



Safe Drinking Water Foundation

Brief to the House of Commons Standing Committee on
Environment and Sustainable Development

Freshwater Brief

Safe Drinking Water Foundation (SDWF) focuses this brief on the benefits that freshwater conservation and protection can provide in terms of the quality of treated drinking water.

In the opinion of SDWF, it is essential that all Canadians be educated about drinking water quality issues and solutions. Sadly, very few Canadians are well educated about source water protection and drinking water treatment. The 2015 RBC Canadian Water Attitudes Study (<http://www.rbc.com/community-sustainability/assets-custom/pdf/CWAS-2015-report.pdf>) found that only 55% of the urban Canadians they surveyed and only 44% of the Canadians they surveyed who were between 18 and 34 years of age stated that they would "Strongly Agree" or "Somewhat Agree" with the statement "I know where my drinking water comes from."

This might lead one to believe that many Canadians do not care about water. However, that is clearly not the case as only 25% of the urban Canadians who were surveyed and only 26% of the Canadians between the ages of 18 and 34 who were surveyed stated that they would "Strongly Agree" or "Somewhat Agree" with the statement "As long as it tastes good I don't care where my water comes from." Evidently, there are Canadians who care where their water comes from but do not know where their water comes from - the very definition of a knowledge gap.

As part of student action competitions that our charity holds for school aged children (national, provincial, and local student action competitions have been held), groups of students who were participating in the competition asked others in their communities where their drinking water comes from. Right here, in Saskatoon, SK, one would think that the source of drinking water would be obvious since the South Saskatchewan River flows right through the middle of the city. However, at one elementary school in Saskatoon, less than 5% of students knew where their tap water comes from. Obviously, there is a relationship between source water protection and tap water quality, in that source water protection is the first step of water treatment.

Interaction and Collaboration with Federal Departments and Agencies

We have received funding through the Canada Summer Jobs program to hire summer students/youth. However, other than that, we have had little interaction with the federal government on freshwater issues. We believe that there are a few reasons for this. Firstly, we are an environmental education organization and education falls within the provincial purview. Secondly, we focus on drinking water quality and, other than the *Guidelines for Canadian Drinking Water Quality* and drinking water in First Nations communities, drinking water falls under provincial jurisdiction. However, we do share information with federal government employees and representatives via our website and our email communications.

We do foresee engaging with the new Canada Water Agency in several ways:

1. Educating Canadians

We are interested in promoting knowledge of drinking water sources. We believe there are opportunities to ensure water issues play a major role in the daily lives of Canadians through practical and targeted initiatives

that would result in the protection of drinking water sources. We hope that the Agency will focus on source water protection and on educating Canadians about the link between source water protection and safe drinking water.

2. Targeted Educational Campaigns and Advocacy for First Nations Water Issues

The historical disproportionate effects that water contamination and insecurity have on First Nations communities, has resulted in inequitable water supply and distribution for their uses especially for drinking water. It is no secret that the jurisdictional separation between federal government responsibilities for on-reserve water issues has created a patchwork of regulations and other non-statutory mechanisms (such as land codes) that cause impasses for effective consultation and deep participation by First Nations. The SDWF has experience in engagement with various First Nations communities and is a trusted ally. The SDWF is also connected with other organizations that focus specifically on First Nations water issues. These qualities place the organization as a champion in educational campaigns and advocacy on issues affecting First Nations communities when it comes to water resource governance and management, with particular focus on drinking water issues. We have an Operation Water Spirit program that focuses on First Nations water issues and we have connections with The Saskatchewan First Nations Water Association Inc. and with Keepers of the Athabasca.

This is especially important since there remain 54 long-term drinking water advisories in effect in 34 First Nations communities, despite the federal government's previous promise to end all long-term boil water advisories in First Nations communities by March 2021, and freshwater pollution disproportionately affects First Nations water sources. In fact, federal lawmakers voted March 24, 2021 for Canada to collect data on the impact of siting a disproportionate number of polluting industries and landfills in areas inhabited by racial minority communities. This is very fitting, as the vote was held only two days after World Water Day 2021, and during the month by which the federal government had promised to end all long-term boil water advisories in First Nations communities. Indigenous communities have suffered impacts from polluting industries for generations, such as in Grassy Narrows First Nation in Ontario where residents have suffered health impacts since the 1960s from mercury contamination produced by a former pulp and paper mill.

3. Policy, compliance, and enforcement submissions

The rich experience in drinking water education and knowledge dissemination puts SDWF as an important link between federal government regulatory mechanisms and “on the ground” operations to meet compliance and enforcement obligations. While Canada does not have polluter-pay systems at the federal level outside of specific aspects of the Canadian Environmental Protection Act, and the Canadian Environmental Assessment Act, contraventions to either of these acts could involve water resources and require reviews of water policy. SDWF expectations with respect to the Agency is to suggest an established connection between the Agency and these two acts such that the Agency has input into any submissions that involve water resources, as a function of enhancing compliance and enforcement of water matters in Canada by subject matter experts to advise and report to the federal government.

