for Water

NSERC Network for Forested Drinking Water Source Protection Technologies

The drinking water for

AT LEAST 60%

of the largest communities in Canada—and the world—originates in forested watersheds

Water security is a critical global priority—the cornerstone of which is ensuring the provision and sustainability of safe drinking water. The water used by the majority of consumers globally originates in forests. Through natural processes such as infiltration, healthy forests can contribute significantly to water purification. Associated high-quality water supplies are at greatest risk of deterioration from the threats of natural disturbances such as wildfires, hurricanes, and floods, which can release sediments, nutrients, and other contaminants into impacted receiving waters. Climate change is severely exacerbating these risks. The associated landscape disturbances are increasing in severity and intensity, and can result in a long-lasting—decades or longer—legacy of water quality deterioration.

Traditional approaches of controlling access to water supplies have worked well for source water protection (SWP) policies focused on industrial pollution, development, and other human land and water uses. Unfortunately, they are ineffective for protecting water supplies from the potentially devastating effects of natural disturbances. While most water supplies can be treated to provide safe drinking water, the question is "at what cost?"

The *for*Water Network is tackling these challenges by bringing together a diverse community of university researchers (foresters, hydrologists, geomorphologists, aquatic chemists, sediment scientists, biologists, phycologists, ecologists, drinking water treatment engineers, environmental modelers, and resource economists), industries, government agencies, and communities to evaluate and lead the development of forest management-based technologies—green infrastructure—to ensure water security in Canada and globally.

*for*Water
NSERC Network for Forested Drinking Water Source Protection Technologies

UNIVERSITY OF ALBERTA

UNIVERSITY OF WATERLOO

The *for*Water Network is conducting groundbreaking research to answer the following key questions:

1. What are the impacts of forest management on drinking water source quality and treatability?
2. If forest management strategies affect the quality or treatability of drinking water supplies, how long do these effects last?
3. If forest management strategies affect the quality or treatability of drinking water supplies, how do these effects propagate downstream?
4. How and why do the identified effects (#1-3 above) vary across the major ecological zones of Canada? How can we apply knowledge from one ecozone or study to another?
5. What are the drinking water treatability benefits/costs of forest management-based SWP technologies?
6. What are the implications of forest management-based SWP technologies for rural and remote, First Nations, Inuit and Metis systems?

Helping scientists and end-users "SPEAK THE SAME LANGUAGE."

25 CANADIAN RESEARCHERS

20+ Domestic and international **PARTNERS**

9 WATERSHED research platforms

9 UNIVERSITIES

University of Alberta · Brock University · University of Calgary · Dalhousie University · McMaster University · Trent University · UBC · Vancouver Island University · University of Waterloo

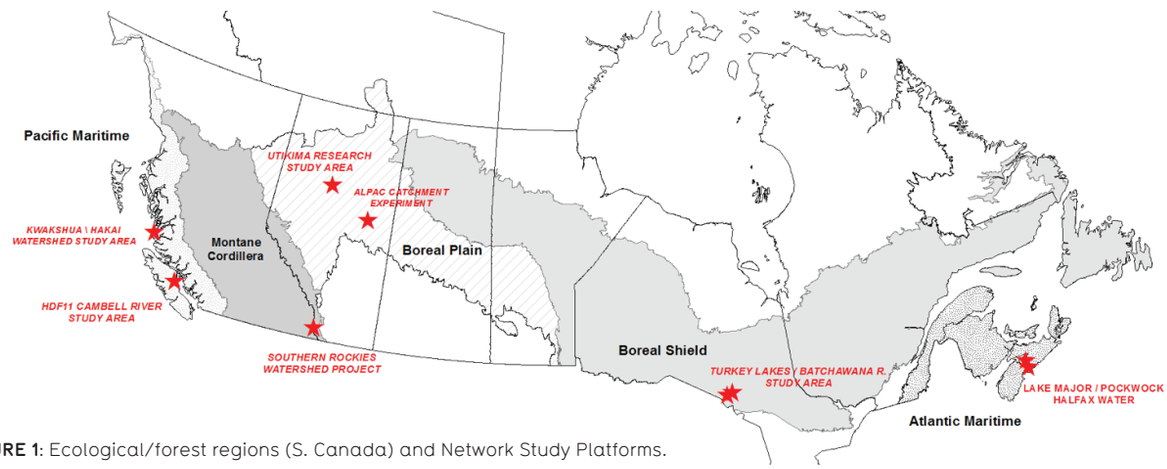

FIGURE 1: Ecological/forest regions (S. Canada) and Network Study Platforms.

CONTACT US

Network Manager: **DANA HERRIMAN** | dherriman@uwaterloo.ca | +1 519 888 4567, ext. 32851
Scientific Director, Principal Investigator: **MONICA EMELKO** | mbemelko@uwaterloo.ca | +1 519 888 4567
Co Scientific Director, Co Principal Investigator: **ULDIS SILINS** | usilins@ualberta.ca | +1 780 492 9083

Let's Connect! forWater.ca