

# 2017-2021 Shellfish Aquaculture Development Strategy



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Province of New Brunswick  
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# Message from the Minister

The seafood industry in New Brunswick is a vital economic engine for our rural and coastal communities. It is a success story, and we can be proud of the reputation it enjoys through world-famous brands, internationally competitive facilities, and world leaders in the industry.

The value of our fish and seafood exports has been on the rise for six years. In 2015, New Brunswick was the second highest exporter of fish and seafood in the country, with exports amounting to 23 per cent of the Canadian total. The value of New Brunswick's fish and seafood exports increased to \$1.4 billion in 2015.

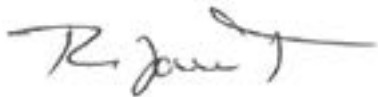
The entire aquaculture sector, especially shellfish aquaculture, has experienced unprecedented growth in New Brunswick in the past decade. Shellfish aquaculture is more dynamic than ever, and the efforts of producers in cooperation with officials in the Department of Agriculture, Aquaculture and Fisheries and our federal and local partners are paying off.

The Government of New Brunswick is determined to create jobs and develop the province's economy. The *2017-2021 New Brunswick Shellfish Aquaculture Development Strategy* fits in perfectly with our economic development plan and updates the initiatives and options enabling us as a province to ensure the continuity of the sustainable development of this industry.

As Minister of Aquaculture and Fisheries, I am proud of the role we play in supporting fisheries and aquaculture in New Brunswick. Our government will continue to work with its partners so that these sectors continue to create jobs, and to promote long-term growth and prosperity in New Brunswick.

First Nations have a long standing interest in shellfish as part of their culture and ceremonial heritage. Building on this is a natural fit for their respective communities from an economy building perspective. We are committed to working with interested communities to create this opportunity.

I commend and thank the representatives of the shellfish aquaculture industry in New Brunswick for their efforts to promote the expansion of this sector, which will benefit all New Brunswickers, and I want to assure them of my support of their work.



Honourable Rick Doucet

Minister of Aquaculture and Fisheries



# Introduction

The shellfish aquaculture industry is a major generator of economic activity in the rural and coastal communities of eastern New Brunswick. It provides benefits for the province by creating jobs, expanding the tax base, and increasing the capacity to keep workers and entrepreneurs in their home communities, encouraging those who left to come back home or attracting others from outside the province. Steady growth in the sector presents a significant opportunity for existing entrepreneurs and newcomers.

The industry also offers a unique opportunity for New Brunswick First Nations located in coastal communities. With a relatively young and growing First Nation population in the province, the sector offers employment and business opportunities that will benefit both New Brunswick and First Nations.

First Nations have long recognized the importance of shellfish as a food. Oysters, quahogs, whelks, urchins, soft-shelled clams, scallops and blue mussels have been an important part in the diet of the Mi'gmaq, Passamaquoddy and Wolastoqiyik. There is long standing documented evidence of shell fish harvesting throughout the traditional coastal territories of the Mi'gmaq Passamaquoddy and Wolastoqiyik. Shellfish were also important in diplomatic record keeping (quahogs for wampum belts), and artwork and personal adornment for thousands of years. Shellfish continues to play an important part of Indigenous culture today.

In addition to ongoing harvesting of shellfish for personal use, there are several Mi'gmaq shellfish aquaculture projects operating in Mi'gmagi (the homeland of the Mi'gmaq that includes New Brunswick, Quebec, Northwestern Maine, Nova Scotia, Prince Edward Island and Newfoundland and Labrador) with several projects here in New Brunswick. The department is committed to fostering the growth and entrance of interested First Nation communities in the shellfish aquaculture sector.

Shellfish aquaculture operations are carried out on leases allocated by the provincial government. Most of these leases are located on New Brunswick's east coast. Although *Crassostrea virginica* (eastern oyster) is the main shellfish species that is commercially farmed, there is potential for other species, such as bay scallops and clams. In the province in 2016, there were more than 500 leases covering approximately 2,700 ha issued for shellfish aquaculture. Other spaces suitable for shellfish aquaculture that have been identified along New Brunswick's coasts could be put into production.

In New Brunswick, eastern oysters are farmed on the sea bed or in suspension in the water column where conditions are the most suitable for growth. Because they filter their food from the sea, shellfish assist in improving the quality of the coastal marine ecosystem. Shellfish aquaculture is recognized as being environmentally friendly.



