

Summary

Monitoring and Assessment Report

Rainy River - Headwaters Watershed



Why is it important?

At 2,954 square miles, the Rainy River-Headwaters Watershed contains a large portion of the Boundary Waters Canoe Area Wilderness and the greater Superior National Forest. Both are known for their scenic views, towering pines, and magnificent cascades that connect their lakes. This entire watershed, including much of northeastern Minnesota, contains vast tracts of upland and lowland forest dotted with lakes and streams. As a result, recreational opportunities are abundant throughout the watershed.

The watershed's undeveloped nature - 85% is under state and federal ownership - is undoubtedly a key reason for the prevalence of high water quality. Spanning Koochiching, St. Louis, Lake, and Cook counties, it contains 1,273 lakes (>10 acres) and 408 stream resources which support a diversity of fish and wildlife species. The valuable natural resources provide drinking water, habitat for both aquatic and wild life, recreation, and timber production.

Key issues

Overall, water quality conditions are good to excellent and can be attributed to the forest and wetlands that dominate the watershed's landscape. Many stream resources have exceptional biological, chemical, and physical characteristics and should be protected to preserve their high quality.

The highest-quality stream resources within this watershed, based on aquatic life, habitat, and water chemistry, are: Bezhik Creek, Denley Creek, Little Isabella River, Mitawan Creek, Snake River, Jack Pine Creek, Cross River, Moose River, and Stony River.

A limited number of impairments (not meeting standards) occur and sporadically throughout the watershed. They are typically limited to the lower reaches of stream and lake systems where stressors from land use practices may accumulate. The impairments are likely due to both natural and human-caused stressors. Potential biological stressors related to human development include historical and recent forest cover changes, urban/industrial development, and draining of wetlands.

Impairments found in lakes and/or streams include:

- Turbidity (sediment)
- Escherichia coli (bacteria)
- Mercury in fish tissue

Highlights of report

- Of the 408 stream resources in this watershed, 15% were monitored and assessed to determine whether or not they supported healthy fish and macroinvertebrate communities. Three percent were assessed to determine whether or not they supported safe recreation.
- Only two stream resources were impaired for aquatic life and one stream segment was impaired for aquatic recreation. These impairments were found on the Ash and Blackduck Rivers which flow to Kabetogama Lake and Voyageurs National Park.

Highlights continued

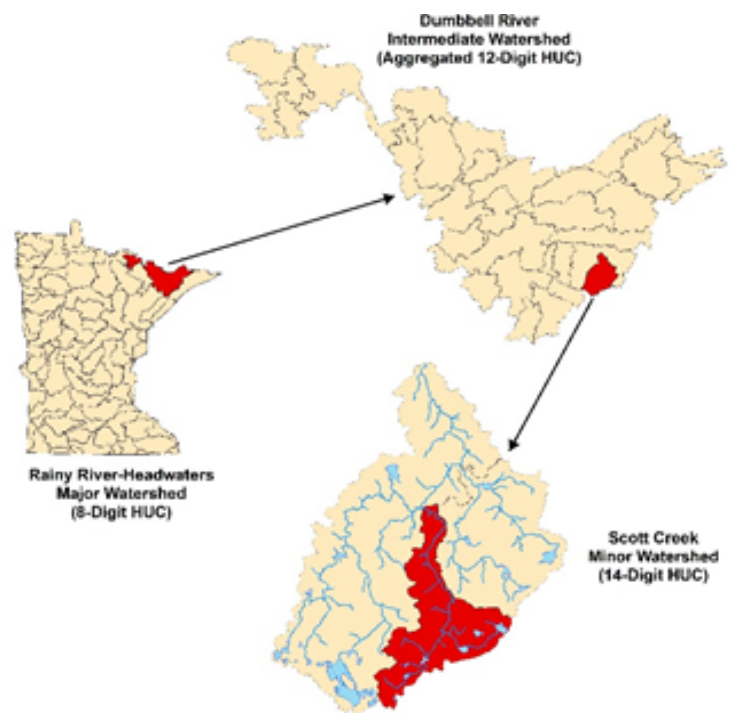
- Biological monitoring results identified numerous sensitive fish and macro-invertebrate species in many of this watershed's drainages and indicated good water quality..
- Several streams (Bezhik, Cross, Denley, Jack Pine, Little Isabella, Mitawan and Snake Creek / River) had exceptional biological communities that should be protected.
- High levels of mercury in fish tissue from the global burning of fossil fuels are found in many lakes and rivers.
- All of the 245 monitored lakes, except for Blueberry Lake near Ely, had good-to-excellent water quality. The Blueberry Lake impairment was deemed to be a result of natural conditions.



About this study

In 2014, the MPCA began intensive watershed monitoring of this watershed's surface waters, including Ash, Bear Island, Cross, Dunka, Dumbbell, Isabella, Island, Kawishiwi, Little Indian Sioux, Little Isabella, Moose, Shagawa, and Stony Rivers. The MPCA partnered with Cook and Lake County SWCDs and Vermilion Community College to conduct water chemistry sampling at 13 streams. The MPCA, Lake County SWCD, UMD's Natural

Resources Research Institute, the National Park Service, and local volunteers monitored 60 lakes. Monitoring results were used to assess all surface waterbodies for aquatic life, recreation and fish consumption (where sufficient data was available).



Full report

To view the full report, visit [Rainy River-Headwaters Watershed Monitoring and Assessment Report](#) or search for it on the [MPCA website](#).

Contact person

Nathan Mielke
Minnesota Pollution Control Agency
nathan.mielke@state.mn.us
218-316-3916