RED LAKE WATERSHED DISTRICT MONTHLY WATER QUALITY REPORT — February 2016

By Corey Hanson, Red Lake Watershed District Water Quality Coordinator. 7/26/2016.

- ✓ Watershed Restoration and Protection project updates

Clearwater River Watershed Restoration and Protection (WRAP) Project

A Phase II work plan for the Clearwater River WRAP project was completed.

- Objective 9 – Civic Engagement
  - A draft version of a report on the biological sampling that was conducted by the Red Lake Watershed District and project partners was made available.

Thief River Watershed Restoration and Protection (WRAP) Project

The Thief River WRAPS contract was officially extended to June 30, 2016.

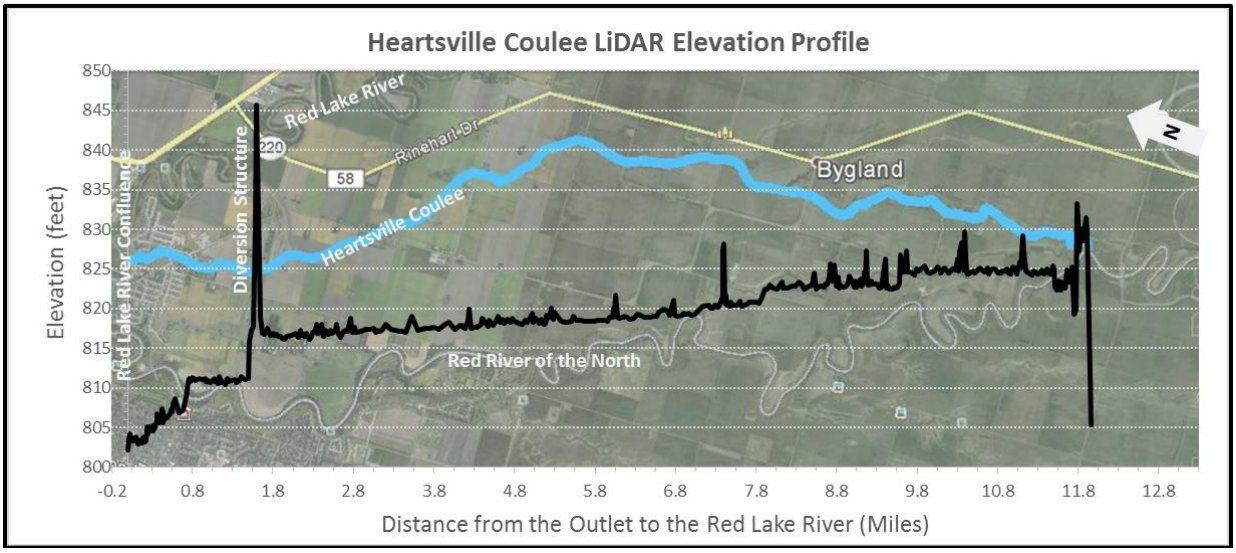
- Task 9 – Data Entry
  - A data review of 2015 Thief River WRAP monitoring data was completed so that the data could be stored in the State's EQuIS database.
- Task 10 – Data Analysis
  - RLWD staff provided the MPCA with data that supports the delisting of the E. coli impairments of the Mud River and Branch A of JD21.
- Task 13 – Reports
  - District staff worked on the completion of draft Thief River Watershed Total Maximum Daily Load and Thief River Watershed Restoration and Protection Strategy documents.

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

- Task 1 – Existing Data
  - A complete record of EQuIS monitoring data from the Red Lake River watershed was acquired.
- Task 8 – Data Entry
  - A data review of 2015 Red Lake River WRAP monitoring data was completed so that the data could be stored in the State's EQuIS database.
- Task 9 – Data Analysis
  - Discrete and continuous data from the Red Lake River between Lower Red Lake and the Thief River was assessed and summarized. The reach (formerly AUID #09020303-508) was split into three assessment units (AUIDs 09020303-560, 09020303-561, and 09020303-562). The upstream reach (…560) lies within the Red Lake Nation and is outside of the jurisdiction of the MPCA and the RLWD. The lower, natural reach of the Red Lake River upstream of Thief River meets the dissolved oxygen standard. The middle, channelized reach (…561), however, fails

to meet the 5 mg/l dissolved oxygen standard. Reaches 561 and 562 fail to meet the 15 mg/l total suspended solids standard, but meet the 30 mg/l standard. Despite data that indicates a need for water quality improvement, reaches 561 and 562 are both considered to be fully supporting of aquatic life due to the high quality biological communities that were found there.

