



MAKING THE CASE FOR MARINE CONSERVATION IN THE INNER BAY OF FUNDY

The Inner Bay of Fundy (IBoF) is of significant ecological and cultural importance due to its unique environment, which includes the world's highest tides, important saltmarsh areas, critical habitats for species at risk, and a rich human history that is deeply connected with its coastal landscapes. The IBoF includes the waters and nearshore areas of the Minas Basin, Cobequid Bay, Chignecto Bay, Saint John, and the Digby Gut, as shown in Figure 1.

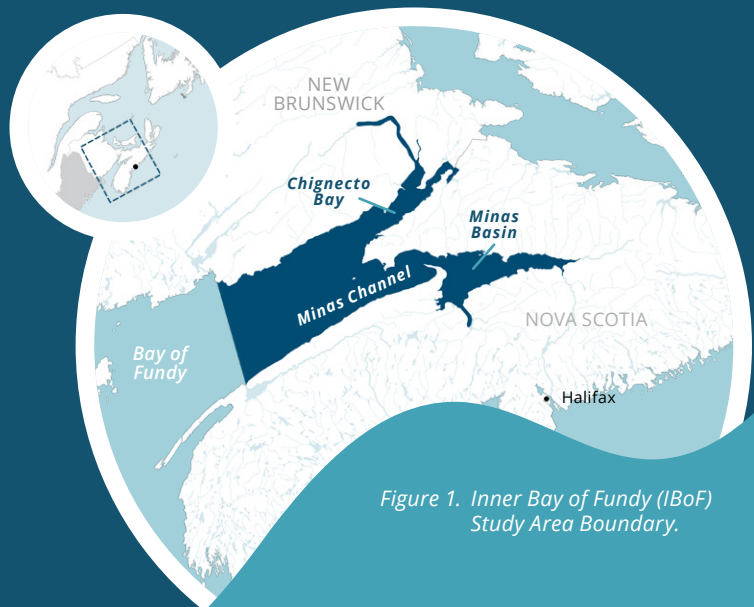


Figure 1. Inner Bay of Fundy (IBoF) Study Area Boundary.



The IBoF lies within the ancestral territory of the Wabanaki Confederacy, comprising the Mi'kmaq, Wolastoqiyik (or Wolastoqewiyik), Peskotomuhkati (or Passamaquoddy), Abenaki and Penobscot (or Pena'pskat) Nations. Nations of the Wabanaki Confederacy have inhabited and managed these lands and waters since time immemorial, drawing upon their deep environmental knowledge for survival and stewardship. European settlement, initiated by the French in St. Croix and Port Royal, followed by successive waves of French and British settlers, has shaped the region's history, leading to the marginalization of First Nations and the establishment of various coastal communities in the IBoF region. Today, the area supports essential fisheries, farming, and geological features.

Existing and Emerging Recognition of the IBoF

The IBoF has received several designations recognizing its unique geology, history, and diverse marine ecosystems. **However, notable gaps remain in marine conservation efforts.** While there are several protected areas in terrestrial and coastal areas, these do not extend into the marine environment. Existing National Wildlife Areas in the IBoF cover intertidal waters, but not permanent marine waters.

Furthermore, many international designations (e.g., UNESCO, Ramsar sites) do not protect the marine environment. An overview of regulatory terrestrial and coastal/nearshore designations and non-regulatory marine designations is shown in Figure 2.

