

2016-2017 PROJECT PLAN SUMMARY

Project Name:	B1-2-1 Monitoring Benthic Macro-Invertebrates in Rivers and Tributaries
Type of Project:	Long Term Monitoring
Delivery Agent:	Environment and Climate Change Canada
Project Contact:	Joseph Culp- joseph.culp@canada.ca Nancy Glozier - nancy.glozier@canada.ca (ECCC)
Budget:	\$ 1,497,210

Project Description:

Benthic macro-invertebrates in streams and rivers are critical components of fish habitat, are relatively sedentary, sensitive to multiple stressors, and are the most common aquatic group used for aquatic bioassessments globally. As such, this monitoring activity uses macro-invertebrates as indicators of potential effects of Oil Sands (OS) development.

Project Objectives:

Through invertebrate monitoring, provide the necessary data and information to address key questions of the [Phase 2 technical plan](#) related to the effects of OS development on the environmental and ecological integrity of the Athabasca main stem, and small tributary streams and rivers. Specific objectives included:

- Develop a comprehensive and robust biomonitoring program for benthic macroinvertebrates in the Lower Athabasca River and its tributaries
- Identify and suggest modifications to improve the benthic macroinvertebrate biomonitoring program

Assess ecological condition of the benthic assemblages of the Lower Athabasca River and its tributaries

Key Outcomes:

Information on reach specific and regional impacts of oil sands development on aquatic ecosystem health, using macro-invertebrates as indicators and end-points, and to further inform the assessment of cumulative effects

Geographic Scope:

Geographically, sampling sites are located in the Lower Athabasca River and its tributaries (Steepbank, Muskeg, Jackpine, Firebag, Ells, MacKay, Dover, Horse, Hangingstone and Birch rivers), and in the Peace River watershed. Eleven sites on the Lower Athabasca River main stem with 56 sites sampled from the tributaries and 5 sites sampled on the tributaries of the Wabasca River of the Peace River watershed.

Associated Data and Reports:

Quality assured and controlled 2015 data from the project will be uploaded to the JOSM Portal. A report assessing the ecosystem health in benthic macro-invertebrate assemblages will be produced.