



International St. Mary-Milk Rivers Study Technical Working Groups

Aquatic Ecosystems



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Expertise: Aquatic ecology, fisheries ecology, ecohydrology, climate change, invasive species



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Expertise: Aquatic ecology, water quality, effects on benthic macroinvertebrates from stressors in rivers and streams

Background

The Aquatic Ecosystems (AE) Technical Working Group (TWG) will compile past studies on fisheries and other aquatic organisms in the study area. Past studies were primarily conducted for a specific species or in a specific area, and one goal of the TWG is to provide a wholistic understanding of the aquatic ecosystems in the basin from a food web perspective including algae, insects, and fish. The AE TWG will review past completed studies in the basin from Provincial, State, Federal, and Indigenous entities, and compile findings to better understanding the basin's aquatic ecosystems. The AE TWG will also identify threatened, endangered, and aquatic species of conservation concern in the St. Mary and Milk River systems in the United States and Canada.

Focus

The Aquatic Ecosystems (AE) Technical Working Group (TWG) will provide foundational information that describe the current state of aquatic ecosystems in the St. Mary-Milk Rivers system. The study will largely focus on compiling and using existing biological information to describe the state of knowledge regarding aquatic ecology studies in the basin. Ultimately using the data to assess the potential ecological effects of changes to water apportionment and future climate change scenarios through the development of science based, site-specific, ecological Performance Indicators that can be used to assess the effects of flow management on aquatic species, communities, and critical habitats in the St. Mary and Milk rivers. The Working Group will also provide advice and guide for development of additional aquatic ecosystem performance indicators that are of importance to those living in and using the rivers.

Planned Outputs

The AE TWG will produce a report to describe the ecosystems of the St. Mary – Milk River Basin and in particular note species of concern by each country. A study on the streamflow needs for bull trout will provide data for performance indicators for that species. Performance Indicators will be developed to assess the effects of streamflow and water management on key indicators of aquatic ecosystem health. Recommendations will be provided to aid in the analyses of options and water management scenarios for the study that consider aquatic ecosystem integrity.

The Technical Working Groups are formed by, and report to, the International Joint Commission's International St. Mary-Milk Rivers Study Board. The study is seeking to ensure and/or improve equitable sharing and apportionment of the St. Mary and Milk Rivers today and into the future. The ISMMRSB Work Plan is posted here: https://www.ijc.org/sites/default/files/ISMMRSB_Final_Work_Plan_20230401.pdf

*Image of the Hoodoo badlands at Writing-on-Stone Park and Aisinaipi National Historic Site in Alberta, Canada used under license from Shutterstock.com