

By Corey Hanson, Red Lake Watershed District Water Quality Coordinator. 5/31/2019.

- ✓ Clearwater River Watershed Restoration and Protection Strategy
- ✓ Grand Marais Creek Watershed Restoration and Protection Strategy and Total Maximum Daily Load public notice period.
- ✓ Red Lake River Watershed Restoration and Protection Strategy

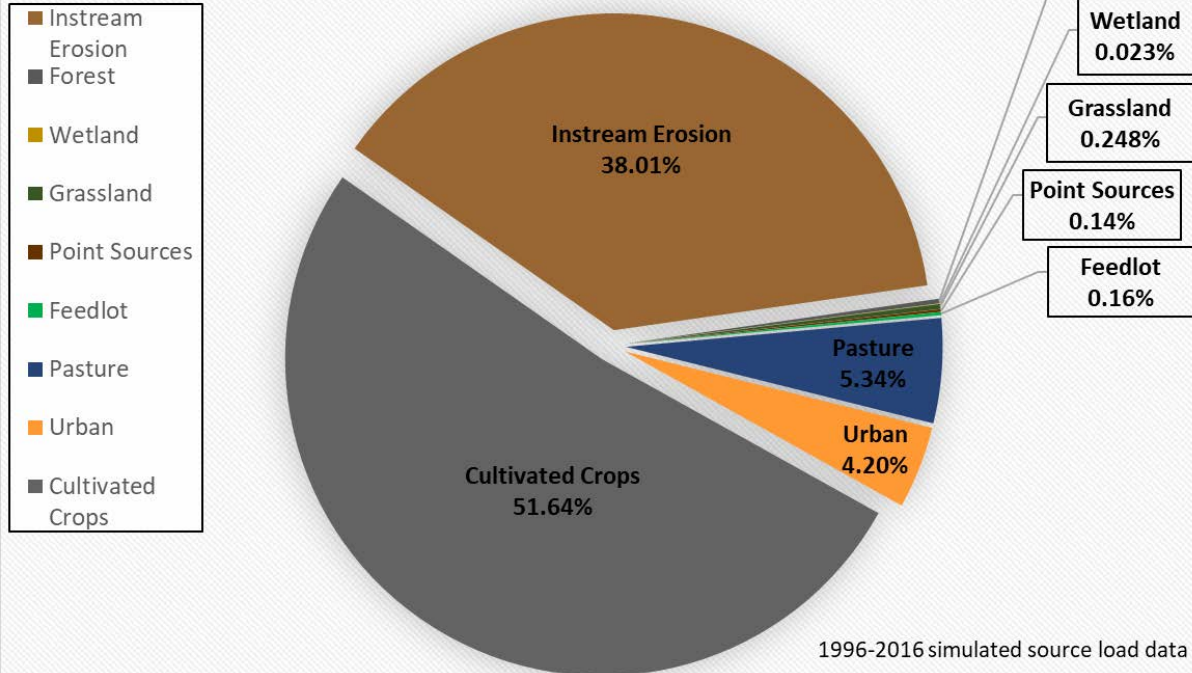
Red Lake Watershed District (RLWD) Long-Term Monitoring Program

A final data review, before storage in the state's EQiS database, was completed in January of 2019.

