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EXECUTIVE SUMMARY & RECOMMENDATIONS

Ottawa Riverkeeper is a charity whose priority is to protect and restore the Ottawa River and its tributaries. To do our work across our very large watershed, we must interact with dozens of different government officials who work across dozens of agencies and departments in federal, provincial (two provinces) and municipal (over 200 municipalities) governments. Inefficiencies and inconsistencies abound. Even though these agencies are involved in some aspects of river management and water protection, none of the agencies have water protection as their number one job. As a result, decades of siloed and fractured river management has degraded ecosystems and put species and communities at risk. Furthermore, the impacts of climate change are exacerbating existing vulnerabilities.

With 20 years of experience in this role, Ottawa Riverkeeper has firsthand knowledge of the challenges to effective leadership and action that are caused by the multiplicity and complexity of federal departments and agencies that share jurisdiction with two provinces and hundreds of municipalities for water governance. In this submission we have taken the time to answer your questions and provide examples that demonstrate the challenges we have faced working to protect the Ottawa River.

There are two important drivers of change that are affecting the health of the freshwater within our watershed: economic development & climate change. We believe strong federal leadership is needed to protect freshwater and Ottawa Riverkeeper is very supportive of the federal government making changes to clarify and streamline its role with respect to freshwater protection.

We offer the following recommendations for strengthening federal leadership on freshwater protection and protecting and restoring the Ottawa River and its watershed.

1. **Create and adequately fund a Canada Water Agency** to modernize Canada's approach to protecting freshwater to be equitable and effective.
2. **Respect Indigenous water rights** and commit to advancing government-to-government, nation-to-nation relationships by developing pathways and providing resources for implementing models of co-governance of watersheds with Indigenous Nations.
3. **Take a watershed approach.** Build institutional capacity and relationships based on watersheds and balance ecological, social, economic, and cultural values across the watershed.
4. **Facilitate and support collaboration with other levels of government and non-governmental stakeholders.** Every major watershed in Canada should have a governing body or council to establish key partnerships and relationships with provinces, territories, Indigenous governments, municipalities, watershed organizations, and industrial and agricultural organizations working within the

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watershed. The federal government has the capacity and resources to be the convenor.

5. **Invest in Nature Based Climate solutions** that improve the health and resilience of freshwater ecosystems and at the same time help Canada meet its targets to address climate change and biodiversity loss. Investing in Nature Based Climate solutions generates significant additional environmental, social, and economic benefits within the watershed. Ensure science based decision making when prioritizing investments across Canadian watersheds.
6. **Boost spending on federal water infrastructure & river restoration.** Investing in clean water technology and restoration projects improves watershed health, creates jobs and strengthens the economy.
7. **Support the development of Integrated Watershed Health Assessments for Canada's Major Watersheds.** Taking a consistent approach to understanding watershed health that will allow the federal government to prioritize spending on monitoring, enforcement and restoration.
8. **Rebuild the National Long-term Water Quality Monitoring Program.** Our river systems and groundwater reserves are dynamic and constantly changing with development and climate change. Collecting data is critical for tracking change and adapting management decisions based on science. Over the past several decades, Water Survey of Canada has gone from operating over 8000 monitoring stations to just 2500 stations.
9. **Lead with science, tools and information to help municipalities adapt to climate change.** This could include floodplain mapping, predicting floods and droughts, mapping land use change, and predicting and mitigating the risk of harmful algae blooms. This will provide local governments with a better understanding of risks and allow for science-based decision making when it comes to land use planning and development.
10. **Support Community Based Monitoring programs** that develop robust and relevant monitoring activities that provide data to feed into watershed health assessments. Support watershed organizations and Indigenous Nations with training and resources to manage large networks of volunteers and monitoring sites and facilitate the collection and analysis of samples.
11. **Develop and maintain one robust model / approach for storing and sharing data related to freshwater in Canada.** Having one central repository that is organized by watershed will advance science and reduce redundancies. Look to the St. Lawrence Global Observatory (<https://ogsl.ca>) or DataStream (<https://datastream.org>) as models that could be adapted and replicated across Canada's Watersheds.
12. **Harmonize legislation and policies** with other levels of government to ensure water management coherence across federal, provincial and territorial governments and across the major watersheds. Ensure that any agreement resulting from this harmonization maintains the highest level of protections, regardless of the agency which leads enforcement.

