



**COINAtlantic Use Case #1 –
Maximizing the benefits from the
Aquaculture Industry in Atlantic Canada**

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1 EXECUTIVE SUMMARY

This document provides a use case for the Coastal and Ocean Information Network for Atlantic Canada (COINAtlantic) use in addressing the activities of the aquaculture industry in Atlantic Canada. As with most activities in the coastal zone there are numerous data sources that need to be considered in pursuing the activity. COINAtlantic facilitates integrated coastal and ocean management by supporting a network of data providers who will provide their data on-line in a common useful format. In addition, COINAtlantic supports an on-line utility (<http://COINAtlantic.ca>) that allows users to carry out intelligent searches of all available on-line information sources. These two components of COINAtlantic will greatly facilitate the planning, management and operations of aquaculture activities within the coastal zone so as to maximize the benefits and minimize the negative impacts on the environment and other human activities and uses.

2 PURPOSE

Aquaculture is an important component of the economic activity in Atlantic Canada. Through its activities it produces food products that are used locally and that have a high value as exports. Like all of man's activities, it is essential that such activities are appropriately placed to maximize benefits and minimize negative impacts on the environment and on other activities. To successfully maximize the benefits from such activities, it is critical to access and incorporate the best possible information on the environment. The diversity of information, as well as the experts who generate such information, means that this information is held by many sources through the region. Much information is held in national databases that are hosted outside the region.

The Coastal and Ocean Information Network for Atlantic Canada (COINAtlantic) is establishing a network of data providers who have agreed to support an on-line utility to carry out intelligent geographic search of available information for use by managers. In the context of the aquaculture industry, the use of COINAtlantic utility will provide managers, proponents and citizens knowledge of, and access to, relevant up-to-date information for planning and operational purposes.

3 GENERAL COINATLANTIC DESCRIPTION

COINAtlantic is a program of the Atlantic Coastal Zone Information Steering Committee (ACZISC). More information on the ACZISC can be found at: <http://aczisc.dal.ca>. Under the guidance of the Committee, and with support from members and GeoConnections, COINAtlantic has established two components that make up a functional network of information for integrated coastal management:

- ④ A group of agencies to actively provide their information in a standard format
- ④ An on-line utility for intelligent searching across the internet for information sources relevant to various management questions.

There exist many data and information sources on-line that is directly applicable to aquaculture activities. They range from baseline information on shoreline, bathymetry and water conditions. Information on infrastructure such as roads and wharfs would be useful. It is important to know the location of other uses such as pipelines, tourism, fishing, etc. when planning aquaculture activities. Much of this information exists on-line. COINAtlantic will provide a utility for carrying out intelligent geographic searches for data sources and for accessing any available information.

COINAtlantic will work with its collaborating partners to identify improvements that will benefit users. This may include developing metadata that will assist in the searches. It will also include tracking methods for identifying the use of data, thereby allowing contributing agencies to take actions to enhance products that are used, and or to assist in prioritizing their actions to ensure that the most appropriate data is well supported.

There exist many data and information sources that could be registered on-line that would be directly applicable to aquaculture activities. COINAtlantic will work with data providers to identify data that is not presently available.

Through the network of participants and users, the Atlantic Coastal Zone Information Steering Committee (ACZISC) members are able to work with data providers to promote the availability of data and information for integrated coastal zone management.

COINAtlantic uses the most modern available internet technology to:

- ④ carry out intelligent searches across all of the various data provider sites;
- ④ find all available information sources;
- ④ select the best available data for the management question; and,
- ④ access the available data.

To do this, it builds on the [GeoConnections Discovery Portal \(GDP\)](#) metadata catalogue. COINAtlantic actively supports the registration of data sources from all providers into this authoritative listing. In this way users can be assured that they are able to carry out the broadest search in one easy step.

The COINAtlantic utility is hosted at Dalhousie University, Halifax, Nova Scotia, and is full accessible across the internet from <http://COINAtlantic.ca>.

The utility was first available in September, 2008 and it is anticipated to continually evolve to take advantage of the developing technology – and most importantly – user input.

Whereas the utility is hosted at Dalhousie, the data and information sources identified by the utility will be from any and all available sources. It is believed that as the user community grows, and the usefulness of the data becomes more apparent, the amount of data available will increase. User testing will be based on the following pre agreed UAT scenarios and the acceptance criteria.

Studies have shown that finding and accessing information in the broad field of coastal zone management, which includes aquaculture activities, has traditionally required significant resources. Anecdotal information suggests that up to 50% of resources invested in preparing environmental assessments is required for data searching and accessing. In spite of such expenditures, there is always the risk of missing relevant information that is not adequately advertised.

The COINAtlantic utility will:

- ④ Facilitate comprehensive and exhaustive searching across all available data sources.
- ④ Provide intelligent searching so as to facilitate efficient identification and selection of the best available information
- ④ Track usage of data sources and, working with clients, provide feedback to data providers that will assist them in improving and enhancing available information.