New Brunswick farmed oysters are a premium product characterized by their shape, meat yield, and taste. The oysters are marketed fresh year-round in North American, Asian, and more recently, European markets. Food safety is assured through the Canadian Shellfish Sanitation Program (CSSP), which meets some of the highest standards in the world and is intended to protect consumers in domestic and international markets. Given this assurance of food safety and traceability through the value chain, Canadian products have an international reputation for quality.



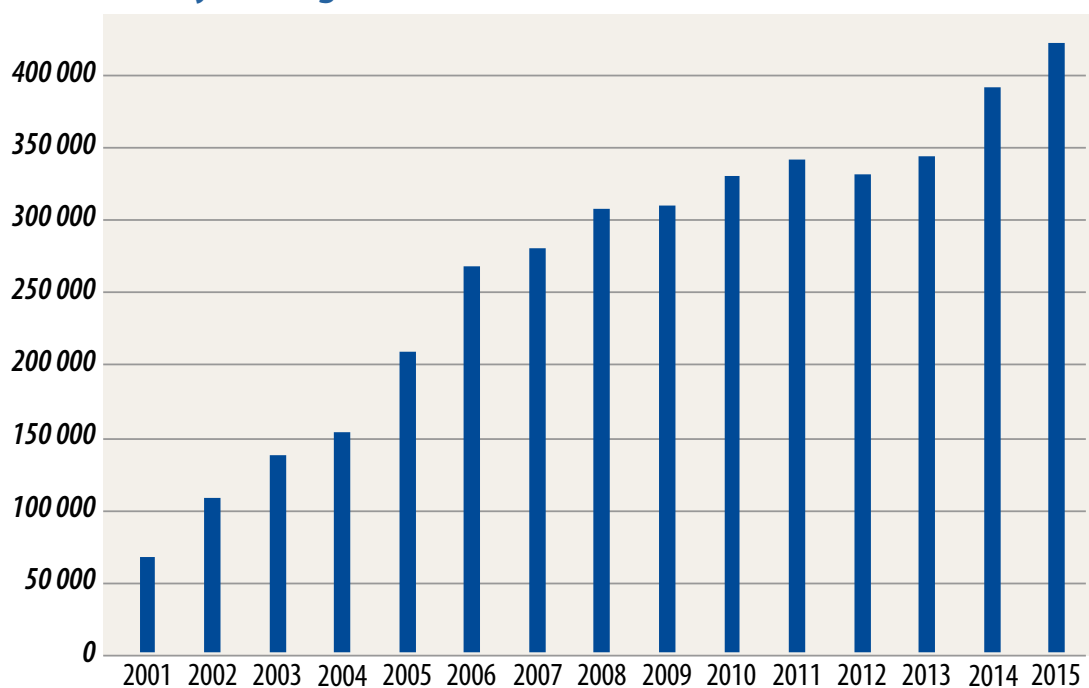
Depending on the farming method, oysters take four to seven years to reach market size. Producers' experience and the continuous improvement of rearing techniques are helping to shorten the production cycle.

New Brunswick's oyster farming industry is a fast-growing sector. The graph below shows the changes in the number of oyster bags (or the equivalent) deployed on the province's east coast. The field data indicates a steady increase since 2001. To optimize its development, each business must carefully plan its growth and develop strategies based on relevant information. The role of governments is to provide a regulatory framework and a business environment conducive to fostering sustainable growth. In 2015, nearly 19 million units were sold, representing a farm gate value of \$7.4 million. For that same year, the value of exported oysters was estimated at \$4 million (Statistics Canada).

By combining respect for the environment with job creation and by offering a high quality product, shellfish aquaculture represents a unique economic development opportunity for New Brunswick.



### Number of oyster bags on New Brunswick's east coast



# Objectives



The goal of the development strategy is to promote the orderly growth of New Brunswick's shellfish aquaculture industry, while recognizing the importance of protecting the environment and co existing with other interest groups and users of marine resources. Five broad objectives have been set to guide our efforts aimed at increasing shellfish production significantly by 2021. Strategic actions have been identified to address priorities, the implementation of which will be coordinated by the New Brunswick Department of Agriculture, Aquaculture and Fisheries through a multi-party committee that will include industry and First Nation representatives.