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INTRODUCTION

Ottawa Riverkeeper's role in freshwater protection

Ottawa Riverkeeper, a charitable organization, is a champion and collective voice for the Ottawa River watershed, providing leadership and inspiration to protect, promote and improve its ecological health and future. For twenty years our number one priority has been the health of the river and its tributaries. **Our organization has filled a gap and played a leadership role to facilitate coordination and collaboration across political boundaries within the watershed.**

Our small charity has organized and convened two Ottawa River Summits in order to bring people together to help solve complex issues that threaten the health of our river. We believe collaboration is essential to ensure our waters are swimmable, drinkable and fishable. We continue to play an important role in the watershed as a trusted organisation that agencies and government representatives can turn to.

We have constantly brought funders to the table to support our efforts to protect the river and convene watershed stakeholders and collaborate on projects such as monitoring and assessing river health. Financial support from the federal government for this critical work has been piecemeal and inadequate. It has been a challenge to get federal attention on implementing Integrated Watershed Management in our complex watershed.

Federal Study of the Ottawa River Watershed

In 2017 Ottawa Riverkeeper organized and convened an Ottawa River Summit with two hundred participants from governments, organizations, business and civil society. A co-created declaration that was tabled at the Summit identified the urgent need for greater collaboration and advised creating a watershed council and assessing watershed health. Key next steps were identified and there was momentum to work together.

When Ottawa Riverkeeper appealed to the federal government to support this co-created action plan for protecting the Ottawa River they responded by leading their own study.

The study took two years and culminated in the 2019 report: *An Examination Of Governance, Existing Data, Potential Indicators And Values In The Ottawa River Watershed*. The key finding of the report was that there is no coherent, mutually reinforcing governance amongst agencies and there is a need and desire to enhance collaboration within the watershed. There were no recommendations as to how this might be achieved.

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Water management in the Ottawa River Watershed: a confusing division of responsibilities

Water management in Canada is complex and the management of the Ottawa River is no exception. Reflecting political boundaries, historical allocation of legislative authorities, and patterns of human settlement and use, the Ottawa River and its tributaries are subject to overlapping laws, policies, and priorities of the federal government, two provincial governments, over 200 municipalities and eleven Algonquin Anishinaabe First Nations whose unceded territory encompasses the entire Ottawa River Watershed.

Shortcomings of current water management: demonstrating the need for change

Many individuals, organizations and government agencies have worked long and hard to create and coordinate effective projects, policies, and legislation to address ongoing issues in the Ottawa River Watershed. Despite ongoing efforts and good intent, many complex issues (such as water pollution, shoreline degradation, and declining fish populations) remain intractable under the current framework of water management.

Based on 20 years' experience working in the Ottawa River Watershed, Ottawa Riverkeeper offers the following observations:

- Throughout the watershed, many people are confused about rules, decision making authority, and accountability across overlapping jurisdictions.
- First Nation governments are typically not included in decision-making that directly impacts their traditional ways, culture, and well-being.
- Many municipalities and regional governments lack the capacity to create strategies or action plans to protect surface water or groundwater within their political boundaries.
- Many municipalities and regional governments feel ill-prepared to respond to serious threats like oil spills, flooding, and contamination of drinking water.
- There is no comprehensive management plan, conservation strategy, shared vision, or common agenda for the Ottawa River Watershed.
- There are no regular watershed forums to share Ottawa River experience, data, knowledge, or challenges across government agencies, academia, and stakeholders.
- There is no means or protocol to consolidate harmonized data and information from across the watershed
- Although every municipality and Indigenous Nation in the watershed needs effective water and sewage infrastructure, there is no method or process to *prioritize* federal and provincial investments in infrastructure upgrades and maintenance that will lead to the greatest impact on watershed and community health.

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- The 1983 Agreement Respecting Ottawa River Basin Regulation only addresses hydroelectric production and flood prevention. It does not include protocols or goals to address important issues such as biodiversity, fish migration, or recreation.
- The Ottawa River, next to the Great Lakes, has the most influence on water quality and quantity in the St. Lawrence River, yet this tributary is not included in any plans or agreements involving the management of the St. Lawrence River.
- Traditional knowledge is underutilized when developing an understanding of watershed health and what is required to protect freshwater ecosystems.

