



Canadian Council of Fisheries
and Aquaculture Ministers (CCFAM)

Aquaculture Development Strategy 2016-2019



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Overview

Canada is one of the world's most trusted and respected food suppliers – trusted to provide safe and wholesome products and respected for our commitment to global food security. Occurring in every province and in Yukon, aquaculture is now a significant contributor to the Canadian economy. In 2014, Canada's aquaculture production volume was 133,600 tonnes having a farm-gate value of more than \$733 million. Over 60 per cent of Canada's aquaculture production is exported, primarily to the United States, but also to more than 20 other countries around the world. Farmed salmon is now Canada's third most valuable seafood export.

Because of its ideal biophysical conditions, strong human capital, world-class scientific community, and proximity to markets in the United States, Europe and Asia, Canada's aquaculture sector has the potential to be a leading producer of high-quality aquaculture products. Realizing that potential, however, has been a challenge.

Effort is needed to address constraints to growth caused by limited access to new sites, and in some areas, the short duration of tenures. Regulatory and management coordination must be improved to create efficient, transparent and accountable regimes that are effective and easily understood. Investment in innovation and scientific research is required to support further development of this important industry. Investment in these areas will foster continual improvement in environmental sustainability and economic viability while increasing public confidence.

The Canadian Council of Fisheries and Aquaculture Ministers (CCFAM) recognizes:

- the importance of seafood from aquaculture as a contributor to global food security and as a safe, nutritious, and healthy food source;
- that demand for food will increase as the world's population is predicted to grow to 9 billion by 2050, and that seafood production must increase substantially to meet the needs of this expanded population;

- that while some increase in global seafood production may come from wild capture fisheries, major increases are expected from aquaculture;
- the value and economic contribution of the aquaculture industry, particularly to Canadian rural and coastal communities and Indigenous nations; and
- Canada's potential for increased aquaculture production that also ensures sustainable aquatic ecosystems for the future.

To support continued growth in aquaculture production that is environmentally, socially and economically sustainable, federal, provincial and Yukon governments established the CCFAM Aquaculture Development Strategy to set out a collaborative three-year plan designed to achieve the following outcomes:

- I. An improved federal/provincial/territorial regulatory framework;
- II. Improved coordination of aquaculture fish health management; and
- III. Improved support for regional economic growth through aquaculture.

As the Strategy's action items are implemented, governments will consult with Indigenous nations, industry, and other stakeholders, where appropriate and according to jurisdictions' mandates and responsibilities.



CCFAM's Commitments to Advance Sustainable Aquaculture Development in Canada

Outcomes

I

An improved federal/provincial/territorial regulatory framework

II

Improved coordination of aquaculture fish health management

III

Improved support for regional economic growth through aquaculture

Strategic Objectives

Jurisdictions renew collaboration and coordination of their regulatory programs and other activities to further improve their efficiency and effectiveness and support a vibrant aquaculture sector that also protects the aquatic environment.

Jurisdictions work together to identify and address overlaps and gaps in FPT fish health management that result in duplication of effort.

Jurisdictions work together to improve public communications through the provision of consolidated information on FPT roles and responsibilities in the regulatory management of fish health in aquaculture across Canada.

Jurisdictions work together to involve communities, including Indigenous nations, in the aquaculture sector as a means to generate economic prosperity and increased food security in rural and coastal communities.

Jurisdictions align relevant FPT programs and/or develop new programs to further support growth of the aquaculture sector and improve industry's ability to deal with current and future challenges.

Jurisdictions and industry continue to invest in science, research, and innovation to further support the development of a competitive aquaculture sector that meets the highest level of environmental performance.

Commitment from both levels of government is required to achieve these outcomes. The Aquaculture Development Strategy outlines the strategic objectives and actions required to achieve the desired outcomes. To this end, the Canadian Council of Fisheries and Aquaculture Ministers (CCFAM) agree on and support the following commitment:

Jurisdictions commit to work together – as a Council of Ministers and through bilateral arrangements between individual jurisdictions, as well as collaborating with Indigenous nations, industry, stakeholders and the public – to foster sustainable aquaculture development that is enabled by innovation and regulated by an effective and efficient regime supported by world-class science.

Introduction

Canada is one of the world's most trusted and respected food suppliers – trusted to provide safe and wholesome products and respected for our commitments to global food security. Canada's aquaculture industry contributes to this reputation by delivering high quality food products, produced by modern technology and a skilled labour force, to consumers at home and abroad.