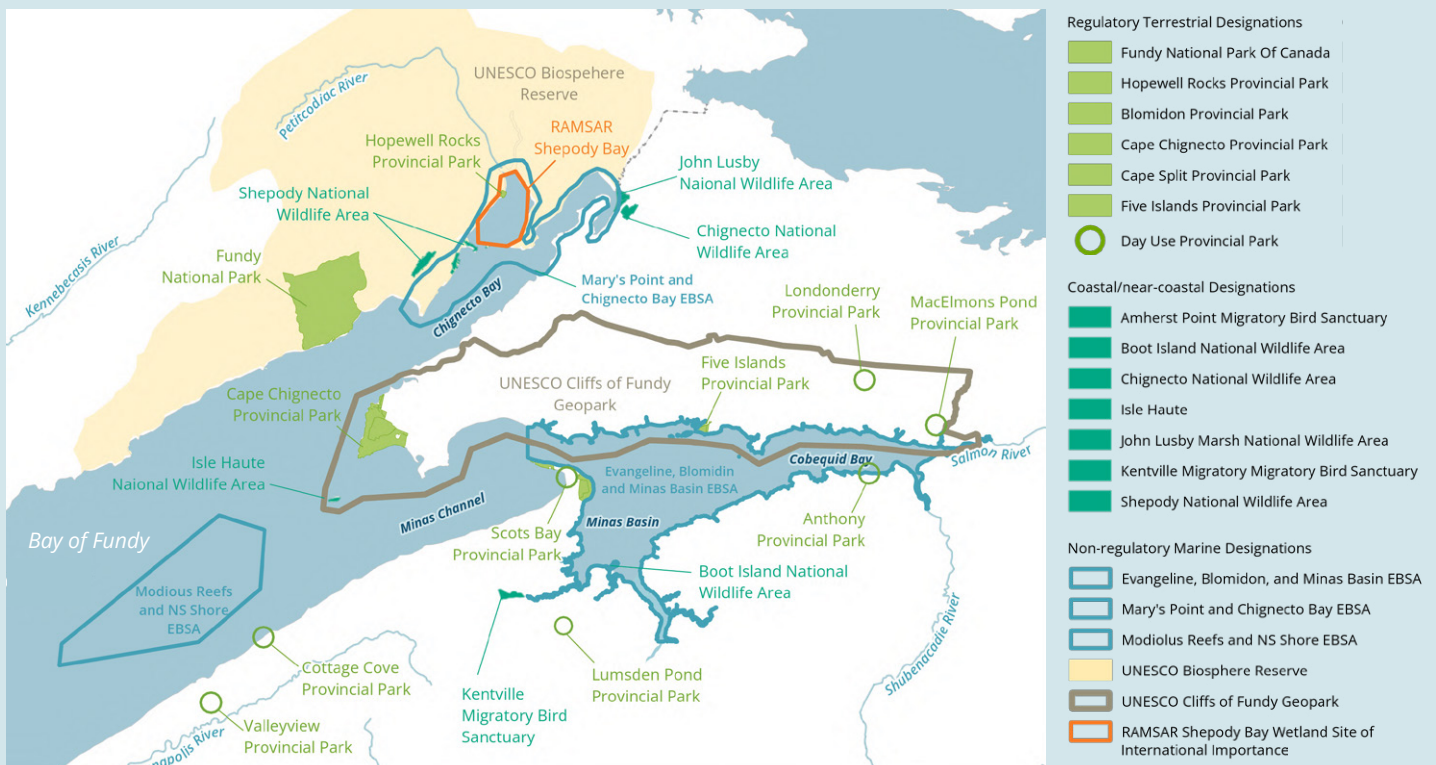


Figure 2. Regulatory terrestrial designations, coastal designations, and non-regulatory marine designations in the Inner Bay of Fundy.

In 2012, scientific assessments designated three areas within the IBoF as Ecologically and Biologically Significant Areas (EBSAs). These make the IBoF a high-priority region for candidate sites in the marine conservation network plan for the Scotian Shelf-Bay of Fundy Bioregion.¹

There have been efforts since 2020 to support conservation planning through an integrated coastal and marine conservation planning initiative led by the Canadian Wildlife Service (CWS). This initiative aims to develop a marine conservation mosaic plan that will guide future marine conservation efforts in the IBoF. Furthermore, the IBoF has been highlighted as a priority area for designating a Marine National Wildlife Area by 2025.

OPINION SURVEY: Perceptions of Conservation in the IBoF

There are close ties between the marine environment and livelihoods in the coastal communities of the IBoF, and local support is critical to advance marine protection. We wanted to understand residents' perceptions of conservation, so Oraclepoll Research Ltd conducted a telephone survey on behalf of Oceans North in May 2021, interviewing 500 residents.²

AWARENESS AND PROTECTION

Just over a quarter (26%) of respondents were aware of marine protection in the region. Younger age groups (under 54) reported higher awareness than those over 55. Additionally, seven out of ten respondents felt there wasn't sufficient protection for oceans and beaches in the Bay of Fundy. This opinion was strongest among younger age groups and declined with age.