These observations reveal a piecemeal attempt to manage the water in the Ottawa River watershed resulting from 1) fragmentation and dispersal of powers and responsibilities across governments, agencies and organizations, 2) political boundaries, 3) cultural differences, and 4) narrow foci. This approach is:

- Inconsistent: rules and objectives vary and conflict
- Inefficient: isolation fosters duplication of effort and precludes learning from one another
- Incomplete: important input, interests, and considerations are overlooked and cumulative effects are ignored
- Inadequate: accountability is obscured or absent

This flawed approach to water management inevitably leads to complex problems that are challenging to solve. Notably, the untenable situation in the Ottawa River Watershed is by no means unique: piecemeal attempts to manage water are well-documented throughout Canada and the world.

INTERACTIONS AND COLLABORATION WITH FEDERAL DEPARTMENTS AND AGENCIES

Does your organization interact with federal departments and/or agencies on freshwater issues? If so, on which issues and with which departments and/or agencies?

Ottawa Riverkeeper has interacted with over a dozen federal departments and agencies on issues that relate back to the health of the Ottawa River and its tributaries. In fact, this has been one of our greatest challenges and frustrations over the 20 years our organization has been operating. A piecemeal approach to dealing with overlapping issues in the watershed has resulted in little government accountability for the overall health of the Ottawa River Watershed.

The Ottawa River suffers from threats that overlap many jurisdictions and agencies. The river and its tributaries and all the species that live within are subjected to pollution from pulp mills,

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sewage, hydroelectric dams, nuclear laboratories, agricultural runoff, urban runoff, mining, road salt, microplastics, landfill leachate, cement plants - the list goes on and on. In addition to pollution, changes made to our landscape significantly impact our freshwater. Examples include wetland loss, loss of floodplains, loss of tributary or headwater streams, cutting of trees, building of roads.

ECCC's 2019 report on Ottawa River Watershed Governance identified 20 federal departments and agencies that are involved in addressing water issues in some respect in the Ottawa River watershed. All of the agencies intersect on a number of issues and, over time, we have had to deal with them in one capacity or another.

Do the specific freshwater issues targeted by your organization fit within the mandate of a given federal department and/or agency or do they relate to more than one department and/or agency? If more than one, have you been able to identify a lead department and/or agency with which to engage?

Ottawa Riverkeeper has a broad mandate to protect, promote and improve the Ottawa River's ecological health and future. As a result, we often find it necessary to deal with multiple federal bodies and our experience has been that issues rarely fit within the mandate of only one federal agency. Unfortunately, protecting freshwater is not the main priority for any of the 20 federal agencies involved in our watershed. That makes it challenging to engage federal agencies as there is not always a clear link between their responsibilities and the health of the Ottawa River. Without a doubt, ECCC has become the lead federal agency that Ottawa Riverkeeper has engaged with most frequently over time.

River systems and watersheds are complex ecosystems that require protections and management across jurisdictions to be effective. This requires effective collaboration among communities and multiple levels of government, including Indigenous governments. We have yet to discover a federal agency designed to take a holistic approach to managing freshwater at a scale that would be effective. Our organization holds hope that the much anticipated Canada Water Agency can take on that challenge.

Have you encountered notable successes in engaging with the federal government on freshwater issues? If so, please specify. If you have not had success in doing so, what in your opinion is the reason (e.g., no program available tailored to your needs, no identifiable service or unit within a department and/or agency with which to engage)?

Notable Successes:

- For over a decade Ottawa Riverkeeper has advocated for better legislation and better infrastructure to reduce water pollution from sewage. The City of Ottawa has

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significantly reduced combined sewer overflows into the Ottawa River thanks to infrastructure investments from the Federal, Provincial and Municipal governments. These investments were politically motivated.

- Although it took many years and required the direct intervention of politicians, we were successful in working with ECCC to give Heritage River Status to the Ottawa River. It is only half of a success because Parks Canada was only able to offer this designation for the Ontario portion of the river. We had to work independently with the government of Quebec to give the Quebec portion of the river “lieu historique” designation. We were pleased and thankful that ECCC communicated with Quebec to help coordinate the designations.
- Ottawa Riverkeeper received funding from ECCC to initiate a Watershed Health Assessment for the Ottawa River and was able to use this support to build momentum from other funders to support this multi-year project.
- Our organization has participated in many environmental assessments related to projects at Chalk River Nuclear Laboratories. In the past three years we have had some minor influence on the design of the Near Surface Disposal Facility at Chalk River Nuclear Laboratories. Most recently we have intervened on Canada’s Radioactive Waste Policy Review, advocating to NRCAN to put policies in place for stronger regulations for all radioactive waste (including non-fuel nuclear waste) and ensure proper protections for these wastes that will pollute our waterways if not managed properly.