While the history of aquaculture in Canada dates back to the 1800s, the industry's greatest growth has been recent, increasing more than four-fold in the 1990s primarily as a result of increased production of Atlantic salmon in marine net pens. The rapid growth of all aquaculture – finfish and shellfish, marine and freshwater – was an economic boon in the early years, particularly in areas of the country where other opportunities for employment were limited and elusive. By 2002, however, overall production had plateaued and salmon aquaculture, which had previously been the principal engine of growth, has essentially remained stagnant in the years since. Existing regulations were seen by some as inadequate in dealing with an industry that was using a public resource, resulting in eroded confidence in government oversight.

Elsewhere in the world, aquaculture has been moving ahead and is now viewed as a major contributor to the prosperity of many countries, particularly Asian aquaculture powerhouses such as China, India, and Vietnam, and salmon aquaculture giants, Norway and Chile. As production from wild-capture fisheries plateaus and global seafood demand increases, aquaculture will become even more important. The Food and Agriculture Organization of the United Nations (FAO) has predicted that unless aquaculture growth continues, there will be a shortfall of 40 million metric tonnes in the global seafood supply by 2030.



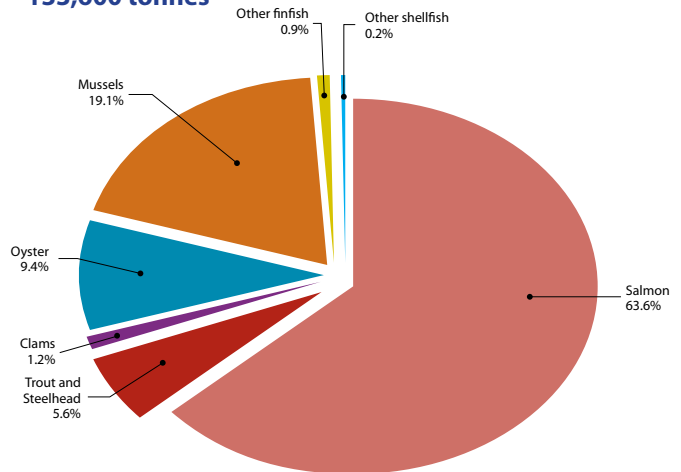
Canadian Aquaculture Today

Occurring in every province and in Yukon, aquaculture is a significant contributor to the Canadian economy. In 2014, Canada's aquaculture production volume was 133,600 tonnes having a farm-gate value of \$733.4 million. More than 60 per cent of Canada's aquaculture production is exported, primarily to the United States and to more than 20 other countries around the world. In 2015, the value of Canada's aquaculture exports reached \$769.5 million on 101,000 tonnes of product. Farmed salmon is Canada's third most valuable seafood export.

Each year, the industry contributes approximately \$2 billion in total economic activity and generates labour income of approximately \$500 million. The aquaculture workforce is young, with more than 50 per cent of workers between the ages of 20 and 39. Many aquaculture jobs are permanent and full time enabling young people, including Indigenous youth, to stay in rural and coastal communities.

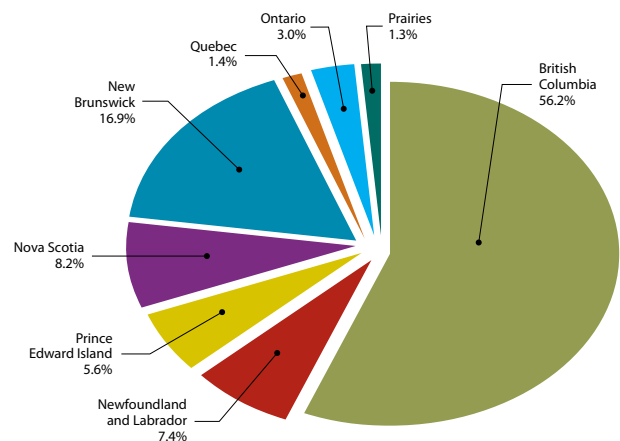
More than 45 different species of finfish, shellfish and marine algae are commercially cultivated in Canada. While production is concentrated on five high-volume species (Atlantic salmon, rainbow trout, blue mussels, oysters and clams), there is great diversity across the country, particularly in the shellfish sector where more than 20 species are cultured. That said, production is dominated by Atlantic salmon. Over the last five years,

2014 Canadian Aquaculture Production Volume by Major Species
133,600 tonnes



Source: DFO and Statistics Canada

2014 Canadian Aquaculture Production Value at Farm-Gate, by Province
\$733.4 million



Source: DFO and Statistics Canada



it has represented an average of 70 per cent of total Canadian aquaculture volume and 84 per cent of total value. Canada is the world's fourth-largest producer of farmed salmon, surpassed only by Norway, Chile, and the United Kingdom (Scotland).