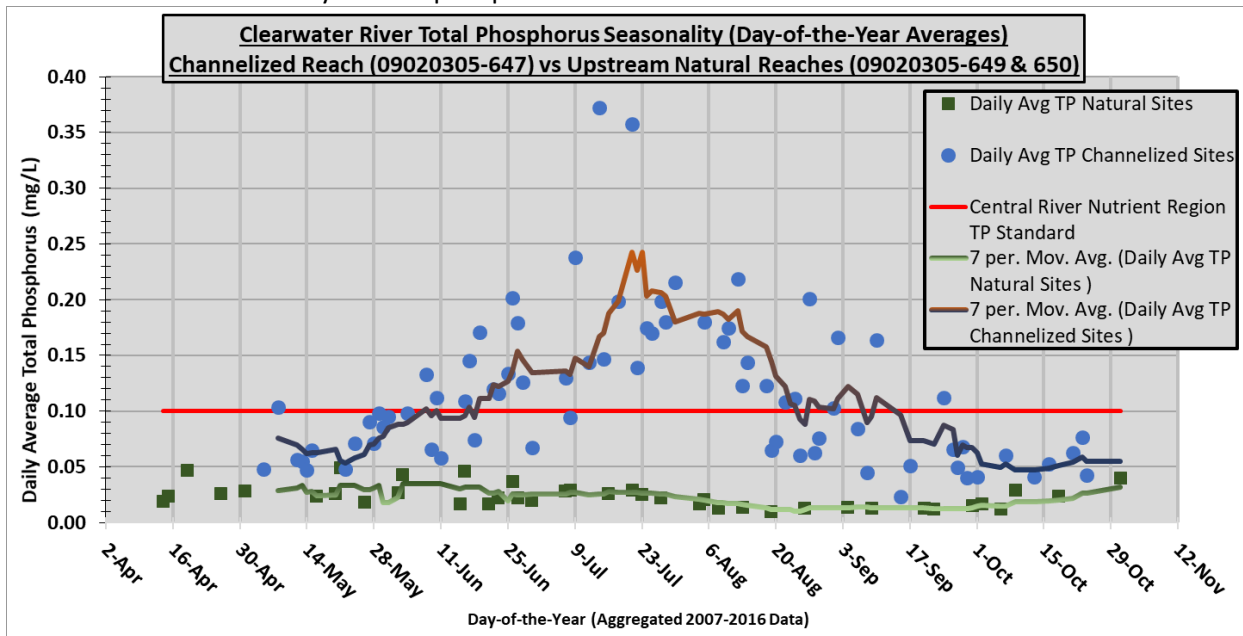
Clearwater River Watershed Restoration and Protection Strategy (WRAPS) Project

- Objective 9 – Civic Engagement
 - District staff attended a Maple Lake Improvement District meeting to discuss the protection and improvement of water quality within the lake.
 - RMB Environmental Labs completed a civic engagement evaluation plan for the Clearwater River Watershed
- Objective 10 – Report Writing
 - Clearwater River *E. coli* TMDL
 - Hill River *E. coli* TMDL
 - Nasset Creek *E. coli* TMDL
 - Margin of safety
 - Clearwater River total phosphorus TMDL
 - Completed draft Section 1 of the Clearwater River Watershed TMDL – Project Overview (purpose, identification of waterbodies, and priority ranking)
 - Completed draft Section 2 of the Clearwater River Watershed TMDL – Applicable Water Quality Standards and Numerical Targets
 - Completed draft Section 5.1 of the Clearwater River Watershed TMDL - Total Suspended Solids Total Maximum Daily Loads
 - Completed a draft Section 5.2 of the Clearwater River Watershed TMDL - *E. coli* Total Maximum Daily Loads
 - Completed draft Section 6 of the Clearwater River Watershed TMDL – Future Growth Considerations
 - Revised chart that shows the relative contributions from sediment sources throughout the watershed, as simulated by the Clearwater River HSPF Model

