



BACKGROUNDER

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2015 Water and Hydraulic Fracturing Report – Where knowledge can best support decisions in Canada

The [2015 Water and Hydraulic Fracturing report](#), issued by [Canadian Water Network](#) (CWN), takes a high-level look at where the knowledge base is relative to the key questions being asked. The report summarizes what we know, what we need to know, and what is reasonable for advancement through research.

The report highlights critical work done to assess:

- the state of the knowledge relative to decision-making,
- where a lack of knowledge is most impacting progress, and
- the capacity to advance knowledge priorities to support decisions.

Background to the 2015 Water and Hydraulic Fracturing report

The report draws on the expertise of federal, provincial and territorial representatives in addition to [five CWN-funded projects](#).

In 2013, CWN established a national program of five projects, engaging teams of leading researchers from across Canada to conduct comprehensive reviews over 2014-2015 that consider the key questions related to hydraulic fracturing and water being asked by decision makers; assess the most relevant knowledge gaps in the context of advancing those priority decisions; and identify opportunities for research to better inform them.

Each team approached the overall task from the vantage point of one of the following four focus areas:

- Watershed governance and management approaches for resource development
- Groundwater and subsurface impact issues
- Wastewater handling, treatment and disposal
- Landscape impacts of development/operations on surface water/watersheds

These projects provide a comprehensive and up-to-date assessment of the broad array of issues being faced in Canada.

Key questions being asked

The Water and Hydraulic Fracturing report provides high-level framing to complement the much greater detail provided by the individual CWN-funded projects, as well as other leading international work. The majority of key questions being asked can be grouped within one of three overall decision contexts:

- 1. Deciding where and when hydraulic fracturing makes sense**



For many regions of Canada, the primary questions being asked are less about the details of regulatory design or development of industry practices. Rather, the core conversations are at a higher level, involving the following questions:

- What is the expected net benefit of the activity?*
- How can the pros and cons be effectively weighed?*
- Should hydraulic fracturing be permitted?*

In this area, three broad areas have been identified in the report as practical opportunities to advance knowledge to support decisions being made on the benefits and costs of hydraulic fracturing:

- Understanding net social and economic costs and benefits of hydraulic fracturing
- Water use issues associated with hydraulic fracturing
- Understanding human health risks and contamination concerns

2. Informing best practices and regulations

In moving from decisions of whether or not to allow hydraulic fracturing to determine how best to oversee and manage the practice, the focus of decision makers shifts to the assessment of best practices and regulations. The emphasis for knowledge needs focuses on what is most needed to identify and evaluate specific risks and impacts, how these risks and impacts should be regulated, and what best practices should and could achieve.

In this context the question becomes: *'Do we understand the risks and how to manage and/or mitigate them?'*

Areas of opportunity for knowledge advancement:

- Baseline data needs
- Cumulative effects and monitoring, assessment and management
- Information availability and disclosure needs to support knowledge generation, best practices and regulations
- Managing risks to groundwater and subsurface impacts
- Managing wastewater

3. Achieving constructive and effective engagement

It is clear from the significant public interest and debates surrounding hydraulic fracturing that, to be effective, regulations and industry practices must be seen to be appropriate from the perspective of the broader stakeholder community. As such, a consideration of what is needed with respect to governance and achieving constructive and effective stakeholder engagement is a critical priority.

Increasingly, the question being asked is: *'How can we move forward in this process in a way that better acknowledges the interests involved and clarifies the rationale for the ultimate decisions made?'*



Areas of opportunity for knowledge advancement:

- Assess particular opportunities to advance transparency through effective water governance.
- Evaluate opportunities for collaborative or watershed-based governance in remote and rural regions with industry development potential.
- Establish effective governance approaches for collection and disclosure of baseline data.
- Assess public opinions of water and hydraulic fracturing across Canada to inform the design of engagement strategies.
- Compare and disseminate experiences of Aboriginal communities in North America with respect to water governance and hydraulic fracturing.

Next steps

CWN's next step will be surveying decision makers this fall to determine which of the knowledge needs highlighted in the report are of highest regional and national priority for managing and mitigating the impacts of hydraulic fracturing on water. The results of the survey will identify areas where priorities are held in common. CWN will use these shared priorities as cornerstones in the development of a collaborative research agenda that sets out strategic research options to address the needs of decision makers in government, industry, Aboriginal communities and NGOs.

About Canadian Water Network

[Canadian Water Network](#) (CWN) is Canada's premier water research management organization. CWN connects resources, people and knowledge to ensure that industry, government and NGOs can access and apply the right solutions to address their water challenges.

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