- Heartsville Coulee dissolved oxygen data was compared to flow data. In data collected within the most recent 10 years of data collection (2006-2015), 73.3% of all (DO12_All) the dissolved oxygen measurements made in AUID #09020303-550 (at S007-061) were lower than 5 mg/l. During the months of May through September (DO5_All), 74.4% of the readings have been lower than 5 mg/l. The waterway has only been monitored since 2012. In the four years that it has been monitored, monitoring staff have discovered that, outside of spring runoff, the waterway is more like a wetland with standing, stagnant water than it is a stream. Due to the stagnant water, dissolved oxygen standards cannot be met due to natural conditions. The reach could not be restored without major alterations to the wetland habitat that exists in the channel. Just as Grand Marais Creek is an abandoned channel of the Red Lake River, Heartsville Coulee appears to be an abandoned channel through which water from the Red River of the North once flowed. In an aerial photo, the Heartsville Coulee channel appears to be connected to the Red River of the North. LiDAR and a site visit revealed that the upstream end of the coulee is separated from the Red River of the North by a road that has no culverts. The LiDAR profile shows that the gradient is essentially flat throughout the upper reaches. The profile also shows the influence of the diversion structure on the lower end of the reach. Water is ponded within the channel. This creates stagnant conditions. The water is so stagnant that it is usually completed covered with duckweed (Lemnoideae) in the late summer.



Ponded, duckweed-covered water in Heartsville Coulee

- Task 10 – Civic Engagement
  - Links to documents were added to the Red Lake River Documents & Resources page of the www.rlwdwatersheds.org website.
- Task 12 – Reports
  - A monitoring plan was written for the Red Lake River watershed that will be included in the Red Lake River Watershed Total Maximum Daily Load (TMDL) Report, Red Lake River Watershed Restoration and Protection Strategy (WRAPS) Report, and Red Lake River One Watershed One Plan document.

Grand Marais Creek Watershed Restoration and Protection Project

Emmons and Olivier Resources, Inc. staff worked on load duration curve development, writing the Grand Marais Creek Watershed TMDL Report (draft watershed-background sections).

Other Notes

- RLWD staff worked on writing the Red Lake Watershed District's 2015 Annual Report.
- The Red Lake County Soil and Water Conservation District is working on three erosion control projects.

- Members of the Red River Basin Monitoring Advisory Committee began planning the annual Red River Basin Water Quality Training Session.

February 2016 Meetings and Events

- **February 11, 2016** – Red Lake River One Watershed One Plan Planning Group Meeting.
- **February 18, 2016** – RLWD and USFWS (Rydell and Glacial Ridge National Wildlife Refuge area) staff met to discuss project ideas and the Partners for Fish and Wildlife Program.
- **February 29, 2016** – Red Lake River Corridor Enhancement Project Call
    - Discussion about a Greater Minnesota Regional Parks and Trails Commission funding opportunity.
    - Plans were made to apply for the designation of the Red Lake River as a trail of regional significance. This designation would make the Red Lake River corridor eligible for the Regional Parks and Trails Legacy Grant program.
    - The increased popularity of kayaking along the river was discussed.
    - Crookston is looking at improving access at the CSAH 11 (Gentilly) Bridge so that it can be more easily and safely used as a drop-in point for people who want to paddle into town.
    - Local partners will re-affirm the Red Lake River Corridor Enhancement Joint Powers Agreement.

Plans for early 2016

- Thief River Watershed Restoration and Protection Project.
    - Complete a draft WRAPS Report.
    - Edit TMDL and WRAPS reports based on comments during the review process.
    - Plan a stakeholders' or open house meeting to present findings of the project and the recommendations compiled in the reports.
- Red Lake River Watershed Assessment Project
    - Stage and flow data compilation.
    - Creating Stream Power Index maps.
    - Flow characterization
    - Load allocations
    - Complete a draft Red River Watershed TMDL Report
    - Complete a draft Red River WRAPS Report
    - Technical Advisory meeting to review TMDL and WRAPS reports
    - Hold a meeting to discuss restoration and protection strategies for the WRAPS and TMDL reports.
- Clearwater River Watershed Restoration and Protection Project
    - Draft a Phase II work plan for the project
    - Write a short report on existing data, conditions, and knowledge of the watershed (summarizations of existing reports).
    - Stage and flow data compilation.

  - Participate in the assessment process
  - Identify areas that are in need of stressor identification efforts.
- Grand Marais Creek Watershed Restoration and Protection project
  - Technical advisory committee and public open house meetings.
  - Emmons and Olivier Resources staff will work on writing the TMDL and WRAPS reports.

Quote of the Month:

"There are two ways of meeting difficulties: you alter the difficulties, or you alter yourself to meet them."
- Phyllis Bottome

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