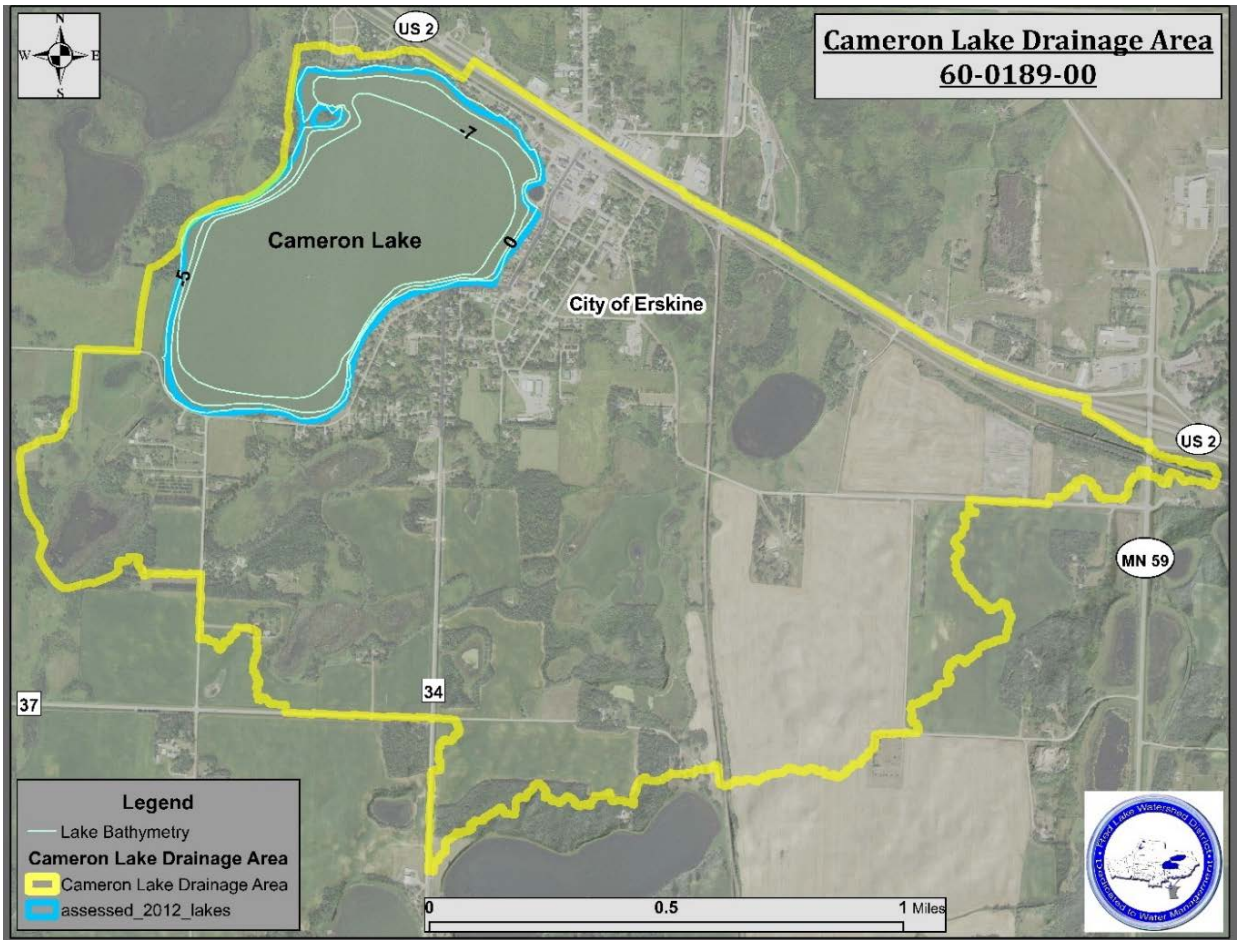
Cameron Lake Will Be Targeted with Projects to Improve Water Quality

Cameron Lake is a small, shallow lake located within the city of Erskine in northwestern Minnesota. The lake is listed as impaired for aquatic recreation due to excess phosphorus, excess chlorophyll-a, and poor water clarity. Algal blooms can be severe in Cameron Lake. Because of the eutrophication problems, the recreational value of the lake (fishing, swimming, and boating) is low. The water quality within Cameron Lake deteriorated to the point that the public beach, located on the northeast shore, was separated from the rest of the lake with a dike and filled with city water.