Freshwater Monitoring

While Canada participated greatly in the establishment of the *Ocean Plastic Charter* (<https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/international-commitments/ocean-plastics-charter.html>), there is a void for this kind of focus on freshwater, and for inland lakes outside the Great Lakes system. Microplastics have negatively affected drinking water security and drinking water quality.

SDWF was involved in the first study of microplastics in the South Saskatchewan River that was conducted by South Saskatchewan River Watershed Stewards Inc. and University of Saskatchewan. SDWF's role in the study was to educate students, and the public in general, about microplastics in freshwater. SDWF could play a role in advocating for, and teaching others about, microplastic studies in freshwater.

Canada has many transboundary rivers and shared watersheds, making water apportionment, allocation, and withdrawal schemes important aspects for consideration not only for drinking water purposes, but for overall sustainability of these resources. At the current time, there is a recognized gap in the national directions on how to support provinces in this area.

Wastewater and solid waste management impact drinking water sources (as emergent pollutants of concern). Therefore, linkages should be made between regulatory instruments responsible for these areas and drinking water conservation, protection and even development (i.e., siting, expansion, decommissioning, etc.).

The federal government had increased its freshwater monitoring programs, but then the COVID-19 pandemic caused the collection of data and monitoring of water quality to come to a halt. Water quantity monitoring by Water Survey Canada was deemed an essential service at the beginning of the pandemic, but not water quality monitoring. This signalled that the federal government does not prioritize the protection of freshwater quality.

We also believe that there should be more involvement and consultation with First Nations people in terms of freshwater monitoring. For example, Keepers of the Athabasca (www.keepersoftheathabasca.ca) states that, in the interests of increasing sustainability, the Keepers of the Athabasca Board of Directors suggests that tools such as a data visualization tool, CABIN (Canadian Aquatic Bio-monitoring Network), and bio-assay technology be used for community based water monitoring programs (www.keepersoftheathabasca.ca/abtia-moving-forward.pdf). Groups such as Keepers of the Athabasca have innovative ideas for remediation of freshwater, such as human hair booms that remove oil from water.

The Federal Government's Role in Supporting Freshwater-related Research and Development

Two increasing threats to freshwater are microplastics and pharmaceuticals such as antidepressants and other hormonal therapies. Both of these emerging contaminants negatively affect fish and other freshwater fauna, are difficult to remove during the wastewater treatment process, and are not completely removed during the drinking water treatment process. With a great need to introduce circularity in water governance and management, that is understanding how to design-out waste and pollution, minimizing the use of virgin materials and resources, while keeping products and materials in use for longer with as minimal footprint as

possible (www.ellenmacarthurfoundation.org/circular-economy/concept), the federal government should expand their support to research and development in areas such as these to ensure a holistic understanding of not only sources of materials and their environmental fate, but also the necessary governance mechanisms needed to ensure management activities can take place once basic research is concluded. These are two areas of current research at the International Institute for Sustainable Development's Experimental Lakes Area and the Great Lakes. The federal government should continue to support research such as this.

Awareness Raising Activities

All Canadians should know the source of their drinking water and what might affect it. First Nations people should be more involved in and consulted about water monitoring.

Some excellent beginning steps have been taken, but action needs to go further. The data that Canada collects on the impact of siting a disproportionate number of polluting industries and landfills in areas inhabited by racial minority communities must be used to inform policies and actions. More research like that which is being conducted on the impacts of microplastics and antidepressants in freshwater should be actively encouraged and supported.

If Canadians do not know where their tap water comes from, how could they ever care about conserving it and about protecting source water?

About Safe Drinking Water Foundation

Safe Drinking Water Foundation became a registered Canadian charity in January 1998 (868384892RR0001). We educate the leaders of today and tomorrow about drinking water quality issues via our educational programs and our website. Since 2001, we have sent over 11,000 hands-on water testing kits to over 2,900 different schools across Canada. We have educated approximately 500,000 students about drinking water quality issues and solutions in a hands-on manner. We also maintain a large amount of information about drinking water quality issues and solutions on our website, which receives over 950,000 unique visitors per year.

While most water charities focus on water quality issues in developing countries, we decided to focus on water quality issues and solutions right here in Canada. Many Canadians do not know that there are problems related to drinking water quality right here in the developed nation that is Canada. However, at any given time, there are approximately 900 drinking water advisories in place across Canada, and First Nations communities like Neskantaga First Nation have been under a boil water advisory for decades. Safe Drinking Water Foundation envisions a Canada in which everyone has access to safe drinking water.