



Submission from Birds Canada to the Standing Committee on Environment and Sustainable Development regarding the Committee's report on the federal role in freshwater management

Submitted: June 7, 2021

1. *Introductory information*

We often think of birds as creatures of the skies, but any of our intact freshwater habitat will host abundant bird life. Freshwater management is therefore important to Birds Canada, and we ask the Committee to consider the impact of freshwater management and environmental flows on birds - including migratory birds, which are protected by federal law - as it reviews the federal role in water management across Canada.

For over 60 years, Birds Canada has worked towards conserving birds and their habitats through sound science, on-the-ground conservation actions, innovative partnerships, public engagement, and science-based advocacy. We believe the most effective conservation results arise from addressing the needs of birds and their habitats as well as that of people. An example of our work involving freshwater is the Bird and Biodiversity Areas (IBA) network, where thousands of citizen scientists are working towards protecting 265 sites of special importance for birds across Canada, many of which comprise freshwater systems.

2. *Interaction and collaboration with federal departments and agencies*

Birds Canada has a long history of collaboration with federal departments and academia in bird monitoring, research and applied conservation. We partnered with Environment and Climate Change Canada (ECCC) and others in 1999 to found the North American Bird Conservation Initiative, which periodically produces the State of Canada's Birds Reports, a widely referenced resource on population trends of Canadian birds¹. The Canadian Lakes Loon Survey, in its 38th year now, has recently allowed us - together with > 4000 citizen scientists - to unequivocally show that water quality issues are driving declines in Common Loon productivity in Ontario².

Birds Canada interacts with ECCC, the Canadian Wildlife Service, and occasionally the Impact Assessment Agency on policies, legislation, regulations and funding programs related to freshwater. One of the primary networks for conserving wetland habitat in Canada are the Bird Habitat Joint Ventures, which are often chaired by ECCC and supported by ECCC funding to implement the North American Waterfowl Management Plan³. Birds Canada is an active participant on several Joint Ventures across the country.

The conservation of migratory birds - core to our mission – lies within the mandate of ECCC. The Migratory Birds Convention Act (MBCA), 1994, contains the following provision specific to water (s. 5.1(1)):

¹North American Bird Conservation Initiative Canada. 2019. The State of Canada's Birds, 2019. www.stateofcanadasbirds.org

² Bianchini et al. 2020. [Drivers of declines in common loon \(*Gavia immer*\) productivity in Ontario, Canada](#). *Sci. Total Environ.* 738, 139724.

³ <http://nawmp.wetlandnetwork.ca/joint-venture/habitat-joint-ventures/>

“No person or vessel shall deposit a substance that is harmful to migratory birds, or permit such a substance to be deposited, in waters or an area frequented by migratory birds or in a place from which the substance may enter such waters of such and area.”⁴

We have successfully collaborated with ECCC on freshwater management as it relates to birds, for example:

- Supporting the stewardship and monitoring of freshwater habitats for migratory birds.
- Reporting on coastal wetland birds and amphibians within the joint Government of Canada and the United States Environmental Protection Agency State of the Great Lakes Report⁵.
- Co-authoring an editorial in ACE-ECO focused on the policy gaps related to the steep decline of aerial insectivores, which rely on healthy freshwater ecosystems. The editorial called to “strengthen wetland protection and management across all Canadian jurisdictions to provide ecosystem services and co-benefits such as in carbon sequestration and flood-drought risk reduction”⁶.

Maintaining healthy freshwater systems requires effective collaboration among stakeholders to meet the needs of habitats, people, and biodiversity. The creation of the Canadian Water Agency provides an outstanding opportunity for federal leadership in creating the necessary collaborations with municipal, provincial, and Indigenous governments and the public to achieve long-lasting impact for freshwater protection across Canada.

Birds Canada would be pleased to engage with the Canada Water Agency to find solutions to issues of freshwater management as they relate to birds. We believe that the key challenge to freshwater management is cross-jurisdictional coordination, as migratory birds are a federal but water management primarily a provincial mandate. Birds Canada would be happy to provide expertise and relevant data to the Canada Water Agency to enable inter-agency and inter-jurisdictional collaborations.

3. Federal water legislation, policies and regulations

Wetlands in Canada are currently not adequately protected to support the full diversity of bird species that rely on them. Below we highlight some of the most important gaps in the regulatory framework.