**Clearwater River Watershed HSPF Model (1996-2016)
Sources of Total Suspended Solids Loads**



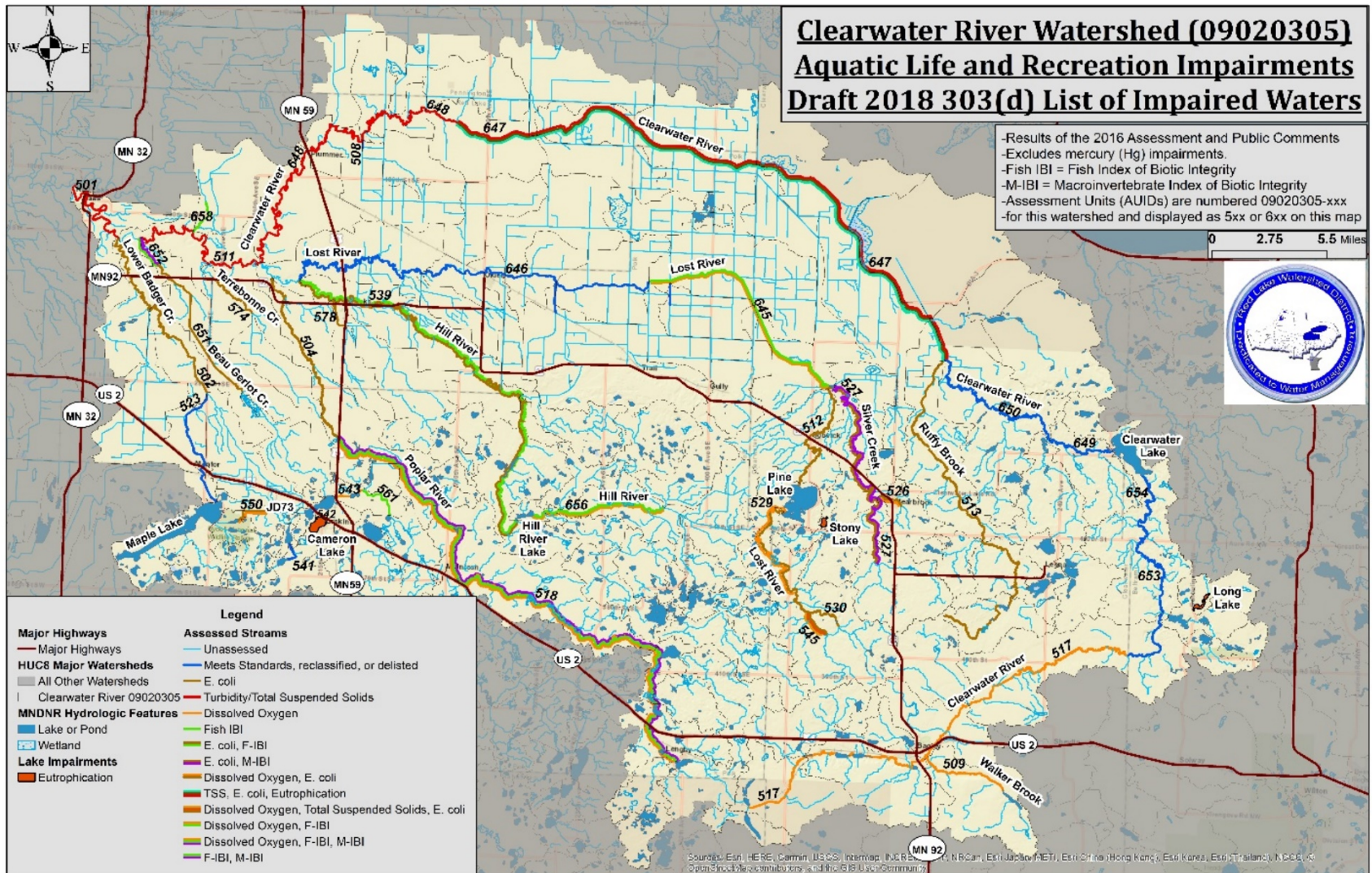
- Seasonality of total phosphorus concentrations



- Revised map of impairments
- Map of total phosphorus TMDL sites
- Map of *E. coli* TMDL sites

