



**School of  
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**THE  
SIMPSON  
CENTRE.**  **THOUGHT  
FOR  
FOOD.**

# Water Update 2024

**Hanan Ishaque, Joshua Bourassa  
and Guillaume Lhermie**

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# Water Update 2024

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The Water Wealth in Agriculture event was hosted in October 2022 in conjunction with the University of Calgary's Simpson Centre, Schulich School of Engineering, Faculty of Science, and the University of Saskatchewan's Global Institute for Water Security. It invited a diverse set of expert stakeholders from industry, government, and research (see annex) to discuss sustainable water management for agriculture.

This paper summarizes the opinions and suggestions of the diverse interest groups attending the event about recent and current action on sustainable water practices.

## **CURRENT CHALLENGES**

Participants agreed on four fundamental challenges to water security:

- An absence of shared values, mutual trust, and collaborative, multi-stakeholder action to cultivate good policy.
- The notion of water as a monetary rather than a social or environmental asset.
- A poor public understanding of where water comes from, how it is used, and its role in the wider ecosystem.
- A need to conceive water management more holistically, including trade-offs.

*"More research needs to be done," says Dr. John Pomeroy, "pointing to problems of diminished groundwater quality, shrinking lake ice, the growth of toxic algae in lakes, thawing permafrost in Canada's North, and the lack of empowerment of Indigenous communities to manage their own water sources" (Banks 2021).*

Calgarians tend to view water as a cheap and limitless public resource, using it liberally to maintain perfect lawns, while Victorians in B.C. see water as expensive and scarce, too precious to waste on grass.

Instead of treating water as a commodity, can we adopt a different mindset towards it?

## SUGGESTED ACTION AND EXEMPLARY PRACTICE

Industry leaders, government representatives, and academic researchers focusing on water offered the following feedback:

- **Centralized, holistic decision-making** involving multiple stakeholders helps to create water policies with a holistic approach, in which different policies function together.
- Water should be managed as an **obligation to the environment** rather than as a commodity. However, the **lack of a consistent monetary valuation** of water can also be a barrier to understanding trade-offs, for which **multi-stakeholder consensus** is required.
- **A water classification system** could help to set value and pricing, e.g., with a scale from drinking water to irrigation.

## COMMUNICATION

- Academics need to more effectively mobilize and **communicate research-based knowledge** to all stakeholders to help change behaviours.
- Creating **an environment of shared values** and mutual trust helps to cultivate good policy.
- Expanding the notion of water wealth to include **non-financial aspects** such as happiness, time, social harmony, and physical and mental health.
- **Feedback from people on the ground** helps to contextualize models and understand the best investments to facilitate the best possible policy decisions.
- Effective **data availability** aids better public **understanding of where water comes from**, alleviating the mistrust often associated with regulation.
- We need to better differentiate **active water use** (water from the tap, irrigation, recreation) and **passive water use** (ecosystem services, water streams).
- **The culture of water** and how it affects behaviour needs to be addressed nationally.

## DATA MANAGEMENT

- A unified and authoritative **open data platform** for water management is required – accessible by all water stakeholders nationally (rather than current silos).
- **Integrated modelling** of all available data helps to identify problems and create more accurate predictions and forecasting to inform policy decisions.

## POLICYMAKING

- We need to design policies that **outlast short-term political ambitions**. Current modelling works on a 60-year time frame, but accompanying policies have three- to four-year spans.
- Policies need **effective feedback loops and indicators** to inform adaptation amid long-term climate change uncertainty.
- Current **water policies based on previous conditions** need updating. For example, some export commodities are locked into contracts regardless of context (exporting livestock feed during a drought), while large corporations benefit from extremely cheap water permits to bottle water for sale.
- We need an innovation **infrastructure** to address social, economic, and environmental challenges, as well as de-risking incentives to encourage adoption and adaptation for small farms or individual stakeholders.

## THE SIMPSON CENTRE

We mobilize research for better policymaking and decision-making to realize a more sustainable agricultural industry. Strengthening the sustainability of agri-food and agribusiness means increasing food production to feed a growing global population, while attending to social and health impacts and the natural environment. We connect researchers, citizens, industry stakeholders, and government actors to scientific issues critical to the future of Canada's agricultural and food system.