The North American Waterfowl Management Plan

Significant success regarding waterfowl and their freshwater habitat has been achieved through the Habitat Joint Ventures, which execute the North American Waterfowl Management Plan, with substantial funding from the US government. Many non-game bird species are declining, however, and the Habitat Joint Ventures are therefore shifting their focus from protecting habitat for game waterfowl to an ‘all-birds’ approach to conservation. This is not always straightforward, as for example creating open wetlands will benefit waterfowl but not necessarily marsh birds, which tend to thrive in a complex vegetation structure. It is therefore important to consider the specific needs of all groups of birds when managing freshwater, including appropriate water levels⁷. Shallow wetlands in the prairie region are particularly important for aerial insectivores because of their exceptional insect productivity⁸. The all-bird focus of the Joint Ventures creates a funding gap, however, as the North American

⁴Gov. of Canada. 1994 (S.C. 1994, c. 22) *Migratory Birds Convention Act*. <https://laws-lois.justice.gc.ca/eng/acts/m-7.01/>

⁵ECCC and U.S. Environ. Prot. Agency. 2021. [State of the Great Lakes 2019 Technical Report](#). Cat No. En161- 3/1E-PDF. EPA 905-R-20-044.

⁶Nebel et al. 2020. [Falling through the policy cracks: implementing a roadmap to conserve aerial insectivores in North America](#). *Avian Conservation and Ecology* 15(1):23.

⁷Hohman et al. 2021. [Influence of lake levels on water extent, interspersed, and marsh birds in Great Lakes coastal wetlands](#). *JGLR* 47(3).

⁸Berzins et al. 2021. [Pre-fledging quality and recruitment in an aerial insectivore reflect dynamics of insects, wetland and climate](#). *Oecologia*. 196 (89–100).

Waterfowl Management Plan does not support work on on-game species, and additional funding is needed to support all other birds reliant on freshwater. Identifying these species as a priority co-benefit in the Nature Smart Climate Solutions funding provided by ECCC may be a way to close the funding gap.

The Federal Policy on Wetlands Conservation

The Federal cabinet has directed that the *Federal Policy on Wetlands Conservation, 1991*,⁹ should be “applied to all policies, plans, programs, projects, and activities carried out by the federal government”¹⁰. As a cabinet directive, the policy applies to Crown corporations and other federal government actors, but lacks a broader legislative standing that would apply to all Canadians and industry. And while it has been key in ensuring that wetlands are given due consideration in federal Impact Assessment processes, freshwater management issues rarely feature in impact assessments in the forestry or agricultural sector. The Canada Water Agency could fill an important niche by ensuring that all federal policies and activities are adhering to the policy.

Canada Water Act

Canada could consider a renewal of the *Canada Water Act* to better guide to reduce the negative impact of freshwater management on federally protected species such as salmon, migratory birds and Species-at-Risk. Providing guidance to federal staff on the freshwater requirements of these species would allow for a more effectively engagement with provincial counterparts. Coastal and riparian development required to adapt to climate change directly influences freshwater systems by altering flood control, sediment flow, and important migratory bird habitat at the interface of land and water. By clarifying the federal role in adapting to this changing reality, an updated *Canada Water Act* could clearly articulate federal objectives related to federally mandated species and allow federal departments to support municipalities, provinces and territories by funding nature-based solutions for adaptation to climate change that deliver on these objectives.

Policy gap: freshwater runoff

There is a gap in the federal regulatory framework regarding the role of freshwater runoff in carrying pollutants used in agriculture and forestry to wetland habitats, where they have negative impacts on migratory birds. Section 5.1(1) of the *Migratory Bird Convention Act, 1994* prohibits discharge of a substance harmful to migratory birds and yet the agricultural sector is regularly applying pesticides – such as neonicotinoids – known to negatively impact migratory birds¹¹. The review of these pesticides takes place under Health Canada's Pest Management Regulatory Agency's process, to which ECCC has only limited input, despite documented impacts of these pesticides on species under their mandate. For coastal birds, the issue of non-point pollution can have negative impacts on the benthic food sources such as bivalves.¹² We are also witnessing an accumulation of plastics in coastal birds as plastics are entering the marine environment through natural runoff and wastewater management.¹³ Managing water quality is often delegated to municipal governments, which may not prioritize the needs of long-distance migrants.

⁹ Gov. Canada. 1991. [Federal Policy on Wetlands Conservation](#).

¹⁰ Lynch-Stewart et al. 1996. [The federal policy on wetland conservation: Implementation guide for land managers](#). CWS.

¹¹ Eng et al. 2019. A neonicotinoid insecticide reduces fueling and delays migration in songbirds. *Science* 365 (6458), 1177-1180; Li et al. 2020. [Neonicotinoids and decline in bird biodiversity in the US](#). *Nature Sustain.* 3.

¹² Ethier et al. 2020. [Twenty years of coastal waterbird trends suggest regional patterns of environmental pressures in British Columbia, Canada](#). *Avian Conservation and Ecology*. 15(2):20.

¹³ O'Hara et al. 2019. [Seasonal variability in vulnerability of Cassin's auklets \(*Ptychoramphus aleuticus*\) exposed to microplastic pollution in the Canadian Pacific region](#). *Science of the Total Environ.* 649 (50-60).