Notable Challenges:

- Applying the Fisheries Act in the Ottawa River is confusing and challenging due to federal-provincial enforcement agreements that are in place with Ontario and Quebec.
- Secure sustained, long-term funding to allow for the full development of the Watershed Health Assessment and Monitoring project being led by Ottawa Riverkeeper.
- Protecting the American eel, a migratory species of endangered fish has been a great challenge. The Ontario government has proclaimed it to be endangered yet the Quebec and federal government does not despite COSEWIC reports which detail the threats to this species. Perhaps it is time to replicate the Migratory Birds Act and develop the Migratory Fish Act?
- Responding to and investigating fish kills on the Ottawa River has been a great example of poor collaboration and confusing jurisdictions. In 2019 there were 4 fish kills on the Ottawa River and Ottawa Riverkeeper acted as a broker to facilitate conversations between provincial and federal agencies. Only the Quebec provincial agencies released their findings about the cause of the fish kills. After investigations were complete, Ottawa Riverkeeper had to petition the Auditor General of Canada to learn whether violations under the Fisheries Act were identified. Due to how the

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Fisheries Act can be applied, the results of the federal investigation have not been released, nor has any mitigation measure they may have enforced to ensure compliance by the responsible party.

- Obtaining federal support for convening a watershed council to facilitate collaboration, build trusting relationships and share information & data.
- The Ottawa River is not included in the Agreement between the federal government and the Quebec government to manage the St Lawrence River and implement the St Lawrence Action Plan. The Ottawa River is the largest tributary of the St. Lawrence River and has a significant impact on water quality and water quantity in the St. Lawrence. More collaboration is needed.

Do you foresee engaging with the new Canada Water Agency? If so, in what way? What are your organization's expectations with respect to the Agency?

Canada needs a federal agency devoted to protecting and restoring freshwater ecosystems. If the Canada Water Agency is created, we anticipate engaging with them and hope that over time they would become a key partner for protecting the Ottawa River and its tributaries.

We would like to see a Canada Water Agency that:

- Engages in reconciliation with Indigenous peoples by co-developing the mandate and priorities of the Agency with Indigenous Nations;
- Ensures federal water law and policy is consistent with the United Nations Declaration on the Rights of Indigenous peoples;
- Convenes federal, provincial, municipal and indigenous governments on issues relating to the protection of freshwater across Canada;
- Facilitates communication and collaboration among all federal agencies;
- Supports regional approaches to watershed protection;
- Takes a leadership role to adequately monitor freshwater ecosystems across Canada;
- Values and supports community-based monitoring;
- Facilitates access to data and information held by federal agencies;
- Provide tools to support access to data and information held by provincial agencies;
- Creates and coordinates a national database for data such as water quality and quantity;
- Provides expertise in data analysis and interpretation of results;
- Provides expertise in monitoring and assessing watershed health;
- Facilitates drafting of water budgets for Canada's major watersheds;
- Helps all federal agencies develop consistent policies and practices to protect freshwater;
- Advocates for an appropriate level of federal investment in water infrastructure;

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- Creates and mobilizes the knowledge needed to predict and respond to water problems such as drought, flooding and pollution;
- Continually learns, adapts and advances best practices for protecting freshwater;
- Advances our understanding of the value of healthy and productive freshwater ecosystems; and
- Has the capacity and respect to act as an honest broker.

FEDERAL WATER LEGISLATION, POLICIES AND REGULATIONS

Does your organization interact with federal departments and/or agencies on policies, legislation, regulations, or funding programs related to freshwater? If so, please specify.

Below are examples of ways Ottawa Riverkeeper has interacted with federal departments on issues related to freshwater:

- For over 15 years, ORK has worked with AECL, NRCAN and the CNSC on nuclear issues at Chalk River Nuclear Facilities on the shores of the Ottawa River. Our most recent submission in March 2021 was a series of recommendations to Canada's Radioactive Waste Policy Review. In previous years Ottawa Riverkeeper has been an intervenor in multiple Licensing renewal hearings for Chalk River Nuclear Laboratories and for over 4 years we have been heavily involved in the Environmental Assessment for the proposed Near Surface Disposal Facility (NSDF).
- Given the volume of sewage that is released into the Ottawa River watershed, our organization has worked on this issue with all levels of government. At the Federal level we were involved in consultations with ECCC to strengthen the WasteWater Effluent Regulations.
- Ottawa Riverkeeper supported the City of Ottawa's Ottawa River Action Plan and their request for funding from Infrastructure Canada to build the combined sewer storage tunnel to significantly reduce the volume of untreated sewage entering the Ottawa River. Ottawa Riverkeeper was instrumental in generating public support for the project.
- The Ottawa River is highly regulated and there are hundreds of dams throughout the watershed. In 1983, the governments of Canada, Ontario, and Quebec established the Agreement Respecting Ottawa River Basin Regulation. The goal of this agreement is to prevent flooding of the Ottawa River and its tributaries while maintaining the interests of various users, particularly producers of hydroelectric energy. This agreement is managed by the Ottawa River Regulation Planning Board, whose members include representatives of the Department of the Environment and Climate Change (Canada), Department of Public Works (Canada)