A 1997 investigative study identified causes of the eutrophication (excess nutrients) problem within Cameron Lake. The lake is most likely experiencing internal nutrient loading from nutrient rich sediments that mix into the water column from the bottom of the lake. The sources of this sediment include historical discharge of sewage and creamery wastewater into the lake in addition to current stormwater runoff. There is little flushing of the nutrients out of the lake because the lake has minimal outflow relative to the inflow. The 1997 study monitored stormwater and natural inlets to the lake and found that stormwater outlets along 2nd Street and 3rd Street were contributing the most phosphorus to the lake. The East Polk SWCD and the Red Lake Watershed District are collaborating to collect more data from the lake, seek funding for projects, implement projects to reduce the amount of phosphorus that is entering the lake, and find a way to reduce the amount of phosphorus that is being mixed into the water column from the lake bottom.



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Upper/Lower Red Lakes Watershed Restoration and Protection Strategy

District staff attended the April 24, 2018 public open house event for the Upper/Lower Red Lakes WRAPS project in Kelliher. An information display board was assembled for the meeting. The meeting was well attended and there was constant conversation with attendees during the "open house" portion of the event. Attendees showed great interest in improving/protecting water quality and asked very good questions.

The Upper/Lower Red Lakes Fluvial Geomorphology Report is now available online (https://wrl.mnpals.net/islandora/object/WRLrepository%3A2957). Some highlights and recommendations from the report include:

- An undersized and damaged culvert needs to be replace along on Perry Creek.
- Cattle access has damaged stream banks along Darrigan's Creek. Portions of the channel are over-widened.
- Grade stabilization is needed along Shotley Brook, North Branch of the Battle River, and the South Cormorant River.
- Buffers, upland erosion control, and vegetative cover improvements are needed on many reaches due to fine soils.
- An assessment of road crossings for fish passage is recommended for Perry Creek and Pike Creek.
- Abandon purposeless ditches in peatlands.

The following two pages include a sampling of maps and photos from the report.