Policy gap: Estuaries

Estuaries are complex jurisdictions where federal mandates for migratory birds, ports, and fisheries intersect. Freshwater influx is a major driver of estuarine productivity but neither provincial nor federal mandates are clearly tied to freshwater management. A country-wide regulation emulating the lessons from the *Musquash Estuary Marine Protected Area Regulations*¹⁴ or similar enabling policy would help clarify objectives for the multiple agencies and levels of government impacting the ecological function of estuaries.

Additional roles for the Canadian Water Agency

The Canadian Water Agency could ensure that data needed for watershed management are always publicly available, particularly relevant for environmental impact assessments. It could also play a role in meeting Canada's reporting requirements under the Ramsar Convention. The Fraser River Estuary (BC) is a Ramsar site that is undergoing significant ecological change related to freshwater management decisions about flows from the Fraser River. These impacts have not been reported to the Ramsar Secretariat as required.

Similarly, the Quill Lakes (SK) Ramsar site has experienced stark increases in water levels compromising its ability to support the bird community for which it received its designation as a wetland of global significance. This issue is well known to ECCC and yet Canada has not informed the Ramsar secretariat of these changes in ecological character despite our obligations to do so as such Canada has not been keeping up-to-date with our Ramsar reporting requirements.

Since signing the 1995 Parksville Protocol, Canada has international obligations under the Migratory Birds Convention to maintain habitats necessary to support migratory birds. Wetlands are needed to fulfill that obligation and yet they are lost at an alarming rate across Canada. Provincial protection of wetlands is inconsistent or lacking: BC does not have any wetland legislation and even provinces that do have legislation, such as Ministerial Zoning Orders, have allowed development over Provincially Significant Wetlands. Addressing the lack of consistent provincial wetland protection could be a priority issue for the Canada Water Agency.

The Canada Water Agency could also help Canada become a more effective partner in protecting the Great Lakes Basin by building on the role the International Joint Commission plays. It could enable the incorporation of a broader range of ecosystem considerations in its assessment of watershed health by using migratory birds and other taxa as environmental indicators. Recent studies showed that the cumulative effects of nutrient leaching and pesticide contamination in the Great Lakes have been associated with long-term declines in emergent insects, a significant food source for migratory birds.¹⁵

Many of Canada's waterways flow north through the boreal forest and arctic tundra to discharge into Hudson Bay and the Arctic Ocean. Maintaining the quality and quantity and seasonal timing of these flows is tightly linked to protecting the forested watersheds and peatlands up north. With federal assistance in protecting these watersheds, we would be able to increase the climate resilience of these ecosystems and ensure they continue to act as both carbon sinks and the breeding grounds for many of North America's birds.

¹⁴ Gov. of Canada, SOR/2006-354, [Musquash Estuary Marine Prot. Area Regs.](#)

¹⁵Stepanian et al. 2020. Declines in an abundant aquatic insect, the burrowing mayfly, across major North American waterways. *Proceedings of the National Academy of Sciences* 117(6):2987-2992.

Stepanian et al. 2017. Evaluating factors driving population densities of mayfly nymphs in Western Lake Erie. *JGLR* 43(6):1111-1118.

4. Collection of information and data

In our view, the federal government has achieved a mixed level of success on data collection and reporting. Birds Canada is part of a Shared Waters Initiative aiming to restore water quality in a very small transboundary watershed in the southwest corner of Canada. Even at that very local level with the engagement of provincial, municipal and First Nations government and an active water quality monitoring program in place, getting the data needed to develop an effective management plan has not been possible. At the same time, the State of the Great Lakes reports provide very useful insights into the status of these shared waters.¹⁶ The transboundary nature and the obligations under the Great Lakes Water Quality Agreement undoubtedly play a role in this ongoing and high caliber reporting. All of Canada's waters would benefit from a similar caliber of reporting.

Currently, the best publicly available reporting on the status of watersheds across Canada is being produced by an NGO, WWF-Canada.¹⁷ The federal government clearly has the expert capacity and resources to provide Canadians with comprehensive data on the health of our waters but does not do so. A potential way forward is more strategic support for citizen science monitoring. Birds Canada and ECCC have a very productive relationship empowering the bird watching community to act as citizen scientist. As a result, birds are among some of Canada best monitored species. Lessons could be drawn from the federal support for bird monitoring and applied to how water champions across the country could be supported in implementing community-based water monitoring projects.