Aquaculture has presented opportunities for communities across the country, including Indigenous nations. Indigenous Canadians currently participate in almost 6 per cent of all Canadian aquaculture, mostly in British Columbia, but also in Central and Atlantic Canada. Co-management agreements allow Indigenous groups to lend their traditional knowledge and experience to modern cultivation methods. Total annual sales of aquaculture products and services associated with direct, indirect, and induced activity flowing from Indigenous aquaculture in Canada is approximately \$102 million.

Realizing Our Potential

Canada is a vast country with unique biophysical characteristics that make it ideal for aquaculture expansion. We have the longest coastline in the world with access to the cold, pristine waters of three oceans and we enjoy an abundance of freshwater lakes and rivers. Our varied climate is conducive to the cultivation of a great diversity of species that could potentially be grown in thousands



Photo credit: Aboriginal Aquaculture Association



of suitable and available sites. Our labour force is young, professional and well trained, with a long history of working on the water. Canada also has significant potential for enhanced processing capacity, particularly in coastal areas where synergies with the capture sector could be achieved.

The value of aquaculture products often rests on the fact that they are sold either live or fresh. Canada's proximity to the United States has provided our aquaculture sector with a strong foothold in that market. At the same time, the need to get fresh products to market quickly has sparked a general revolution in logistics and distribution, facilitating access to markets that were previously thought impossible to develop. Canada must capitalize on its ready access to global markets, such as increasingly affluent Asian and EU economies, to provide new market opportunities for our aquaculture products.

In 2013, world aquaculture production reached 97 million tonnes (live weight) with an estimated value of \$157 billion (US). China is the world's leading aquaculture producer with over 60 per cent of total volume produced; Norway and Chile (Canada's salmon competitors) are among the top producers. Despite our strengths, Canada currently ranks only 26th in total aquaculture production.

In 2014, human consumption of farmed fish overtook that of wild fish for the first time, and salmon, particularly Atlantic salmon, became the largest single commodity (by value) within the seafood sector, surpassing shrimp. Aquaculture now supplies more than 50 per cent of the global demand for fish and seafood, and predictions are for demand to increase by 7 per cent annually. With output from capture fisheries relatively constant, growing demand can only be met by increasing aquaculture production.

While aquaculture expansion is essential to the long-term economic well-being of many rural and coastal communities in Canada, sustainable development

must ensure protection of aquatic ecosystems. This requires consultation and collaboration, taking into consideration the varied resources of jurisdictions and the interests of other stakeholders and users of Canada's aquatic resources. At the same time, increased aquaculture production provides economic benefits derived from manufacturing and services used by the sector to communities that may be geographically distant from actual production sites. Enabling greater Indigenous participation in aquaculture also benefits sustainable growth; however, participation is not yet commensurate with the opportunities available.

Industry and governments share responsibility in achieving these ambitious targets – industry through its investments and sustainability initiatives, and governments through investments and the delivery of a clear and robust science-based regulatory regime. To help Canada realize its sustainable aquaculture potential, jurisdictions need to improve their collaboration, harmonize their efforts, reduce administrative burdens, encourage and contribute to investment and growth, provide income stability, and increase clarity in the roles and responsibilities of all parties and participants. By addressing these challenges we will be able to provide industry with a science-based regulatory regime that supports an economically successful, socially responsible, and environmentally sustainable sector, improves public confidence, and demonstrates to Canadians that the aquatic environment is protected for future generations.



NASAPI 2011-2015

The development of a cooperative federal/provincial/territorial framework has been achieved in the past. The 2011 National Aquaculture Strategic Action Plan Initiative (NASAPI) set out a cooperative framework for federal, provincial, and Yukon partners to work together to develop Canada's aquaculture potential. Activities addressed five aquaculture sub-sectors (East and West Coast marine finfish, East and West Coast shellfish, and freshwater) across three thematic areas (governance, social licence and reporting, and productivity and competitiveness).

NASAPI was a very broad and ambitious plan. Over the five-year period, jurisdictions succeeded in completing a significant portion of the planned activities, either through their own regulatory regimes, daily operations or special initiatives, but not all objectives were met. After many discussions at the CCFAM Strategic Management Committee on Aquaculture, it was agreed that a new three-year strategy was required. Federal, provincial and Yukon governments worked collaboratively to set out this three-year Aquaculture Development Strategy. The CCFAM Ministers have agreed to the following three priority areas designed to advance sustainable aquaculture development in Canada.

