



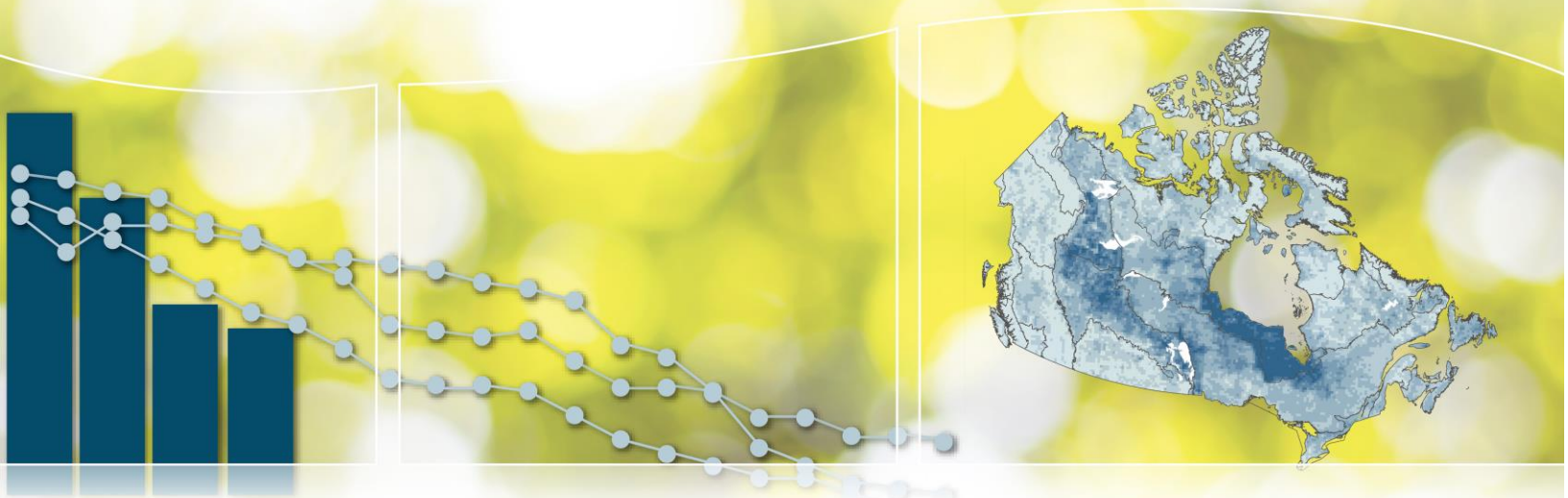
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Canadian Environmental Sustainability Indicators

Management of Canadian aquaculture



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Canadian Environmental Sustainability Indicators

Management of Canadian aquaculture

January 2018

Table of Contents

Management of Canadian aquaculture indicator	5
Key results.....	5
About the indicator.....	6
What the indicator measures.....	6
Why this indicator is important	7
Related indicators.....	7
Data sources and methods.....	7
Data sources	7
Methods.....	8
Recent changes.....	9
Caveats and limitations	9
Resources.....	9
References	9
Annex.....	10
Annex A. Data tables for the figures presented in this document	10

List of Figures

Figure 1. Compliance rates of inspected aquaculture operations with Fisheries Act regulations, Canada, 2011 to 2016 5

List of Tables

Table 1. Aquaculture operations' compliance with Fisheries Act regulations, Canada, 2011 to 2016..... 6

Table A.1. Data for Figure 1. Compliance rates of inspected aquaculture operations with Fisheries Act regulations, Canada, 2011 to 2016 10

Management of Canadian aquaculture indicator

Aquaculture operators' compliance with environmental standards helps to protect our aquatic environment. The indicator provides a measure of how well aquaculture operators meet environmental protection standards related to the sector as set out in the Fisheries Act regulations.

Key results

- From 2011 to 2016, the annual compliance rate of inspected aquaculture operations with Fisheries Act regulations was over 98%.
- For the last 2 years, 100% of inspected aquaculture operations were compliant.

Figure 1. Compliance rates of inspected aquaculture operations with Fisheries Act regulations, Canada, 2011 to 2016



[Data for Figure 1](#)

Note: The compliance rate is the percentage of visits by federal fishery officers where no charges are issued.

Source: Fisheries and Oceans Canada (2017).

Between 2011 and 2014, 6 operators were charged with 8 violations. Fines were levied on 3 of those operators. Since 2015, no violations have occurred.

The types of violations included possession of several undersized oysters, illegal transportation, illegal use of a pesticide, and violation of the licence condition setting the maximum amount of biomass allowed on the licensed site.