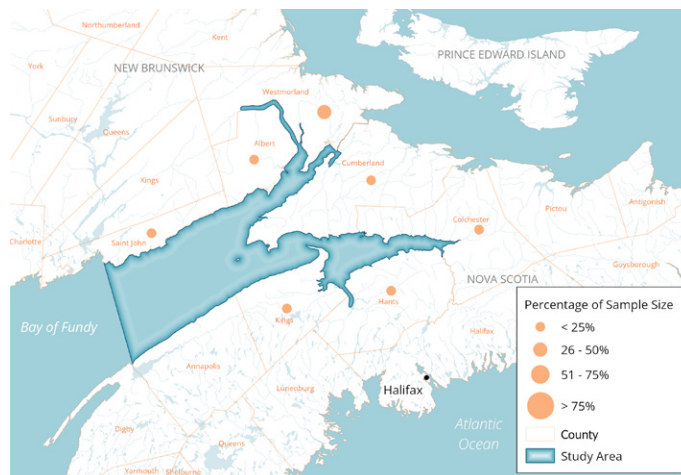
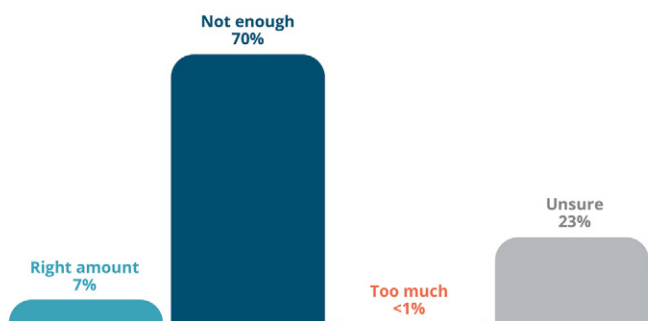


Figure 3. Breakdown of survey participants.

CLIMATE CHANGE

Most respondents strongly supported the following actions to mitigate climate-related stress on the marine environment: protecting ocean areas (69%), restoring salt marshes (74%), restoring fish passage (79%), and limiting coastal and ocean development (72%).

Question 3: Do you think there is not enough protection for oceans and beaches in the Bay of Fundy, too much protection or just the right amount?

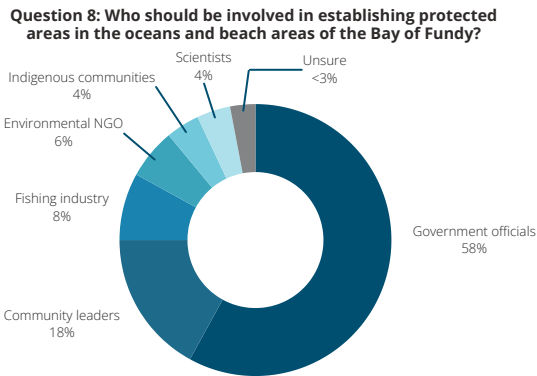


1 Fisheries and Oceans Canada. 2024. Marine conservation network sites for the Scotian Shelf-Bay of Fundy Bioregion. Dartmouth, Nova Scotia: Government of Canada. <https://www.dfo-mpo.gc.ca/oceans/networks-reseaux/scotian-shelf-plateau-neo-ecossais-bay-baie-fundy/sites-eng.html>

2 Oceans North. 2021 Inner Bay of Fundy Survey Report. Halifax, Nova Scotia. Unpublished.

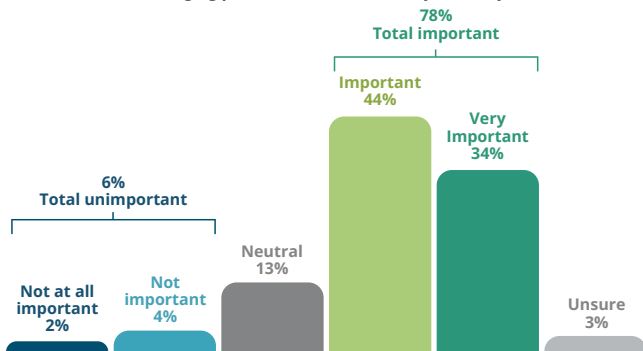
PROTECTED AREAS

Respondents also reported on the stakeholders they believed should be engaged in establishing marine protected areas, with a majority favouring government officials as the primary participants, followed by community leaders.



Over three-quarters of respondents agreed that Indigenous rights and involving Indigenous communities in establishing and managing protected areas in the Bay of Fundy is important.

Question 9: How important are Indigenous rights and the involvement of Indigenous communities in establishing and managing protected areas in the Bay of Fundy?