As the Strategy's action items are implemented, governments will consult with Indigenous nations, industry, and other stakeholders, where appropriate and according to jurisdictions' mandates and responsibilities.



Three Outcomes

Due to regional differences and the scale and maturity of aquaculture operations across jurisdictions in Canada, not every identified activity applies to every jurisdiction. Some activities will require action from both levels of government. Specific actions to achieve objectives will be determined by the responsible authority in each jurisdiction and may be tailored to suit their specific mandates and requirements. The overall intent of the Strategy is to provide an enabling environment for cooperative and collaborative aquaculture development in Canada.

I: An improved federal/provincial/territorial regulatory framework

In Canada, aquaculture is managed by two levels of government. In most of the country, provincial and territorial (Yukon) governments are the primary regulators for licensing and leasing (among many other authorities) under a variety of legislation. In British Columbia and Prince Edward Island, the federal government plays a more prominent role.

This Strategy aims to use present policy, regulatory and legislative frameworks as the foundation for improvement. An inventory of current aquaculture policies, regulations and legislation, by jurisdiction, is the starting point for understanding where efficiencies or gaps can be identified.

As more companies become established and as some operate in multiple provinces, there is an increased need for efficient regulatory and risk-analysis frameworks that are coordinated across jurisdictions and that will ensure environmental protection while enabling sustainable growth. Public reporting on the performance of the regulatory regime is an important step to increasing transparency and accountability and improving public confidence in the management of the sector.



Strategic Objective:

- **Jurisdictions renew collaboration and coordination of their regulatory programs and other activities to further improve their efficiency and effectiveness and support a vibrant aquaculture sector that also protects the aquatic environment.**

Actions Required to Achieve Objectives:

- 1. In support of the strategic objective, the first phase will be the development of a high-level compendium of existing aquaculture legislation, regulations, policies, and standards that identifies the responsible federal, provincial and/or territorial departments or agencies.**
- 2. The second phase will identify opportunities to coordinate programs and activities and to reduce duplication in existing and future legislation, regulations and operational policies within FPT priority areas. These opportunities may be addressed through mechanisms, such as collaborative work in programs and operations, or through more formal agreements. Depending on the jurisdiction, examples of these opportunities may include, but are not limited to:**
 - improving site and stocking approval processes and service standards;
 - developing highest-level operating standards (regionally or nationally) for areas such as, but not limited to siting, containment and environmental impacts;
 - harmonizing environmental monitoring standards;
 - harmonizing and improving risk assessment methodologies and processes; and
 - improving information collection and sharing in support of improved program delivery and transparency through public reporting.

3. **These two phases will lead to renewal of bilateral Memoranda of Understanding on Aquaculture Development, where appropriate.**
4. **In order to continue to evaluate and mitigate the potential local and far-field environmental impacts from aquaculture operations and to further improve an already robust regulatory regime across Canada, FPT investments in regulatory science will continue.**

II: Improved coordination of aquaculture fish health management

Fish health management in Canada is a responsibility of both levels of government. Lead federal authority rests with the Canadian Food Inspection Agency through the *Health of Animals Act*, supported by Fisheries and Oceans Canada through the *Fisheries Act*. Through a variety of legislation, almost all provinces also have a strong mandate for fish health management. Extensive and comprehensive coordination between all jurisdictions needs to be continued and further developed to protect the health of animals. These opportunities may be addressed through mechanisms such as collaborative work in programs and operations, or through more formal agreements.

Harmonizing approaches to fish health management will reduce duplication of effort by both industry and governments. The first step is to better define the roles and responsibilities of those governments and agencies involved in aquatic animal health. This understanding will create opportunities to build on current partnerships that help federal, provincial and territorial governments with their responsibilities for fish health management in the sector. It will also provide a better definition of roles and responsibilities that will in turn enable the elimination of any management gaps that may still exist.