4 INFORMATION ACCESSED RELATED TO AQUACULTURE

Of the data providers involved in COINAtlantic circa 2008, there are a number of datasets that will be accessed that are directly related to aquaculture activities.

These include:

- ④ Coastal infrastructure (Province of Nova Scotia)
- ④ Marine Cadastre (University of New Brunswick)
- ④ Bathymetry (Department of Fisheries and Oceans/Canadian Hydrographic Service)
- ④ Shoreline characteristics (Natural Resources Canada)
- ④ Oceanographic Modelling (Department of Fisheries and Oceans).

The data providers have committed to work within COINAtlantic to ensure useful products.

In addition to the data provided by COINAtlantic contributors, the COINAtlantic Utility will search, find and access any and all data that is available on-line in the correct format(s). It is anticipated that additional information sources will be discovered and available to users.

Working with the COINAtlantic data providers and users, such as those interested in the aquaculture industry, COINAtlantic, through its ACZISC will work to facilitate improvements in data access and usefulness to users. This will be accomplished by tracking use of data sources, compiling input from all users and actively soliciting suggestions from specific users on what is required for their purposes and how things might be improved. Through the linkage of the on-line technology and the personal and agency interactions of the ACZISC, access to environmental information relevant to aquaculture operations in the coastal zone will be improved.

5 PARTICIPANTS and BENEFITS

5.1 Aquaculture Industry

All four Atlantic Provinces, as well as the adjoining US States surrounding the Gulf of Maine, have active and viable aquaculture industries. For the purposes of COINAtlantic, all aquaculture activities operating in an open environment will benefit from the information accessed. This includes finfish, shellfish and marine plan aquaculture in freshwater and saltwater.

Industry overviews can be found at the following links:

- ☉ Newfoundland Aquaculture Industry Association:
<http://www.naia.ca/>
- ☉ Aquaculture Association of Nova Scotia: <http://www.aansonline.ca/>
- ☉ New Brunswick Salmon Growers Association:
<http://www.nbsga.com/>
- ☉ Prince Edward Island Aquaculture Alliance :
<http://www.aquaculturepei.com/index.cfm>
- ☉ Aquaculture Association of Canada:
<http://www.aquacultureassociation.ca/>

A useful list of Canadian web links can be found at:
<http://www.aquacultureassociation.ca/links.html>

An example of the usefulness of COINAtlantic to industry participants is the contribution it would make to compiling information for any possible review of new sites under the Canadian Environmental Assessment Act (CEAA).

5.2 Provincial Governments

Please visit the following links for additional detailed information on the various provincial contacts:

- ☉ Newfoundland and Labrador Department of Fisheries and Aquaculture: <http://www.fishaq.gov.nl.ca/aquaculture/default.stm>
- ☉ Nova Scotia Department of Fisheries and Aquaculture:
<http://www.gov.ns.ca/fish/aquaculture/>
- ☉ New Brunswick Department of Agriculture and Aquaculture:
<http://www.gnb.ca/0027/index-e.asp>
- ☉ Prince Edward Island Department of Fisheries and Aquaculture:
<http://www.gov.pe.ca/af/agweb/index.php3?number=1005026>

In addition to provincial Departments directly involved in the management of aquaculture activities, a number of Provinces are involved in developing coastal zone strategies that will have to consider aquaculture activities:

- ☉ Province of Nova Scotia Coastal Management Framework:
<http://www.gov.ns.ca/news/details.asp?id=20080605002>
- ☉ Coastal Areas Protection Policy for New Brunswick:
<http://www.gnb.ca/0009/0371/0002/coastal-e.pdf>
- ☉ Newfoundland and Labrador Coastal and Oceans Management Practices:
<http://www.releases.gov.nl.ca/releases/2008/fishaq/0618no4.htm>

5.3 Federal Governments

Federally there are a number of government Departments with an interest in this industry, most importantly the Department of Fisheries and Oceans: <http://www.dfo-mpo.gc.ca/Aquaculture/>.

In addition, there are significant activities on-going in US coastal waters in the shared Gulf of Maine ecosystem:

- 🌐 Maine Aquaculture Association:
<http://www.maineaquaculture.com/Welcome/welcome.html>
- 🌐 Maine Department of Natural Resources:
<http://www.maine.gov/dmr/aquaculture/index.htm>.

As this brief and non-comprehensive listing of websites demonstrates, there are a large number of parties directly supporting aquaculture.

5.4 Indirect Participants

As with most activities in the coastal zone, there are strong interactions and linkages with other activities.

There are many other usages which may be influenced by aquaculture or which may influence aquaculture operations. These would include traditional fisheries, tourism, infrastructure, shipping, environmental protection, etc.

As a result there are a large number of information sources on these activities that should be included in any management, planning and/or operational decision.

6 CONCLUSION

All parties interested in ensure a sustainable aquaculture industry in Atlantic Canada will benefit from the efforts of COINAtlantic. By providing access to the best available information over all types of information on the coastal zone, managers, proponents and others will be in the best position to consider options and make good decisions.