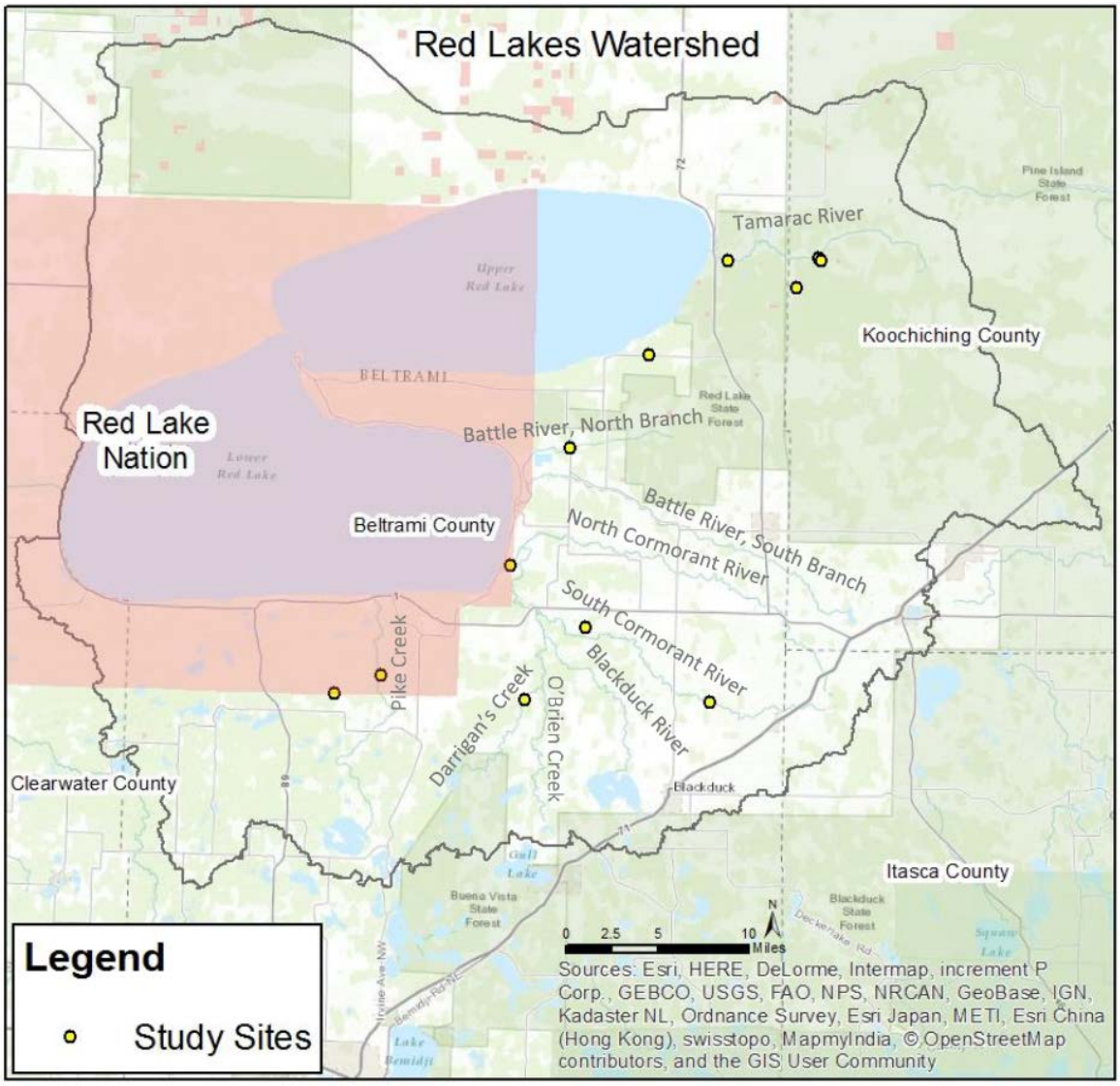

Figure 23. Darrigans Creek on 6/28/2016. The left photo is upstream of the fence line and the right photo is downstream.

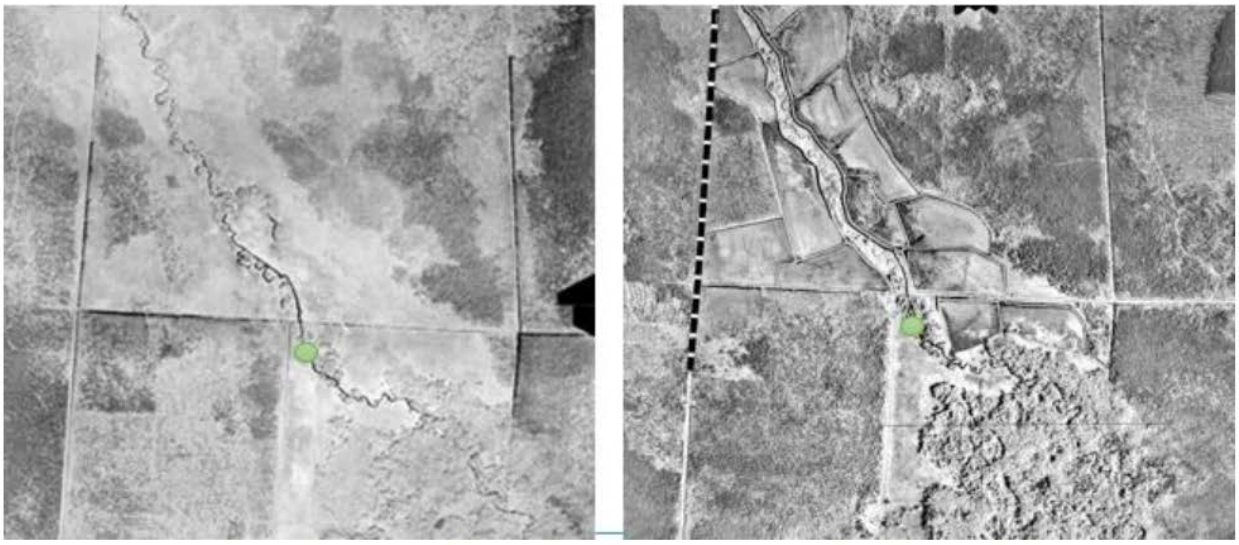

Figure 8. Historical aerial imagery of the Little Tamarac River site. The photo on the left was taken in 1949 and the right in 1973.