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and the Department of Transport (Canada). Ottawa Riverkeeper has interacted with the secretariat numerous times over the years on the topic of river levels and flooding. We also provided recommendations to provincial authorities during consultations when Flooding reports and Flood strategies were being developed after the 2019 flooding event.

- Over the years Ottawa Riverkeeper has interacted with Transport Canada, mostly regarding issues related to navigation and changes to the Navigable Waters Protection Act.
- In collaboration with Canadian Waterkeepers, we provided comments and recommendations to Health Canada on draft Guidelines for Canadian Recreational Water Quality. In our interprovincial watershed we had significantly different guidelines for Ontario and Quebec and therefore we welcomed a federal guideline to set the bar. We have also interacted with Health Canada on issues related to drinking water quality, for example, federal guidelines for tritium in drinking water.
- Over the years Ottawa Riverkeeper participated in numerous consultations with ECCC regarding the regulation of toxic substances under the Canadian Environmental Protection Agency. In the last five years we worked to have microplastics and triclosan added to CEPA's list of toxic substances. Even though scientists declared triclosan toxic in the aquatic environment, it was not listed as toxic since Health Canada considers triclosan safe for human use.
- Ottawa Riverkeeper struck a Watershed Health Committee to assess the health of the Ottawa River Watershed and an employee from ECCC was granted permission to participate. In 2018 ECCC provided seed funding for two years to develop a suite of indicators to assess watershed health. Ottawa Riverkeeper leveraged the ECCC funding and over the past two years has developed a Watershed Health Assessment and Monitoring program for the Ottawa River Watershed.

Do you feel the federal government could play a more effective role in protecting watersheds in Canada? If so, which watersheds and how?

The federal government must play a more effective role in protecting watersheds. Their most important contribution would be to facilitate greater coordination and collaboration at the watershed level. Protecting freshwater is a complex job that requires collaboration across sectors and across governments.

We recommend the federal government approach this job by working at a high level of watersheds such as the 23 watersheds delineated in Pearse's 1985 Final Report of the Inquiry on Federal Water Policy.

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For example, the Ottawa River Watershed would be included in the Great Lakes St Lawrence Watershed. At this high level, the federal government could facilitate collaboration and information sharing among the different governing bodies, First Nations, industries and organizations that have an interest in protecting freshwater in the Ottawa River. This could include conference-style meetings every second year. Over time everyone would get to know each other and better understand the roles and limitations of each agency and who to contact for questions or collaborations. Together we could create a shared vision for the watershed, set strategic goals and prioritize research for the watershed. Enforcement could be delineated strategically to maximize efficiency and effectiveness. Typically enforcement budgets are very limited in provincial and municipal agencies. Infrastructure spending could be prioritized to address watershed-wide priorities thereby maximizing impact (for protecting freshwater). Science priorities could be determined collectively and research and monitoring loads shared. This approach could help stretch dollars and minimize duplication of efforts. In this collaborative approach there would be a stronger desire to succeed by implementing the co-created plan.

This approach would help ensure the focus is equal across the country. The system that is currently in place for determining federal involvement in watersheds throughout Canada is highly political and often not based on science.

COLLECTION OF INFORMATION AND DATA

Do you believe that there is sufficient data collected and made available publicly about freshwater in Canada?

Unequivocally, the answer is no. Ottawa Riverkeeper is consistently contacted by academics, consultants, municipalities and the general public who are looking for information or data related to the Ottawa River. Data is in the hands of dozens of government agencies, industries, municipalities, Indigenous Nations, organizations or consulting companies and most is not publicly available.