Table 1. Aquaculture operations' compliance with Fisheries Act regulations, Canada, 2011 to 2016

Year	Compliance rate (percentage)	Number of inspections	Number of charges	Region in which charges occurred ^[A]	Violation type
2011	98.6	215	3	Gulf	Assault/obstruct Species/size limit Other
2012	99.6	225	1	Pacific	Reporting
2013	98.9	282	3	Pacific	Illegal transportation (2) Reporting
2014	99.8	494	1	Pacific	Maximum allowable amount of biomass exceeded
2015	100	273	0	n/a	n/a
2016	100	409	0	n/a	n/a

Note: ^[A] Fisheries and Oceans Canada [regions](#) are Newfoundland and Labrador, Maritimes – Scotia-Fundy, Gulf, Quebec, Central and Arctic, and Pacific. n/a = not applicable. A risk-management approach is used to determine the frequency of inspection and operations to be inspected. Individual operations may be inspected more than once per year.

Source: Fisheries and Oceans Canada (2017).

Aquaculture represents about one third of Canada's total fisheries value and about 20% of total seafood production. In 2015 salmon and mussels aquaculture operations accounted for 77% of aquaculture production. Different types of operations have different environmental effects, ranging from local nutrient or chemical pollution into water systems to direct risks to wild species (habitat alteration and potential disease spread).

About the indicator

What the indicator measures

The indicator measures the percentage of compliance with federal aquaculture regulations.

Aquaculture management in Canada is a [shared responsibility](#). The federal government has jurisdiction over fisheries and fish habitat across the country under the Fisheries Act. The indicator includes all national and regional regulations under the Act that apply to aquaculture.

Fishery officers conduct inspections to validate licence reporting, and to determine whether there is compliance with aquaculture licences, conditions of licence, and other applicable legislation. When necessary, fishery officers respond to complaints and conduct investigations. In addition, the Department promotes compliance through public education and awareness activities to encourage all Canadians to protect fishery resources and habitats.

Why this indicator is important

Regulations are implemented to limit environmental damage caused by human activities. The degree to which facilities comply with regulations is an indication of their environmental impact.

Related indicators

The [Status of major fish stocks](#) and [Sustainable fish harvest](#) indicators address the condition and management of wild fish stocks.

The [Shellfish growing area quality](#) indicator reflects coastal marine water quality.



Sustainable food

This indicator supports the measurement of progress towards the following [2016–2019 Federal Sustainable Development Strategy](#) long-term goal: Innovation and ingenuity contribute to a world-leading agricultural sector and food economy for the benefit of all Canadians.

Data sources and methods

Data sources

Data are from the Compliance and Enforcement Program of Fisheries and Oceans Canada, Fishery Enforcement Activities Tracking System and the Departmental Violations System.

More information

Aquaculture management in Canada is a [shared responsibility](#). Under the Fisheries Act, the federal government has jurisdiction over fisheries and fish habitat across the country. Under this act, the Minister of Fisheries, Oceans and the Canadian Coast Guard issues aquaculture licences in British Columbia and Prince Edward Island. In the rest of the country, the provinces and territories have this authority.

The Government of Canada established the Sustainable Aquaculture Program in 2008 to help develop an environmentally, economically, and socially sustainable aquaculture sector. Sustainability is improved by increasing scientific knowledge and fact-based decision-making, by developing and improving regulations, and by ensuring transparency through enhanced reporting.

For all mandated responsibilities under the Fisheries Act (whether for fishing or aquaculture), fishery officers conduct regular patrols on land, on sea and in the air for compliance and enforcement purposes. In their inspections, they validate licence reporting and determine whether there is compliance with the conditions of the aquaculture licences. When necessary, fishery officers respond to complaints and conduct investigations. In addition, the department promotes compliance through public education and awareness activities to encourage all Canadians to protect fishery resources and habitats.

There are 2 key regulations under the Fisheries Act that are specifically related to compliance and enforcement activities for aquaculture: the Pacific Aquaculture Regulations and the Aquaculture Activities Regulations.

The Pacific Aquaculture Regulations only apply in British Columbia and require aquaculture operators to comply with a number of licence conditions, primarily to manage diseases and parasites and to prevent farmed fish escapes into the environment.