Figure 22. Road crossing on Perry Creek, downstream of assessment on 6/28/2016.

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Thief River One Watershed One Plan (1W1P)

- A meeting of the policy committee, advisory committee, and the project work group was held on April 11, 2018.
- District staff created a GIS layer of HUC12 subwatersheds that include impaired waters for use in the Thief River watershed zonation process.
- District staff created a GIS layer that marks (with a polygon) all known (photodocumented) erosion problems in the Thief River watershed that will be used for the Thief River Watershed zonation process.
- The restoration and protection prioritization table and one of the maps (to see how it looks) were edited to include planning regions.
- District staff completed an initial review of Section 3.

Thief River Watershed Restoration and Protection Strategy

The MPCA is still working on a review of the Thief River WRAPS and TMDL reports. In April, some minor edits were made to TMDL calculation tables to address "rounding errors" in which the rounded values didn't add up to totals (even though the actual, calculated totals were correct).

Other Notes

- Water quality related notes from the April 12, 2018 Red Lake Watershed District Board of Mangers meeting:
    - Pennington SWCD submitted a request for a financial donation for the Area I Envirothon. The Area I Envirothon will be held on April 25, 2018, at Agassiz National Wildlife Refuge. Motion by Tiedemann, seconded by Sorenson, to donate $300 to the Area I Envirothon to promote education and awareness of water quality issues. Motion carried.
- Water quality related notes from the April 26, 2018 Red Lake Watershed District Board of Mangers meeting:
    - Sarah Mielke and Rachel Klein, East Polk SWCD, appeared before the Board to discuss the East Polk Lake Monitoring Program located within the Clearwater River Watershed. The East Polk SWCD is requesting funding in the amount of $1,980 per year over a period of three years for a total of $5,940. Funds from the District would cover the costs of the RMB Lab analysis at 9 sites throughout the Clearwater River Watershed. Motion by Torgerson, seconded by Sorenson, to approve cost share in the amount of $5,940 for the East Polk SWCD Lake Monitoring Program from the District's Water Quality Funds, RLWD Project No. 46. Motion carried. A map of the lakes that will be monitored by the SWCD is included in this report.
- As a favor to the Bois de Sioux Watershed District, District staff reviewed the Bois de Sioux Watershed Restoration and Protection Strategy report and the Bois de Sioux Watershed Total Maximum Daily Load report and provided comments.

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- A February 2018 Water Quality Report was written: http://www.redlakewatershed.org/waterquality/MonthlyWQReport/2018%2002%20February%20Water%20Quality%20Report.pdf
- A March 2018 Water Quality Report was written: http://www.redlakewatershed.org/waterquality/MonthlyWQReport/2018%2003%20March%20Water%20Quality%20Report.pdf
- The Beltrami SWCD gifted the RLWD with large, detailed, vintage maps of groundwater and aquifers in the Red Lake River watershed. These maps can be made publicly available when they are digitized.
- MPCA responses to comments on the Draft 2018 List of Impaired Waters were reviewed. The MPCA used the information that the District provided about the Poplar River Diversion to reclassify that waterway so that a TMDL will not be required for the dissolved oxygen impairment.
- Four HOBO water level loggers were shipped to Onset to receive replacement batteries and "tune-ups."
- The City of Grand Forks is working with the West Polk SWCD to plan a tree planting project that will reduce the amount of sediment that runs off or is blown into a ditch on the north end of East Grand Forks.
- A 2018 plan for the RLWD long-term monitoring program was completed.
- The MPCA recognized several wastewater treatment facilities within the RLWD for operational excellence from October 2016 through September 2017, including Clearbrook, Crookston, Bagley, and Kelliher.