Strategic Objectives:

- **Jurisdictions work together to identify and address overlaps and gaps in FPT fish health management that result in duplication of effort.**
- **Jurisdictions work together to improve public communications through the provision of consolidated information on FPT roles and responsibilities in the regulatory management of fish health in aquaculture across Canada.**

Actions Required to Achieve Objectives:

1. **The first phase will be a gap analysis, using the high-level compendium developed in Outcome I, to identify weaknesses in FPT aquaculture fish health management activities.**



2. **Building on these identified gaps or weaknesses, the second phase will identify opportunities to address them within FPT priority areas. Some examples may include: FPT responses to diseases of concern; management of on-farm biosecurity; domestic movements (intra- and inter-provincially); and fish health risk-assessment processes and protocols.**
3. **The third phase will be to report to CCFAM and Canadians on FPT achievements under Outcome II.**
4. **Efforts to meet Outcome II will be considered, where appropriate for each jurisdiction, under the renewal of bilateral Memoranda of Understanding on Aquaculture Development (planned under Outcome I).**

III: Improved support for regional economic growth through aquaculture

Aquaculture is a major contributor to rural and coastal communities across the country, often in areas where few economic opportunities currently exist. With growing international demand for high-quality and sustainable fish and seafood, Canada's aquaculture sector is uniquely positioned to expand well beyond its current operations, provided barriers to sustainable growth are reduced and industry is enabled to be more competitive while ensuring protection of the aquatic environment.

Indigenous nations play an important role in the development of aquaculture, including through their increasing ownership of aquaculture operations, establishment of new partnerships with other aquaculture interests, and pursuit of future opportunities to participate in the sector for economic and social benefits.

All jurisdictions recognize the work that has been done by industry and various government fora over the last several years to better understand aquaculture's potential for growth, identify constraints, and propose solutions.

Strategic Objectives:

- **Jurisdictions work together to involve communities, including Indigenous nations, in the aquaculture sector as a means to generate economic prosperity and increased food security in rural and coastal communities.**
- **Jurisdictions align relevant FPT programs and/or develop new programs to further support growth of the aquaculture sector and improve industry's ability to deal with current and future challenges.**
- **Jurisdictions and industry continue to invest in science, research, and innovation to further support the development of a competitive aquaculture sector that meets the highest level of environmental performance.**

Actions Required to Achieve Objectives:

1. Work between FPT partners and with industry and interested parties to enable access to new fish health and feed products through identification of funding/costing options.
2. Work between FPT partners and with industry, communities, and interested parties to identify critical infrastructure needs and programming required for the aquaculture sector (e.g., small craft harbours and large-scale community infrastructure projects).
3. Work between FPT partners and with existing funding agencies (such as regional economic development authorities) to improve synergies and communications among aquaculture innovation programs and their investments for better coordination and program effectiveness. This work would include exploring potential funding opportunities and strategic investments for activities such as research, innovation, and economic development.
4. Work between FPT partners to improve risk management and access to financing by reviewing the constraints associated with conventional financing to facilitate access to capital and stock insurance for aquaculture.
5. Work between FPT partners and with interested Indigenous nations to help identify potential aquaculture opportunities.



Implementation

The CCFAM Strategic Management Committee on Aquaculture (SMC) is composed of senior managers who represent provinces, Yukon, and the federal government in the areas of regulatory management, regulatory science, research, innovation, and economic development programs.

The Committee will develop annual work plans that will clearly align activities against the three desired outcomes and strategic objectives. As the Strategy's action items are implemented, governments will consult with Indigenous nations, industry, and other stakeholders, where appropriate and according to jurisdictions' mandates and responsibilities. Each spring as part of the annual cycle of work planning under CCFAM, these SMC work plans will be submitted to CCFAM Deputy Ministers for approval. Each year, the Committee will report to CCFAM Ministers on what actions were taken during that year and what was achieved or accomplished by those actions.

Implementation of this Strategy will build on existing programs and resources; however, new resources may be added depending on each jurisdiction's priorities and overall capacity.

The Strategy is meant to reflect the unique circumstances of jurisdictions and the diversity of the aquaculture industry throughout Canada; not every action item or strategic objective will be possible for every federal, provincial or territorial partner.



Conclusion

The Canadian aquaculture sector plays an important role in addressing crucial social and economic issues of food security, employment, value-added food production, and maintenance of essential services in rural and coastal communities. The industry produces safe and wholesome food products sold to discerning consumers here and in many markets around the world, making the sector a net contributor to the Canadian economy.

All participants are looking for ways to address the perception gap that exists between the way modern aquaculture is carried out and public understanding of the industry. Governments are developing and amending Acts and regulations and implementing management measures to respond to new information that has come through science and research. Industry is investing in innovative practices and production efficiencies, and continually revising and updating its operations to reflect new technological advancements. This work is done so that the sector can continue to develop and expand, while protecting the environment in which they work, in which their animals are cultured, and on which they depend.

The CCFAM Aquaculture Development Strategy is further evidence of governments' commitment to advancing sustainable aquaculture development for the benefit of all Canadians today and tomorrow.