The second set of aquaculture regulations are under the pollution prevention provisions of the Fisheries Act (section 36). Before 2014, Environment and Climate Change Canada administered all of section 36 (pollution prevention) of the Fisheries Act. In 2014, responsibility for the administration and enforcement of all section 36 activities related to aquaculture, aquatic invasive species and pests was placed under the authority of Fisheries and Oceans Canada. The Aquaculture Activities Regulations came into effect in July 2015. They are the first national section 36 regulations adopted in order to manage aquaculture. Under these regulations, the aquaculture industry is authorized to deposit potentially deleterious substances into fish-bearing waters subject to environmental protection conditions. These measures or conditions include: submission of data to the federal government on the type and quantities of drugs and pesticides used to treat diseases and pests, organic loading monitoring in marine waters, actions to be taken if wild fish mortalities occur during pesticide treatments, and mitigation measures to minimize impact on fish and fish habitat. An operator must meet all of the conditions or loses the authority to deposit any prescribed deleterious substance, and faces possible prosecution under the Fisheries Act.

Methods

The indicator is the percentage of inspections that did not lead to charges. It includes all national and regional regulations under the Act that apply to aquaculture.

More information

The Management of Canadian aquaculture indicator provides the number of aquaculture sites inspected that have met Fisheries Act regulatory requirements divided by the number of aquaculture sites inspected in a given year. The result is expressed as an annual percentage.

Through the [Fisheries Act](#), Fisheries and Oceans Canada regulates the aquaculture industry in order to protect fish and fish habitat. The following are the current regulations under the Fisheries Act that apply to aquaculture:

- The [Aquaculture Activities Regulations](#) are the first national aquaculture regulations that clarify conditions under which aquaculture operators may install, operate, maintain or remove an aquaculture facility, or undertake measures to treat their fish for disease and parasites as well as deposit organic matter under sections 35 and 36 of the Fisheries Act.
- The [Atlantic Fishery Regulations](#): the aquaculture industry is subject to these wild capture fisheries regulations.
- The [Fishery \(General\) Regulations](#) set out Canada's authorities for approving the release of fish into fish habitat and the transfer of live fish to fish-rearing facilities, based on an assessment of genetic disease and ecological risk. These regulations support aquaculture management in British Columbia in conjunction with the Pacific Aquaculture Regulations.
- The [Management of Contaminated Fisheries Regulations](#) authorize Fisheries and Oceans Canada to close areas to fishing and to take other measures when biotoxins, bacteria, chemical compounds or other substances are present in fish habitat to a degree that may constitute a danger to public health.
- The [Marine Mammal Regulations](#) set out an authorization mechanism for the management and control of marine mammals that cause a nuisance to fisheries activities.
- The [Maritime Provinces Fishery Regulations](#) are similar to the Atlantic Fishery Regulations: the aquaculture industry is subject to wild capture fisheries regulations that impact farming practices.

- The [Pacific Aquaculture Regulations](#) set out Fisheries and Oceans Canada licensing and management authorities for aquaculture in British Columbia.
- The [Pacific Fishery Regulations](#) set out Fisheries and Oceans Canada authorities respecting fishing in the Pacific Ocean and the province of British Columbia.

Fisheries and Oceans Canada regularly inspects aquaculture operations, and keeps the results of these inspections in a database maintained by its Compliance and Enforcement Program. In addition, the Pacific Aquaculture Regulations require annual reporting by the industry. These reports are tracked by Fisheries and Oceans Canada, and the results are posted on the department's [website](#).

Recent changes

The indicator has been updated to 2016. The information on aquaculture production was removed.

Caveats and limitations

The indicator is limited to regulations under the Fisheries Act, whereby Canada regulates the aquaculture industry to protect fish and fish habitat. It does not include other enforcement tools under the Fisheries Act, such as education, inspections to monitor or verify compliance, investigations of alleged violations, warnings, Inspector's Directions, Ministerial Orders, and prosecutions.

Outside of British Columbia and Prince Edward Island, the provinces and Yukon manage aquaculture activities under their own acts and regulations, as well as manage potential environmental impacts, animal welfare, and fish health and/or pest control products.

In July 2015, Fisheries and Oceans Canada drafted the Aquaculture Activities Regulations under the Fisheries Act. The regulations clarify conditions under which all licensed aquaculture operators in Canada may treat their fish for disease and parasites, as well as deposit organic matter, under sections 35 and 36 of the Fisheries Act. Compliance with the new regulations is expected to contribute input for future reports.

Resources

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Annex

Annex A. Data tables for the figures presented in this document

Table A.1. Data for Figure 1. Compliance rates of inspected aquaculture operations with Fisheries Act regulations, Canada, 2011 to 2016

Year	Compliance rate (percentage compliance rate)
2011	98.6
2012	99.6
2013	98.9
2014	99.8
2015	100
2016	100

Note: The compliance rate is the percentage of visits by federal fishery officers where no charges are issued.
Source: Fisheries and Oceans Canada (2017).

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