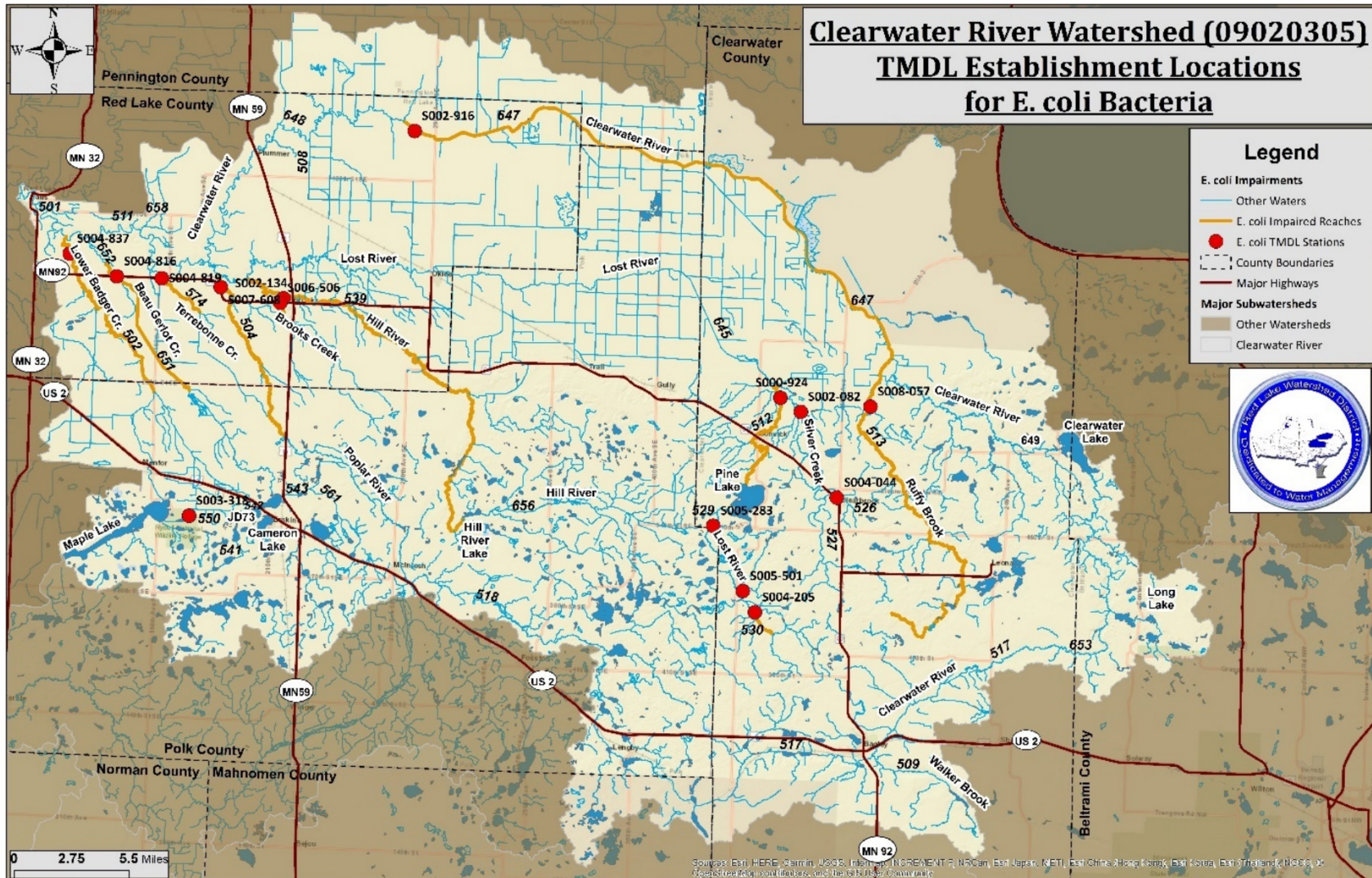
RED LAKE WATERSHED DISTRICT MONTHLY WATER QUALITY REPORT

January 2019



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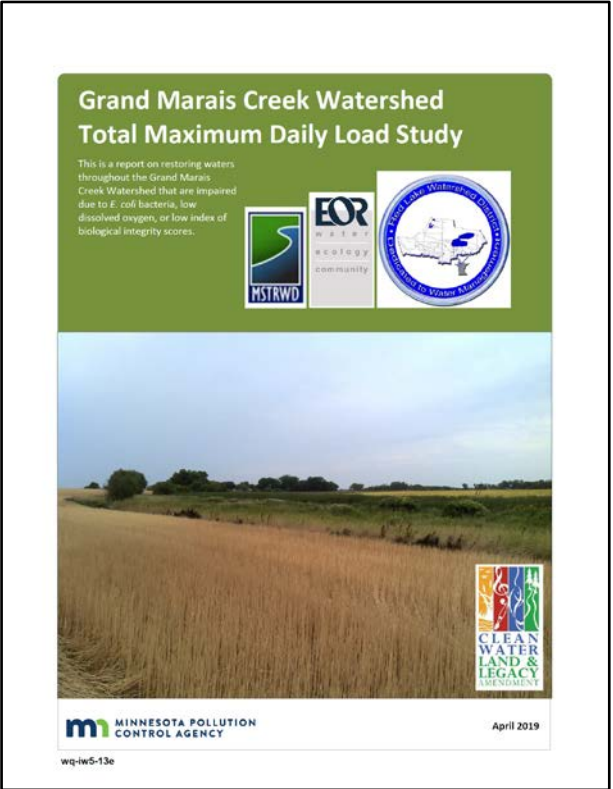
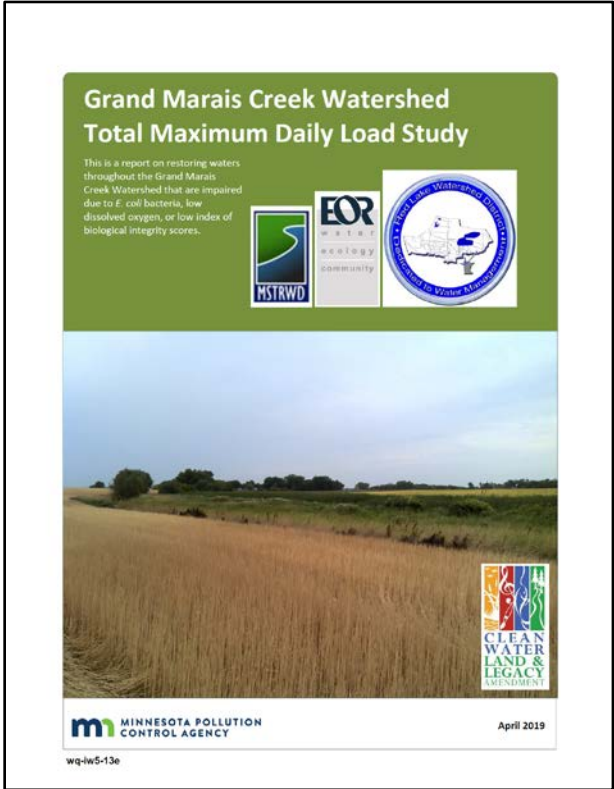
Grand Marais Creek Watershed Restoration and Protection Strategy (WRAPS)