LITERATURE REVIEW: Research Trends in the IBoF

To identify priority research areas and study types in the IBoF, we conducted a literature review spanning the past three decades. We analyzed 886 documents published between 1976 and 2021, focusing on the Minas Basin and IBoF. This period was selected due to the emergence of research and publication about these regions. We covered grey literature, peer-reviewed articles, policy documents, and social media posts. However, the analysis solely encompasses written, publicly available documents and does not include Indigenous knowledge. For a detailed methodology, please refer to the entire literature review.³

PUBLICATION TRENDS OVER TIME

The volume of documents on the IBoF has grown, reaching a peak of 81 publications in 2019. From 2000 to 2010, an average of 21 papers were published annually, more than doubling to 48 documents per year from 2011 to 2021. Since 1976, the private sector has consistently published the highest number of documents annually during this period, followed by NGOs and academia.

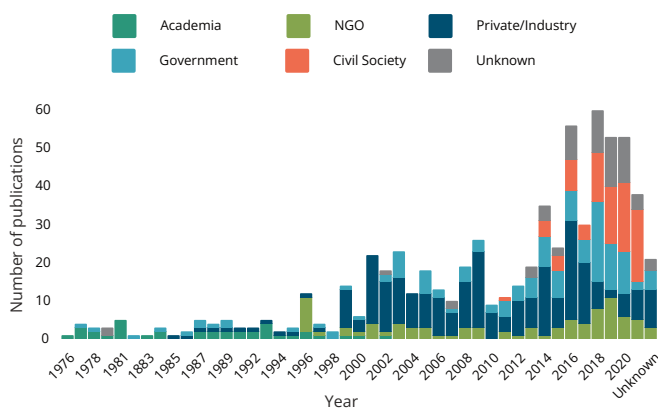


Figure 4. Stakeholder groups and sectors leading research and information in the IBoF from 1976 to 2021 (n=873).

The subject areas of publications related to the IBoF shifted with the increasing volume of documents. While research was initially focused on geography and geology throughout the late 1970s and 1980s, there has been a gradual shift to human activities and species-related studies in subsequent years (Figure 5).

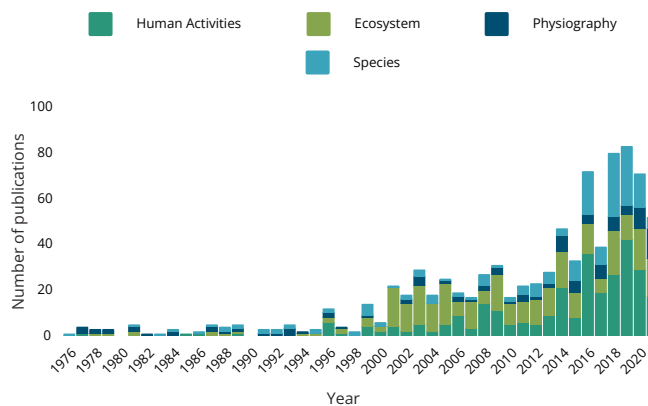


Figure 5. Subject areas of publications related to the IBoF published annually from 1976 to 2021 (n=873).

3 Eger, Sondra. 2024. Research and Conservation Trends in the Inner Bay of Fundy. Oceans North. Halifax, Nova Scotia.



Conclusions

Our findings indicate strong public support for establishing marine protected areas in the IBoF and general agreement that the process should be led by government officials and First Nations with the direct involvement of local communities. This support mirrors the current strategy led by CWS for integrated coastal and marine conservation planning, which engages diverse stakeholders from federal, provincial, and Indigenous governments alongside industry groups and environmental organizations. Additionally, our analysis of the extensive knowledge of the IBoF highlights growing attention to human activities and marine environmental management, offering valuable insights for the designation and establishment of protected areas in the IBoF.

WHAT'S NEEDED FOR CONSERVATION IN THE IBOF

With widespread public and stakeholder interest in safeguarding the IBoF, and a wealth of accumulated knowledge, policymakers have the resources to advance marine conservation in the region. The following recommendations are for federal and provincial policymakers:

- 1. Federal and provincial governments should work to build and expand partnerships with First Nations on conservation and management of their traditional territories.**
- 2. CWS should complete the conservation mosaic planning process.**
- 3. CWS should designate a marine National Wildlife Area(s) in the IBoF by 2025** by leveraging the existing body of knowledge of the IBoF and the conservation planning initiative while meaningfully including stakeholder groups and consulting and partnering with local First Nations based on their priorities and capacity.
- 4. DFO should designate marine conservation network sites** in the IBoF through marine protected areas, Fisheries Act closures, or Other Effective Conservation Measures (OECMs).



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