

KEY POINTS

- The Atlantic Atlas can be a tool for community education and engagement in MSP.
- The Atlantic Atlas has the potential to be useful for different sectors, e.g., local planning, to support connections with marine interests.
- The Atlantic Atlas can support land and sea interactions and decision-making to manage coastal waters.
- Data from different organizations can improve the applicability of the Atlantic Atlas at the local level.
- A public atlas needs to be accessible for users with diverse interests and needs.



CANADA MARINE PLANNING ATLAS - ATLANTIC: USER PERSPECTIVES FROM COASTAL COMMUNITIES

BACKGROUND

Marine Spatial Planning (MSP) is a collaborative and practical approach to managing ocean spaces that considers all stakeholders in the marine environment. The Canadian federal government through the Department of Fisheries and Oceans (DFO) has committed to developing MSP in three marine spatial planning areas in Atlantic Canada by 2024. The first product of the planning process is the Canada Marine Planning Atlas - Atlantic, an online, interactive atlas showing marine spaces, resource use, and environmental protection in the Newfoundland and Labrador Shelves, the Estuary and Gulf of Saint Lawrence, and the Scotian Shelf and Bay of Fundy.

A marine atlas is a valuable tool for planning and managing marine activities of relevance to coastal communities. Researchers with the Ocean Frontier Institute (OFI) Social License and Planning for Coastal Communities MSP research

group at Dalhousie University explored the draft Atlas - Atlantic [the Atlantic Atlas] with stakeholders representing local-level coastal and marine resource uses. Twenty-eight participants from recreation, business, industry, NGO, and other organizations across Nova Scotia met in focus groups or individually with the researchers to identify spatial data and information that are important to their interests and to assess the atlas for usability. The discussions built on an inventory and comparison of data layers in select atlases comparable to the Atlantic Atlas. Incorporating finer-scale data for local waters and coastal areas can increase the utility of a marine atlas for planners and decision-makers in coastal regions and reflect local-level interests.

FOR WHAT PURPOSE AND HOW WILL COASTAL COMMUNITIES USE THE ATLAS?

Education & Awareness

The participants suggested that the Atlantic Atlas could be a valuable tool to understand federal, provincial, and municipal jurisdiction both on- and offshore. However, the Atlantic Atlas should clearly define its target audience so that users do not confuse it with land-based mapping tools.

Municipal Planning & Operations

The Atlantic Atlas could contribute to municipal operations. For example, aquaculture layers would support planning for marine industrial areas that some municipalities are now developing. Aquaculture is not a municipal jurisdiction, but municipalities do need to plan for the coastal infrastructure that supports marine industry.

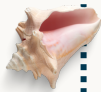
Reduction of Workload

The participants welcomed the incorporation of data from different levels of government in one location, thereby saving time that would otherwise be spent contacting different government agencies. The participants from small organizations noted limited capacity in undertaking GIS work. The Atlantic Atlas could potentially help them with access to data, spatial analysis, and costs.

WHAT SPATIAL DATA WOULD COASTAL COMMUNITIES FIND USEFUL IN THE ATLAS?

Frequently Referenced Layers

- Climate Change
- Sports and Recreation
- Weather
- Administrative Boundaries
- Conservation and Protection Areas



Data on climate change, sports and recreation, and weather were not among the data layers in the Atlantic Atlas at the time of this project. The participants specified data for the broad categories of interest. For example, climate change data could include sea-level rise and climate-driven species migration; sports and recreation data could include boat launches; and weather data could include offshore wind speed.

HOW COULD THE ATLAS INTERFACE BE IMPROVED TO MEET THE NEEDS OF LOCAL-LEVEL USERS?

Potential atlas users have varying experience using online mapping tools. Based on the participant feedback, aligning the Atlantic Atlas with good cartographic design and legibility practices would improve the user experience. The participants described difficulty interpreting symbology, finding and using the legend, and understanding mapping terminology.

The analysis and customization tools are located under different navigation bar items. User experience could be improved by clearly labeling different tools and locating them under one navigation bar item. Further, simplifying the “Draw and Measure” tool would reduce the frustration that comes with learning a complex tool.

OPPORTUNITIES

Communities & Partnerships

- Expand partnerships to a wide range of organizations and government departments, e.g., NGOs, educational institutions, and local governments.
- Include land-sea interface-related data from different jurisdictions and organizations.
- Raise the awareness of communities that MSP is happening and include them in the MSP data-sharing process. Incorporate local knowledge to enrich the data and thereby make community-level value apparent.

Atlas Interface & Usability

- Make the user interface accessible and intuitive to diverse groups of users. For example, a start page with an overview of the data and functions could be added, the legend could be relocated or clearly labeled, and text placed under each navigation bar item.
- Aim for legibility and accessible language.
- Keep the map interface simple and add advanced features under an “advanced” option.

Prepared by Julia Szujo (julia.szujo@dal.ca) in collaboration with Dr. Patricia Manuel (patricia.manuel@dal.ca), School of Planning, and Dr. Bertrum MacDonald (bertrum.macdonald@dal.ca), School of Information Management, Dalhousie University & OFI Module-M5 Research Group.

We acknowledge the assistance of DFO for providing the opportunity to use the draft Atlas in our research and for continuous technical support.

February 6, 2023