This committee will be required to produce an annual work plan. **The overall success of the implementation of the strategy will be measured based on the increase in the number of oysters produced, the farm gate value and the value of exports.**

*"Aquaculture is an example of how success can be attained when we all can sit at the same table for a greater common good."*

Chief Kenneth Barlow, Indian Island First Nation

## Measuring success

**The target is a 10% increase annually for the next 5 years.**

**Reaching in 2021:**

- Annual production of 30 million units
- Farm gate value of \$12 million
- Export value of \$ 6.4 million

# Objective 1

## Adoption of a relevant and stable regulatory framework for promoting the sustainable development of New Brunswick's shellfish aquaculture industry

A number of acts, regulations, policies and provincial and/or federal agreements govern aquaculture operations in New Brunswick. Many government organizations participate in the regulation of New Brunswick's aquaculture industry, including Transport Canada (TC), Fisheries and Oceans Canada (DFO), the Canadian Food Inspection Agency (CFIA), Environment and Climate Change Canada (ECCC), the New Brunswick Department of Energy and Resource Development, the New Brunswick Department of Health and the Department of Agriculture, Aquaculture and Fisheries. The provincial government is responsible for the allocation of marine aquaculture sites. The *Marine Aquaculture Site Allocation Policy for New Brunswick's East Coast* provides a framework for ensuring the orderly development of the province's shellfish aquaculture industry.

Without specific aquaculture legislation at the federal level it is important to keep effective lines of communication and continue to work with various federal partners to improve the predictability of the regulatory framework and promote investment.



Priorities	2017-2021 strategic actions
<p><b>Optimize the use of allocated spaces and improve timeline for site application approval.</b></p>	<p>Review the <i>Marine Aquaculture Site Allocation Policy for the East Coast of New Brunswick</i> with a view to optimize development opportunities while respecting Aboriginal and treaty rights.</p> <ul style="list-style-type: none"> <li>Acquire geo-information management tools to facilitate the management of spaces and make the information available to the public.</li> </ul>
<p><b>Optimize the use of suitable spaces.</b></p>	<ul style="list-style-type: none"> <li>Review bay management plans as defined in the former regulatory tool <i>Replacement Class Screening Report for Water Column Oyster Aquaculture in New Brunswick</i> of the Canadian Environmental Agency to reach 10 per cent of the area allocated to water column aquaculture in bays where this percentage has not been achieved and when conditions allow.</li> <li>Pre-identification of non-allocated spaces by designating them as aquaculture land.</li> </ul>
<p><b>Collaboration with regulatory agencies.</b></p>	<ul style="list-style-type: none"> <li>Make the needs and special characteristics of New Brunswick's shellfish aquaculture industry known to federal agencies associated with the shellfish aquaculture industry.</li> <li>Define more clearly the roles and responsibilities of the levels of government and eliminate duplication as well as identifying program gaps.</li> </ul>



## Objective 2

### Support New Brunswick’s shellfish aquaculture industry in its efforts to offer very high quality products

At the moment, demand for oysters exceeds supply. However, there is nothing to indicate whether this increase will result in market saturation one day. It will therefore be necessary to continue market development efforts in the coming years.

The capacity of oyster processing plants must be commensurate with production volumes and export requirements. The upgrading of these facilities and improvements to processes should help in achieving these objectives.



Priorities	2017-2021 strategic actions
Secure a foothold in or expand certain markets.	<ul style="list-style-type: none"> <li>• Promote initiatives for raising awareness of markets and trends.</li> <li>• Organize trade missions in collaboration with exporters.</li> </ul>
Encourage activities likely to maintain the reputation of NB products.	<ul style="list-style-type: none"> <li>• Organize generic promotional activities for New Brunswick oysters.</li> <li>• Promote the development and implementation of initiatives to disseminate information and promote products in target markets.</li> </ul>
Maintain access to, and relevancy of financial assistance programs for processors.	<ul style="list-style-type: none"> <li>• Maintain the trade and technical mission assistance program for activities directly associated with market prospecting, trade shows, and symposiums.</li> <li>• Through provincial-federal programs, support initiatives that:               <ul style="list-style-type: none"> <li>○ focus on the development of value added products to meet market demand;</li> <li>○ help ensure the continuity of supply/year-round harvesting/storage;</li> <li>○ improve the safety and traceability of products during processing;</li> <li>○ seek to optimize in plant processes.</li> </ul> </li> <li>• Promote the initiatives of enterprises associated with promoting and/or developing trademarks.</li> </ul>

# Objective 3

## Enhancing the business environment

The success of entrepreneurs is closely associated with their management practices. Managers of growing companies are facing several challenges associated with rising costs of operating their farm, financing and debt. To promote the growth and success of businesses, the development of business leaders' entrepreneurial skills must be encouraged. Assistance programs help businesses to meet these challenges, increase their profitability and become more resilient.