It remains difficult to obtain information on the status and effectiveness of ecological mitigation or offsetting projects committed to by industries in the process of obtaining permits. The Government of Canada has recently established the Common Projects Registry, but to our knowledge it does not yet include freshwater habitat mitigation or offsetting projects. Research on agency-specific requirements such as the "no net loss" policy implemented by Fisheries and Oceans Canada suggests improvements to be made to project tracking.¹⁸

There is an important link between the federal wetland policy and successful mitigation. To understand where and when mitigation is required, we need up-to-date mapping of wetlands across Canada. The second generation of Wetland Inventory mapping in southern ON is a good start¹⁹ and extending such mapping across Canada is needed for the conservation and restoration of our wetlands.²⁰ We also recommend that the Canada Water Agency take the lead in creating a national database for tracking, assessing and reporting on the effectiveness of mitigation actions in a format similar to the Conservation Evidence database in Europe.²¹

5. International and business issues

Coastal wetlands are sensitive to the impacts of urbanization, sea-level rise adaptation and agriculture irrigation. In the past, Canada has supported the development of the Caring for Coast Initiative within the context of the Convention on Biological Diversity and other international conventions to help international communities address

¹⁶ECCC and U.S. Env. Prot. Agency. 2021. [State of the Great Lakes 2019 Technical Report](#). Cat No. En161- 3/1E-PDF. EPA 905-R-20-044.

¹⁷WWF-Canada. 2020. 2020 Watershed Reports: A national reassessment of Canada's freshwater. Hemphill et al. WWF Canada.

¹⁸Harper & Quigley. 2005. [No Net Loss of Fish Habitat: A Review and Analysis of Habitat Compensation in Canada](#). *Env. Man.* 36 (343–355).

¹⁹Mahdianpari et al. 2020. [The Second Generation Canadian Wetland Inventory Map at 10 Meters Resolution Using Google Earth Engine](#). *Canadian Journal of Remote Sensing* 46 (360-375).

²⁰Watmough et al. 2017. [Canadian Prairie Wetland and Upland Status and Trends 2001-2011 in the Prairie Habitat Joint Venture Delivery Area](#). Prairie Habitat Joint venture, Edmonton, Alberta, Canada.

²¹Conservation Evidence. <https://www.conservationevidence.com/>

these challenges.²² Most of the world's population lives in coastal areas, which tend to have high ecological productivity. Canada therefore needs to renew its support to the global community to seeking to address freshwater management issues in the coastal context by providing funding for the establishment of a Caring for Coast Secretariat. As a developed country, we can afford to bear economic cost that other regions cannot in an effort to find workable solutions to the global crises of biodiversity collapse.

According to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, addressing the biodiversity crises while adapting to climate change will require transformative change²³, which involves “experimentation where failure is likely”. Our current policy regime does not allow for experimentation, as it is built around protecting a status quo. The federal government could create an experimental zone of a scale similar to the Experimental Lakes Projects to test the effect of the 5 interventions that implement Nature Based Solutions to adapt to climate change while maintaining biodiversity on communities and ecosystems: 1) incentives and capacity-building; 2) cross-sectoral cooperation; 3) pre-emptive action; 4) decision-making in the context of resilience and uncertainty; and 5) environmental law in the.²⁴

Canadian companies need to report consistently and transparently on how they impact biodiversity regardless of whether they are operating in Canada or abroad. Recently, 36 financial organizations with a total budget of \$7 trillion have committed to the ‘Finance for Biodiversity Pledge’ in recognition of the need to go beyond the Equator Principles if we are to halt the decline of biodiversity.²⁵ The Government of Canada joined the High Ambition Coalition for Nature and People.²⁶ Canada needs to ensure private and public funds flowing out of Canada are in alignment with these commitments. A good starting point would be an update of the Export Development Canada Environmental Assessment Directive to align with this higher level of commitment to biodiversity. Improving the environmental practices of Canadian-funded corporations in the Americas has direct benefit for Canadian biodiversity, as many migratory birds breeding in Canada winter further south.²⁷

Conclusion

Water is life – this holds true for birds as much as for people. No single sector of government has all the tools required to manage the essential role water plays in our economy, our culture and the environment. The proposed Canada Water Agency is a unique opportunity to reframe our relationship with freshwater from one of exploitation to one of caring reciprocity. Please give birds and all of biodiversity a seat at the table.

Sincerely,



Silke Nebel, VP Science and Conservation, Birds Canada

²²Conv. on Biol. Diversity. Nov. 2018. Resolution 14/30. [Cooperation with other conventions, international organizations and initiatives.](#)

²³IPBES. 2019. Summary for policymakers. Díaz et al. (eds.). IPBES secretariat, Bonn.

²⁴ditto.

²⁵[Finance for Biodiversity Pledge. September 2020.](#)

²⁶Prime Minister Justin Trudeau. January 2021. [Prime Minister's Remarks at One Planet Summit.](#)

²⁷Bayly et al. 2018. Major stopover regions and migratory bottlenecks for Nearctic-Neotropical landbirds within the Neotropics: a review. Bird Conservation International, 28(1), 1-26.