

Agriculture & Environment

Environmental Innovation Program

Water Innovation Focus Area

FUNDING DETAILS

Establishing a Framework for Groundwater Monitoring in Alberta

Using a pioneering approach paired with innovative geoscanning technology and guided by expert advisors, Living Lakes Canada (LLC) in partnership with the Oldman Watershed Council (OWC) will develop and implement a framework for an enhanced groundwater monitoring network to fill current data gaps on critical aquifers. This project will be piloted in the Oldman River Watershed with support from the Piikani Nation Lands Department with the aim of expanding throughout Alberta.



RECIPIENT:

Living Lakes
Canada



PARTNERS:

Oldman Watershed
Council, Bow River
Basin Council, Piikani
Nations Lands
Department, BGC
Engineering, Opus
Petroleum
Engineering Ltd,
Alberta EPA,
University of Calgary



PROJECT DATES:

SEP 2024 –
SEP 2026



TOTAL BUDGET:

\$ 717,000



AI FUNDING:

\$ 300,000



Preparing the towed time-domain-electromagnetic (tTEM) system for use to locate, map and characterize shallow groundwater resources, providing important data for water resource management.

APPLICATION

This initiative will coordinate, collaborate, and communicate a systemic, paradigm-shifting framework to address watershed security via groundwater monitoring and open-source data sharing to inform sustainable water management.



ALBERTA INNOVATES

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PROJECT GOALS

The main objectives are to:

- conduct an aquifer vulnerability assessment to identify under-monitored and at-risk aquifers in the Oldman River watershed;
- engage communities to understand public groundwater concerns and priorities;
- build a priority groundwater monitoring matrix for the Oldman River watershed;
- geoscan the Oldman Watershed using the tTEM System to identify areas of high aquifer potential
- identify new groundwater monitoring sites, install equipment and train volunteers to manage the observation wells;
- collect, analyze and actively share data with local communities and interested parties in support of water stewardship and security.

BENEFITS TO ALBERTA

This project will deliver a robust monitoring matrix combining results from an aquifer vulnerability assessment, further informed through community feedback and innovative geophysical scanning, leading to enhanced volunteer-led regional groundwater monitoring, and a framework that serves as a template for expanded groundwater monitoring in other regions of Alberta. The collaborative approach and engagement with various stakeholders will ensure that the findings are integrated into land use planning and development processes, promoting sustainable groundwater management practices that support multiple sectors and broader community needs.

The outcome will be more informed, collective water resource decision making for disproportionately impacted rural, Indigenous and non-Indigenous communities throughout Alberta. More informed decision making will increase community adaptation options and build ecosystem and community resiliency.



4-5 reports



30-50 individuals
trained



1-3 policies /
practices
influenced



150 knowledge
mobilization
activities

CURRENT STATUS

Jan 2025 – In progress

The project began in September 2025. Early project milestones and tasks are on schedule. Community engagement activities are ongoing. A consultant has been hired and is now actively working on the aquifer vulnerability assessment. The geoscaning data, report and findings, has been delivered to Living Lakes Canada and project partners. The project will soon begin to identify locations for volunteer observation wells.

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