In addition, support agencies must be very familiar with and understand the challenges facing enterprises to support them more effectively. Undue delays in the delivery of services or programs can be a source of additional expenses for enterprises. Government agencies must therefore optimize their operating methods to achieve maximum effectiveness.



Priorities	2017-2021 strategic actions
<p><b>Support business expansion projects that focus on increasing or optimizing shellfish production.</b></p>	<ul style="list-style-type: none"> <li>• Improve access to and the delivery of the financial assistance programs offered.</li> <li>• Coordinate the activities of various government stakeholders to optimize the evaluation and funding of development initiatives.</li> <li>• Develop tools that make it easier to draw up production plans and business plans specific to oyster farming.</li> <li>• Make access to financing easier for entrepreneurs who call upon the professional services of experts.</li> <li>• Engage other governmental agencies in finding ways to attract, retain and train workforce.</li> </ul>
<p><b>Develop tools to attract new producers and support existing growers.</b></p>	<ul style="list-style-type: none"> <li>• Produce and disseminate technical and financial information documents on shellfish aquaculture to help entrepreneurs take the most appropriate measures or make decisions.</li> <li>• Ensure that all information relevant to producers is posted promptly on the department's website to make it more easily accessible.</li> </ul>
<p><b>Support best management practices.</b></p>	<ul style="list-style-type: none"> <li>• Together with organizations representing the industry, organize information sessions (e.g., on succession planning, occupational health and safety, business skills, standard operating practices, regulations affecting the industry, etc.).</li> <li>• Support initiatives aimed at adopting culture methods and production practices limiting environmental impacts.</li> </ul>
<p><b>Promote the establishment of collective infrastructures.</b></p>	<ul style="list-style-type: none"> <li>• Support initiatives aimed at maintaining, improving or developing water access points where a rationale for them is demonstrated.</li> <li>• Make the infrastructure needs of the New Brunswick shellfish aquaculture industry known to the federal and municipal levels of government.</li> </ul>

# Objective 4

## Promote the adoption of measures to mitigate the risks to which shellfish production is exposed

An investment environment more favourable to all production levels needs to be established. The industry and governments must therefore work together to develop and encourage the adoption of measures to mitigate the risks to which shellfish aquaculture is exposed. The main concerns of many producers are extreme weather events, pathogenic or invasive organisms, and a limited number of options for ensuring spat supply.

A number of initiatives, in collaboration with Global Trust Inc., have helped to identify risks and develop standard operating procedures (SOPs) for the industry. The aim of these initiatives is to build a production history and encourage the implementation of risk mitigation measures to support the insurability of the industry at an affordable cost. The fact that enterprises are very dependent on spat collection in the natural environment is another cause for concern among producers. Thought needs to be given to how to secure the spat supply. Effective management of shellfish health is essential to the long term economic viability of New Brunswick's shellfish aquaculture industry. Shellfish health management comes under the responsibility of the Department of Agriculture, Aquaculture and Fisheries, CFIA and DFO. The federal agencies are responsible for the National Aquatic Animal Health Program (NAAHP), which is concerned with reportable diseases, invasive aquatic species, and introductions and transfers. The *New Brunswick Health Policy for Shellfish Aquaculture* focuses on diseases of commercial significance not covered by NAAHP, affecting all commercially farmed shellfish in New Brunswick.