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See the [full Water Wealth document](#) for details of the event and attendees.

## ANNEX

### PARTICIPANTS

Forty-four participants attended the Water Wealth in Agriculture event. They came from Alberta, Saskatchewan, and Ontario.

**Speaker:** Terry Duguid, MP, Parliamentary Secretary to the Minister of Environment and Climate Change

**Topic:** The Lake Winnipeg Basin

*“Sustainable management practices are key to ensure the protection of water bodies like Lake Winnipeg.”*

**Speaker:** Dr. John Pomeroy, FRSC, Director, Global Water Futures, Director, Centre for Hydrology, Distinguished Professor, Department of Geography and Planning, University of Saskatchewan

**Topic:** Global Water Futures Observatories and Atmospheric-Hydrological-Water Management Models

*“We cannot continue to manage water for agriculture as we have in the past.”*

**Speaker:** Dr. Tricia Stadnyk, P. Eng., Professor, Department of Geography, University of Calgary, Canada Research Chair, Tier II, Hydrologic Modelling

**Topic:** Integrated Water Resource Management Modelling

*“While models can help, we need to hear from the people on the ground.”*

**Speaker:** Dr. Diane Dupont, Professor, Department of Economics, Brock University

**Topic:** Water As an Asset. Who Owns It? Who Manages It? How Do We Conceive Its Use?

*“Our modelling works within a 60-year time frame, but the accompanying policies have 3-4-year spans.”*

**Speaker:** Dr. Frederick Wrona, Professor, Department of Biological Sciences, University of Calgary, Svare Research Chair in Integrated Watershed

**Topic:** Water Availability in Question – Insights From Economics

*“Water policies are too fragmented. We need a coordinated ‘One-Water’ approach.”*

**Speaker:** Dr. Kerry Black, P. Eng., Assistant Professor, Centre for Environmental Engineering Research and Education (CEERE) and Department of Civil Engineering, University of Calgary

**Topic:** Creating Effective Policy by Avoiding Silo Thinking.

*“It is difficult to make inclusive policies for all when certain groups are excluded from decision-making conversations.”*

**Speaker:** Dr. Corinne Schuster-Wallace, Associate Director, Global Water Futures, Associate Professor, Department of Geography and Planning, University of Saskatchewan

**Topic:** The Centralization of Physical and Social Data Sets to Understand Vulnerabilities.

*“If we don’t know where our water comes from or where it goes, we’re not going to respect the policies and programs that are put in place to protect it.”*

## REFERENCE

Banks, Kerry. 2021. "Canada's Troubled Waters." *University Affairs*. May 4.

<https://universityaffairs.ca/features/feature-article/canadas-troubled-waters/>.



## About the Authors

**Hanan Ishaque** is Program Coordinator at the Simpson Centre. He holds a PhD in Economics and is the research lead for the Alberta Digitalization Agriculture Program.

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**Guillaume Lhermie** is Professor at the Faculty of Veterinary Medicine, University of Calgary, and Director of the Simpson Centre. Guillaume holds an MSc in Economics and a PhD in Pharmaco-epidemiology and Innovation. He serves as an expert in animal health economics for international organizations, national agencies, and NGOs.

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2. **Energy and Environmental Policy**
3. **Fiscal and Economic Policy**
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Our commitment to delivering this unique perspective sets us apart within Canada. The core mission of The School of Public Policy is to bolster Canada's public service, institutions, and economic performance for the betterment of our families, communities, and the nation as a whole. We achieve this by pursuing three key objectives:

- **Building Government Capacity:** We empower public servants through formal training in both degree and non-degree programs. This training equips these individuals, responsible for shaping public policy in Canada, with the practical skills and expertise needed to represent our nation's vital interests, both domestically and internationally.
- **Enhancing Public Policy Discourse:** Beyond government, we foster executive and strategic assessment programs that promote a deeper understanding of effective public policy among those outside the public sector. This effort enables everyday Canadians to make informed decisions regarding the political landscape that will shape their future.
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