The public notice period for the Grand Marais Creek Watershed Total Maximum Daily Load and Grand Marais Creek Watershed Restoration and Protection Strategy reports began on January 8, 2019 and comments were due by January 26, 2019. District staff helped publicize the reports and the public comment period. Very few comments were received, however, during the comment period.

Grand Marais Creek WRAPS Summary:
<https://www.pca.state.mn.us/sites/default/files/wq-ws4-56b.pdf>

Grand Marais Creek Watershed Restoration and Protection Strategy:
<https://www.pca.state.mn.us/sites/default/files/wq-ws4-56a.pdf>

Grand Marais Creek Watershed Total Maximum Daily Load:
<https://www.pca.state.mn.us/sites/default/files/wq-iw5-13e.pdf>



Red Lake River Watershed Restoration and Protection Strategy (WRAPS)

Wasteload allocations for the City of St. Hilaire were revised. Tables with TMDL calculations were revised to reflect the revised St. Hilaire wasteload allocation and to match MPCA formatting recommendations.

The MPCA Project Manager sent the draft Red Lake River Watershed Total Maximum Daily Load report to the Environmental Protection Agency for preliminary review.

Thief River Watershed Restoration and Protection Strategy (WRAPS)

When water quality conditions in the Thief River Watershed were formally assessed by the MPCA in 2013, tiered aquatic life use (TALU) standards were not yet in place. Those standards allow for the variation of water quality and biological standards throughout the state based on location, channel morphology, the known conditions that have been achieved by the waterway. District staff reviewed use attainment analysis information from the MPCA. The MPCA sought local input on the classification of ditches and channelized streams in the watershed so that those waters could be held to appropriate biological standards. A Thief River Watershed Use Attainment Analysis meeting was held at the RLWD office on January 15, 2019. There are two main types of use classifications that will be used for this watershed:

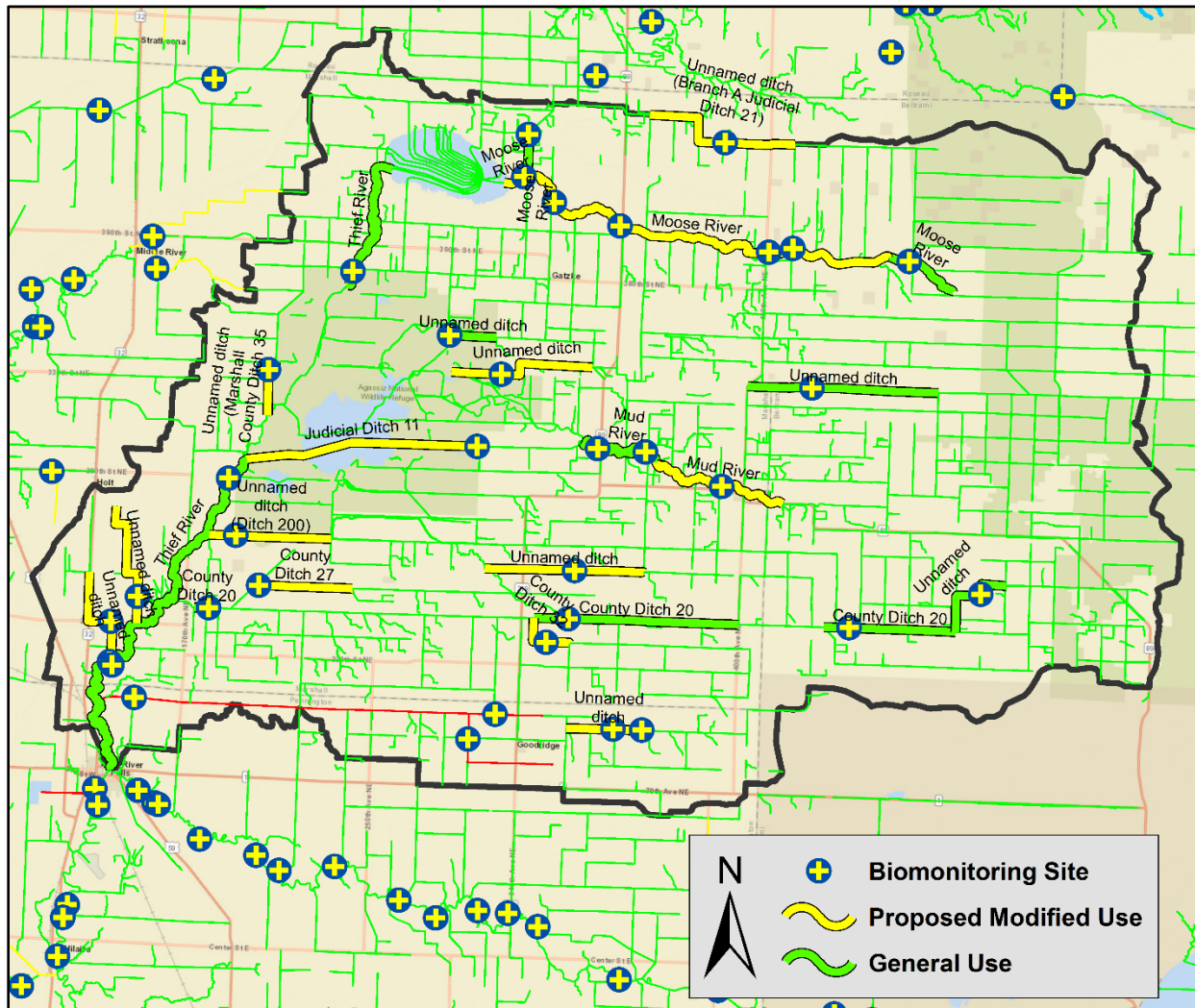
2Bg (General Use) = the designated aquatic life use code for a general warm water stream. Aquatic life in these systems should meet the interim clean water act goal of fishable and swimmable waters

2Bm (Modified Use) = the designated aquatic life use code for a modified warm water stream. These are altered waterbodies that have been compromised by legal ditching practices and the aquatic life in them reflect that fact. These systems currently have a reduced biological potential as a result of reduced habitat complexity.

The MPCA recommended a “modified” use designation for most of the channels, except for portions of the Moose River, Mud River, Marshall County Ditch 20, and some scattered ditch segments that yielded good index of biological integrity scores. Antidegradation is an important factor in the use attainment analysis. Some ditches and channelized streams met the general use standards and will be required to meet those higher standards if/when sampled prior to future assessments. During the discussion, state and local staff agreed to assign a modified use designation to the channelized portion of the Moose River and assign a general use designation to the Mud River downstream of Grygla. There was discussion about the sampling of intermittently flowing ditches like the Main and Lateral of Judicial Ditch 23. The RLWD will record stage and flow data from three questionable ditch channels in 2019 to characterize the duration of flow and help determine whether the reaches should be assessed for biological integrity. Although the MPCA was planning to assess small ditches like JD 23, a large drainage ditch that receives drainage from an entire subwatershed, Judicial Ditch 30, has a Class 7 (limited use) designation and was not going to be assessed by the MPCA. It was given the Class 7 designation because the Goodridge wastewater treatment facility discharged to the ditch. It is an odd situation because the MPCA did assess an upstream portion of JD 30, but didn’t assess any portion of the channel downstream of Goodridge.