Priorities	2017-2021 strategic actions
<p><b>Increase enterprise insurability (equipment and stock).</b></p>	<ul style="list-style-type: none"> <li>• Encourage initiatives designed to provide enterprises with an inventory management system.</li> <li>• Encourage enterprises to develop and implement Risk Management strategies to limit their exposure to risk (biological, business, and climate).</li> <li>• Support industry representatives when they take the needs of New Brunswick's shellfish aquaculture industry in terms of access to stock insurance coverage to federal agencies.</li> </ul>
<p><b>Ensure a secure spat supply.</b></p>	<p><b>Collection in the natural environment:</b></p> <ul style="list-style-type: none"> <li>• Standardize and maintain the oyster spatfall prediction program in the water column.</li> <li>• Together with DFO, develop a management framework for spat collection in the natural environment.</li> <li>• Encourage associations to develop an information sharing website where producers can post their spat requirements or offer spat for sale.</li> </ul> <p><b>Hatchery production:</b></p> <ul style="list-style-type: none"> <li>• Support development of hatchery/nursery when business rationale is demonstrated.</li> <li>• Assess the performance of hatchery produced spat (R&amp;D).</li> <li>• Support research projects where the objective is to produce spat that meet producers' needs (performance and disease resistance).</li> <li>• Assess the New Brunswick industry's long-term spat requirements and export opportunities.</li> </ul>
<p><b>Minimize disease related losses.</b></p>	<ul style="list-style-type: none"> <li>• Continue to implement the <i>New Brunswick Health Policy for Shellfish Aquaculture</i>.</li> <li>• Continue our collaboration in the CFIA's program for monitoring shellfish health on public beds.</li> <li>• Diligently disseminate relevant information to producers.</li> <li>• Make the province's shellfish health concerns known to federal agencies.</li> </ul>

## Objective 5

### Acquire more in depth knowledge of shellfish aquaculture methods and knowledge of the industry to improve production strategies

Support for research and innovation helps to make the shellfish aquaculture sector more adaptable and viable and enables the industry to take advantage of commercial opportunities in domestic and international markets. Although progress has been made in mastering aquaculture techniques, production strategies need to be optimized to increase efficiency and help businesses expand. Entrepreneurs need to include improvements to work methods in their business strategies and continually reflect on how these improvements can be made.

To assess and optimize development activities, data need to be gathered and analyzed. The gathering data on production and industry's social and economic impact should therefore be a departmental priority.



Priorities	2017-2021 strategic actions
<p><b>Improve the gathering and diffusion of pertinent information/statistics concerning the industry.</b></p>	<ul style="list-style-type: none"> <li>• Continue to do an annual count of rearing structures using a standardized approach.</li> <li>• Devise a method for gathering information on the sales volumes of processing companies, broken down by species.</li> <li>• Document wild spat collection annually on a bay-by-bay basis (number of collectors, average number of spat per collector).</li> <li>• Collect information on workforce.</li> <li>• Systematically analyze annual reports provided by producers.</li> <li>• Complete the study of the economic benefits of oyster farming in New Brunswick to secure investment.</li> <li>• Develop tools for documenting the production methods used by enterprises (site visits, surveys, etc.).</li> <li>• Increase producers' awareness of the importance of providing specific, usable information.</li> </ul>
<p><b>Optimize rearing methods.</b></p>	<ul style="list-style-type: none"> <li>• Support research and development initiatives aimed at increasing productivity and improving rearing techniques and strategies.</li> <li>• Promote initiatives aimed at improving the management of biofouling on rearing structures.</li> <li>• Support technical missions, technology transfers, and workshops that provide the industry with information on recent developments and new technologies.</li> <li>• Make the New Brunswick shellfish aquaculture industry's needs for research and innovation programming known to federal agencies.</li> <li>• Together with industry representatives, help organize technical workshops.</li> </ul>
<p><b>Support the diversification of the shellfish aquaculture industry.</b></p>	<ul style="list-style-type: none"> <li>• Support research projects targeting species with commercial harvesting potential.</li> </ul>

# Acknowledgements

The development of this strategy required the collaboration of a large team of people with various backgrounds. We acknowledge the tremendous contribution of the organizations representing the shellfish aquaculture industry and First Nations without whom this strategy could not have been written (listed in alphabetical order):

- Association des Conchyliculteurs Professionnels du Nouveau-Brunswick inc.
- Association des producteurs de mollusques du Nouveau-Brunswick / New Brunswick Shellfish Producers Association
- Kopit Lodge
- Maliseet Nation Consultation Director and Resource Development Consultation Coordinators
- Mi'gmawe'l Tplu'taqnn Incorporated
- Union des pêcheurs-aquaculteurs de l'Est (UPAE / UAFE)

