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Collaborative Geoscience for Resource Development and Resource Management in the Montney Gas Play, Northeast British Columbia

The Montney Shale Gas Play in northeast British Columbia is a world-class unconventional natural gas resource. Operations in the Montney are moving into development drilling, which will increase the demand for water and deep sites for the disposal of fluids. Provincial, First Nations and local governments, industry, communities, and environmental groups all want to ensure that water sources are carefully managed during natural gas development.

In response to this challenge, Geoscience BC met with industry and government in early 2010 and began planning for a collaborative project to undertake water studies in the Montney area.

The Montney Water Project is designed to provide a comprehensive inventory of water sources and potential for deep geological disposal sites in the Montney Gas Play area, by creating a comprehensive database of surface water, ground water and deep saline aquifers in the Montney area.

Water is an essential component of shale gas development, and is used for drilling and hydraulic fracturing. Hydraulic fracturing or fracing is a process where a mixture of water and sand is injected into the deep shale at a high pressure to create small cracks in the rock which allows gas to flow.



Kiskatinaw River - Photo Courtesy of Shell

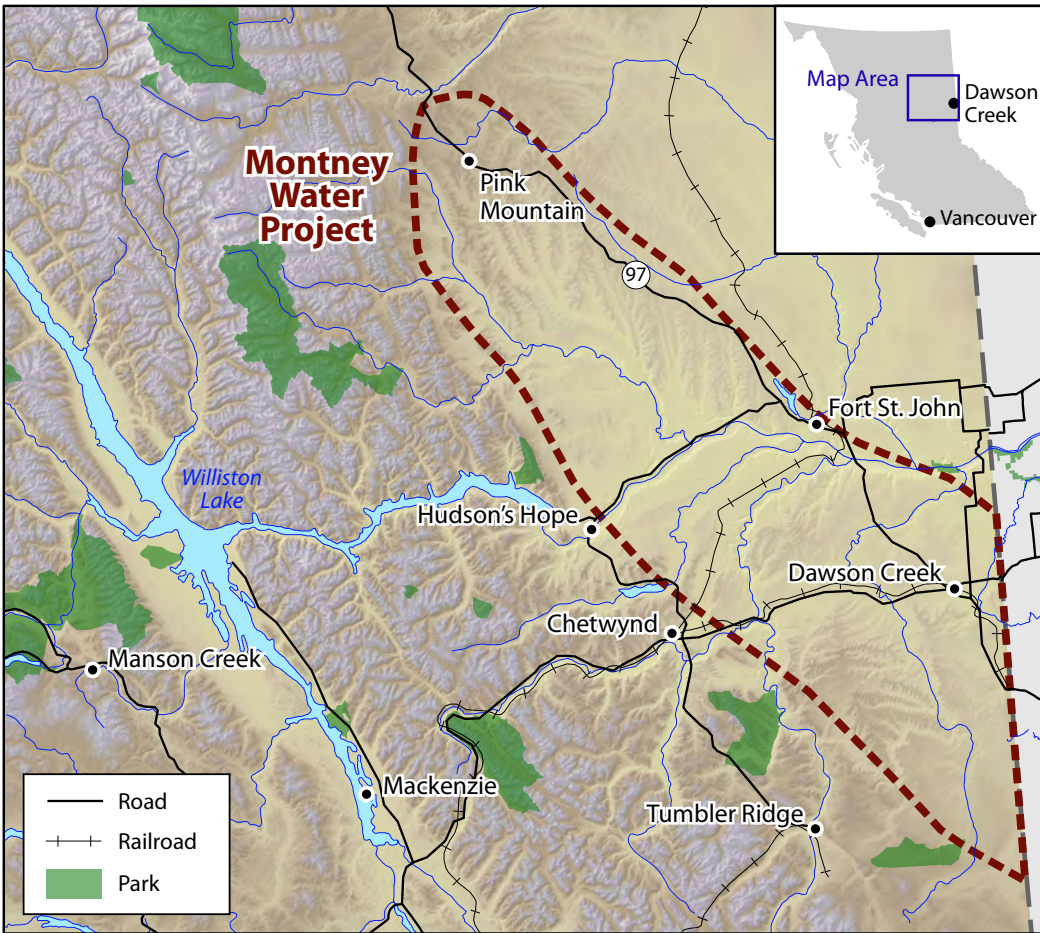


Montney Project Area- Photo Courtesy of Shell

Phase I of the project focuses on collecting, analyzing and interpreting available water information in the Montney region. This phase includes three components: 1. surface water, 2. water in unconsolidated materials and shallow bedrock, and 3. deep bedrock aquifers and disposal zones. The latter component is designed to assess the availability of non-potable deep saline aquifers for natural gas development (this is a water source that is not suitable for other uses such as drinking water or agriculture), and the usefulness of these aquifers for disposal of fluids.

Data and results from this project will be made publicly available. If required, a second phase of the study will focus research on addressing remaining data gaps.

The Montney Water Project is a collaborative effort by Geoscience BC in partnership with seven companies active in the Montney Play, with support from the Science and Community Knowledge (SCEK) Fund, B.C. Ministry of Energy and Mines, Ministry of Environment, Ministry of Health and the Northern Health Authority, and contributions from the Kiskatinaw River Watershed Project being undertaken at the University of Northern British Columbia in partnership with the City of Dawson Creek.



The Montney Gas Play is located in northeastern British Columbia and underlies portions of the Peace, Halfway, Beatton, Pine and Kiskatinaw watersheds.



Geoscience BC is an industry-led, not-for-profit society with a mandate to collect, interpret and market geoscience data and expertise to promote investment in resource exploration and development in British Columbia.

Geoscience BC is funded by the Provincial Government and works in partnership with industry, academia, government, First Nations and communities to attract mineral and oil & gas investment to BC.

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Montney Water Project Supports the Kiskatinaw River Watershed Research Project

The City of Dawson Creek supplies drinking water to local residents from the Kiskatinaw River Watershed, through the water treatment facility. This water supplies about 18,000 residents. In recent years, the demand for water from community and industries in the region has increased. However, the Kiskatinaw River is associated with significant flow variation which makes the water resources management a difficult task.

To better understand the nature of the water resources in the basin, a group of scientists from the University of Northern British Columbia, working with the City of Dawson Creek, are conducting research into water resource issues in the Kiskatinaw River Watershed. The Montney Water Project Partnership has provided funding for this research. The primary objectives for the Kiskatinaw River Watershed Research Project are to quantify current and future available water quantity and quality under changing land use and climatic conditions through numerical hydrological and hydro-geological model development as well as field experimental studies. The results of this project will be incorporated into the larger Montney Water Project.

Industry Project Partners



The Montney Water Project also receives in-kind support from the Province of British Columbia