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Fish communities in many reaches resembled small headwaters streams due to connectivity problems. Portions of the Mud River had good channel development, okay index of biological integrity scores, and okay habitat. Good minnow species were found in the upper portion of the Thief River between Thief Lake and Agassiz National Wildlife Refuge, but some species were missing. A very good fish index of biological integrity core was recorded in a ditch along Benville Road, northeast of Grygla (numerous sensitive species like finescale dace, northern redbelly dace, and pearl dace). The pristine water quality at that location had been documented when the water quality sampling site (S004-059 at the intersection of Wildlife Road NW and Benville Road NW) was used as a natural background sampling site during a previous study. Sensitive dace species were also found in an artificial watercourse near the northeast corner of Agassiz National Wildlife Refuge (a channel diverting water from Webster Creek into the Mud River Pool).

A potential impairment was found in an upstream portion of CD 20. Flow from that reach will also be characterized in 2019. There is a potential macroinvertebrate index of biological integrity impairment in

the channelized portion of the Moose River upstream of CSAH 54. Additional, potential impairments will be discussed at the professional judgement group meeting (July 2019).

Due to the size of the contributing watershed, the channelized portion of the Thief River was not eligible for a modified use designation. Therefore, the MPCA chose not to split the channelized portion from the natural portion so that it could be assessed separately.

There will be a professional judgement group meeting in 2019 to discuss the results of the MPCA's assessment.

Thief River One Watershed One Plan (1W1P)

- District staff reviewed a draft of Section 4 of the Thief River One Watershed One Plan.
- A Thief River 1W1P Planning Work Group conference call was held on January 2, 2019 to discuss the draft Section 4 and the agenda for the upcoming Advisory Committee and Policy Committee meeting.
- The planning work group discussed methods of spatially prioritizing priority issues.
- The planning work group met to discuss prioritization of subwatersheds, technical implementation schedules, and actions.
- District staff reviewed and commented on planning region prioritization tables
- District staff worked with counties to get parcel GIS layers to Houston Engineering for use in development of the Thief River 1W1P

River Watch

RLWD staff met with River Watch groups within the District (Red Lake Falls, Red Lake County Central) to help them prepare for the River Watch Forum. RLWD staff met with the Thief River Falls School Administration to discuss a revival of the Thief River Falls River Watch Program.

River Watch students from Red Lake County Central High School met with staff from the RLWD and Red Lake County to discuss their discovery of polluted discharge into the Hill River at Brooks and possible solutions to the problem.

The International Water Institute shared their Winter 2018-19 newsletter (<https://mailchi.mp/9efcb910b0a9/iwi-river-rendezvous-newsletter-winter-2018-19>) that provided updates on the River Watch and River of Dreams programs.

Other Notes

- Water quality related notes from the January 10, 2019 Red Lake Watershed District Board of Managers meeting:
 - Manager Torgerson suggested that the District invite a trout organization to view the area of the trout stream designation in reference to the Pine Lake subwatershed.
 - Manager Dwight discussed the need for local involvement regarding individuals leaving garbage on the ice while ice fishing.