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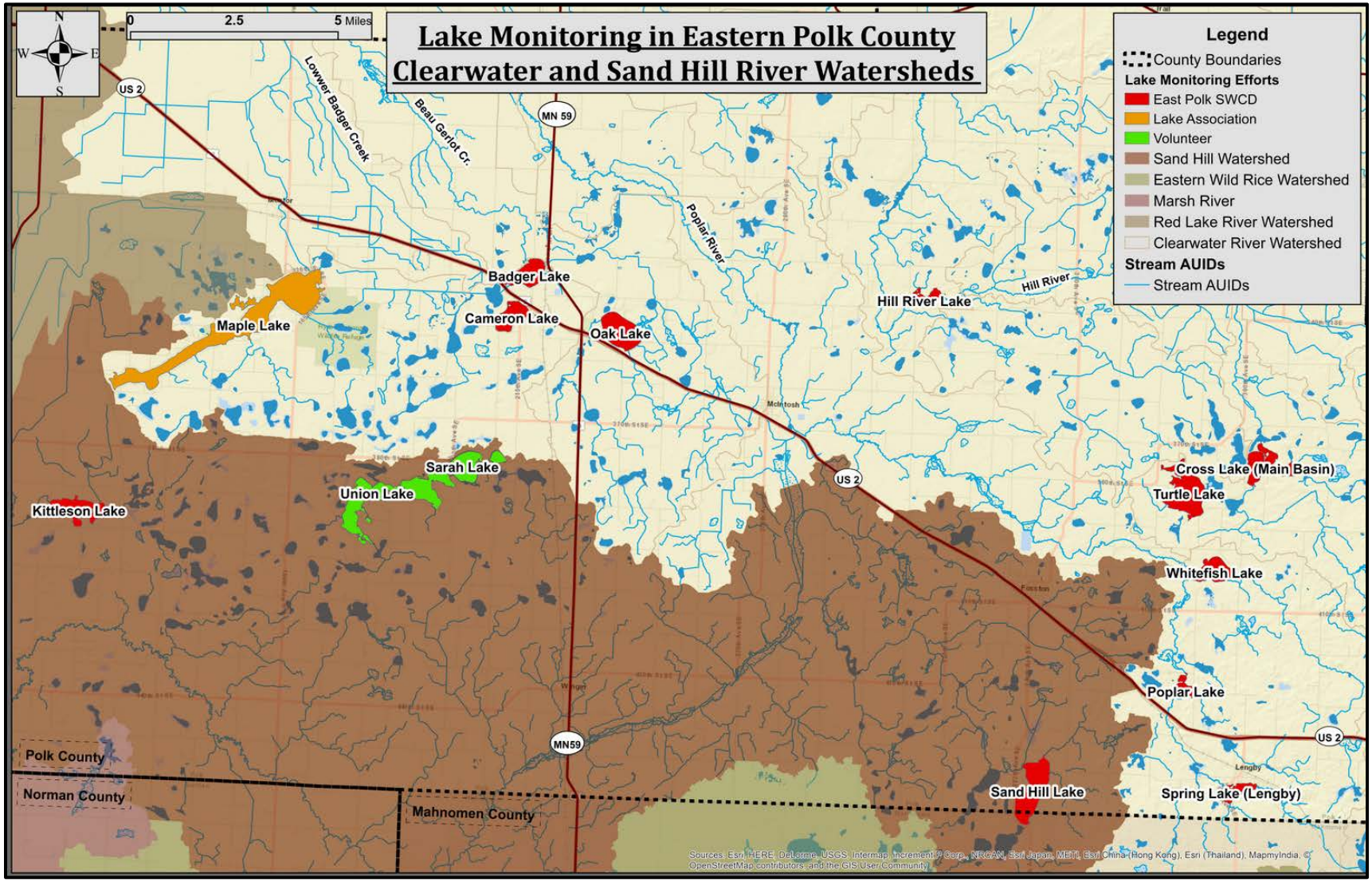

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April 2018 Meetings and Events

- **April 3, 2018 -** East Polk County SWCD Lakes Monitoring Meeting
- **April 3, 2018 -** An extension for the Red Lake River Watershed Restoration and Protection Strategy project was executed
- **April 10, 2018 -** District staff attended a PTMApp training session at Northland Community and Technical College in Thief River Falls
- **April 11, 2018** – Thief River One Watershed One Plan meeting (advisory committee, policy committee, and planning work group)
- **April 11, 2018** – Thief River Watershed Zonation Meeting
- **April 18, 2018 -** An extension for the Clearwater River Watershed Restoration and Protection Strategy project was executed
- **April 19, 2018** – Thief River One Watershed One Plan conference call to discuss Section 3 of the plan
- **April 24, 2018** – Upper/Lower Red Lakes WRAPS Open House event in Kelliher
- **April 25, 2018** – Thief River One Watershed One Plan Project Working Group conference call
- **April 26, 2018** – Thief River zonation process conference call

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.