For many years, WWF has been working on assessing watersheds across Canada and has found that most often there is insufficient data to get a full understanding of river health and trends over time. Ottawa Riverkeeper is leading a Watershed Health Assessment and Monitoring project and a team of experts has developed a list of 14 indicators to assess watershed health. Our team is finding it very challenging to get robust data for most of the indicators.

We have found that there are significant data gaps, inconsistent data collection methods and inconsistent use of indexes. Often data will be collected for a short period, then discontinued, resulting in poor data sets that make assessing trends difficult. Furthermore, often when data is available, accessing it can be very challenging depending on which government website it is

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located on (federal, provincial and municipal) and how that data is stored and made available. Access to data often requires submitting Freedom of Information and Access to Information and Privacy requests. These submissions can result in significant fees for compiling the requested data with no guarantee that the data arrives in a format that is easy to interpret, requiring substantive processing before any analysis can be completed.

An additional concern is that when industries are the primary collectors of data as part of a licensing or regulatory requirement, monitoring is designed to meet goals of the agency the industry is reporting to, rather than understand overall health of the watershed and used for science-based decision making to protect these water bodies.

Over the past three decades, the federal government has significantly reduced funding to the Water Survey of Canada who operates the National Long-term Water Quality Monitoring Program in partnership with the provinces and territories. Over the past several decades, Water Survey of Canada has gone from operating over 8000 monitoring stations to just 2500 stations. This is inadequate for a country with millions of rivers and lakes. You can't manage what you don't measure.

Do you believe there should be improvement in freshwater-related data-sharing?

Yes! Data is often collected by different agencies or using various provincial standards which can allow for a variety of thresholds to be used, making data within a watershed, and data across the country, incomparable. Improving how data is collected and analysed can allow for conditions across watersheds to be fully interpreted.

For example, the Government of Canada has developed recreational water quality standards of ≤ 0.02 mg/L for total microcystins and $\leq 100,000$ cells/mL total cyanobacteria to track incidents of blue green algal blooms. However, Quebec's Ministère de l'Environnement et de la Lutte contre les changements climatiques has a more strict guideline which is used for water bodies in their jurisdiction of 20,000 cells/mL total cyanobacteria. As Ontario does not have its own recreational water quality standard for cyanobacteria it defaults to the Canada wide standard resulting in two very different thresholds being used within the same watershed.

Another example highlights inconsistency of data collected. Dissolved oxygen data is only available at 5 locations along the main stem of the Ottawa River and while some of these stations have data available as far back as the 1960s, there are many multi-year gaps, and most locations only reported dissolved oxygen once per month or less. Those data sets are not robust and are of little use to understand seasonal and annual trends.

Lastly, the method used to analyse data on benthic invertebrates can vary from province to province. Ontario uses the Ontario Benthos Biomonitoring Network while Quebec uses its

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own provincial protocols. Once again these results are not comparable across the watershed, especially in this case, how data is typically provided as a summary of the findings. What sets monitoring apart for this indicator is that ECCC has developed and supports a national benthic monitoring program, the Canadian Aquatic Biomonitoring Network (CABIN) which not only provides training but supports data sharing through a shared database to facilitate monitoring.

Collecting data is important, yet even more important is finding ways to share it. This is where the federal government could be of great assistance. Over the years there is a welcome movement in government toward open data, yet improvements are needed. Ideally the new Canadian Water Agency could create a one-stop shop for organizing and sharing freshwater data from across Canada.

Data sharing projects such as the St. Lawrence Global Observatory (<https://ogsl.ca>) or DataStream (<https://datastream.org>) could be adapted nationally or supported to promote and encourage collaboration at the watershed level. These programs can be replicated across Canada's watersheds to facilitate data sharing and provide access to the public and decision makers.

Is there any specific type of data or information you would like the federal government to provide to freshwater stakeholders?

We would like to see the federal government provide the following data in an easily accessible and consistent format:

- Instream flow and water levels through the re-establishment of Water Survey of Canada sites, specifically those that had long term historical data or those that help provide sufficient geographic coverage;
- Socio-economic data integrated with ecological data to provide insights into the value of ecosystem services;
- Nutrient monitoring: phosphorus, nitrogen, chlorophyll A;
- Algal bloom frequency and classification using various methods (beyond the use of simple thresholds to track blue green algal blooms) to allow for data comparison;
- Temperature and dissolved oxygen. This data can be used to help understand impacts of climate change but also stresses on aquatic species and can be important data to identify reaches of rivers that may need stronger watershed protections;
- Fisheries data such as population assessments, biomass and reproductive capacity.