- Water quality related notes from the January 24, 2019 Red Lake Watershed District Board of Managers meeting:
 - Engineer Nate Dalager, HDR Engineering, Inc., discussed a meeting he attended along with Administrator Jesme, Board Managers Sorenson and Torgerson, Clearwater County Commissioner Mark Larson and Theresa Ebbenga, MnDNR regarding the Pine Lake Project, RLWD Project No. 26. Dalager discussed the various components of the project and a prior request to complete an Alternative Analysis Report. Dalager stated that he looked at every potential site and evaluated the impacts, with Sites D and E, having the least impact and being the most likely to be permitted. Site E is already a degraded stream, as it is the site of a 6' beaver dam, which is on-channel retention. Discussion was held on the issue of the trout stream designation and how it could affect the proposed FDR Project. Site F is also considered an on-channel storage site. Dalager stated that the District gained 260 acft. of storage by replacing the outlet structure on the Little Pine Lake WMA, which was considered as Site F. The Pine Lake area watershed is a steep watershed with ravines and valleys, where there is no flat land for off channel storage. To retain water, a dam would need to be built in the ravine or valley to hold water back. A meeting will be held later in February with all the DNR staff.
- District staff helped judge posters and presentations at the Franklin Middle School Science Fair
- A water quality report for the month of September 2018 was completed and posted online: <http://www.redlakewatershed.org/waterquality/MonthlyWQReport/2018%2009%20September%20Water%20Quality%20Report.pdf>
- Pennington SWCD staff provided an update on Chief's Coulee. The city attempted to televise (explore with a robotic camera) the underground portion of the drainage system. They were unable to televise much of it because of multiple cave ins and a lack of additional access points. The pipe was also rusted out on the bottom, which caused the robot to get stuck in a few spots. It didn't show any point sources entering the portions that they were able to televise. The pipe will be replaced in the spring. Before it gets replaced, another set of fecal DNA test should be completed.

Meetings and Events from January 2019

- **January 2, 2019** – Thief River One Watershed One Plan Planning Work Group conference call.
- **January 9, 2019** – Thief River One Watershed One Plan meeting
- **January 10, 2019** – Maple Lake Improvement District (MLID) meeting
 - The MLID was interested in getting help with septic system inspections around the lake, with a focus on residences and campers that haven't been required to get an inspection for a while. In-use campers on lots are like extra bedrooms that could be overloading septic systems.
 - There was discussion about implementing best management practices to reduce runoff from backlots
 - Agricultural practices and projects like buffers, grassed waterways, and waster and sediment control basins (WASCOBs) were discussed. The MLID Board was interested in the typical installation cost for a WASCOB.
 - The East Polk SWCD is planning rain barrel workshops.
 - There was discussion about ways to make information (including water quality testing results and event announcements) more readily available to the public.

- The MLID has some money available to put toward projects that will improve water quality in the lake.
- There will be work done in 2019 to improve the public beach area on the east end of the lake. There is concern about runoff from the parking lot. There could be opportunities to implement some practices there that will reduce runoff to the lake and serve as an educational demonstration project.
- The board was interested in identifying areas where pollutants may have a direct path to the lake (field drainage, erosion from lake lots) and targeting those locations with projects/practices.
- **January 14, 2019** – Red River Watershed Management Board Technical Advisory Committee Meeting to review a study proposal and water quality project funding
 - The Minnesota Department of Agriculture presented on a proposed project for which they were requesting funding from the RRWMB.
 - The study will evaluate water quality and agronomic benefits of the 4R Nutrient Stewardship while conducting edge-of-field monitoring throughout the Red River Basin.
 - 4R Nutrient Stewardship program addresses four aspects of fertilization
 - Right rate
 - Right time
 - Right place, and
 - Right source
 - Lindsey Pease, a Soil Scientist at the University of Minnesota, Crookston (Albert Sims' successor), gave a presentation on the proposed study.
 - An outreach program and resources will be developed to demonstrate research findings. Outreach will engage growers, nutrient service providers, research and extension personnel, local/state government staff, and the general public.
 - Some of the research will be conducted in plots near the University of Minnesota, Crookston.
 - Drainage water management is one of the practices that will be evaluated.
 - The project will promote increased use of nutrient use efficiency maps.
 - Broadcast and incorporation fertilization will be compared to injection.
 - Tile drainage will be compared to surface drainage.
 - The process for funding drainage and water quality projects was discussed along with ideas for potential improvements to the process.
 - Could efficiency be improved through more frequent meetings?
 - Should there be a "pot" of money available for each year?
 - Should the funding process be competitive?
 - Should matching funds or in-kind contributions be required from project partners?
 - Should there be separate "pots" of money for water quality projects and flood damage reduction projects, so they are not competing against each other?
 - Should the funding available to each member organization be proportional to that organization's contribution to the RRWMB?
- **January 18, 2019** – Pennington County Water Resources Advisory Committee meeting at the RLWD office
- **January 19, 2019** – Thief River Watershed Use Attainment Analysis meeting

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- **January 22, 2019** – Thief River One Watershed One Plan Planning Work Group meeting to discuss prioritization of subwatersheds, technical implementation schedules, and actions.

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.