

Department of Fisheries and Aquaculture Annual Report

2015-16




Newfoundland
Labrador

Fisheries and Aquaculture

As Minister of Fisheries, Forestry and Agrifoods, I am pleased to present the 2015-16 Annual Report for the Department of Fisheries and Aquaculture. I am accountable for the results contained in this report, which was prepared in accordance with the *Transparency and Accountability Act*. This report details the progress that has been made towards achieving the goals and objectives outlined in our 2014-17 Strategic Plan.



Sustainable fishing and aquaculture industries are vital to the economic, social, and cultural fabric of Newfoundland and Labrador. The provincial seafood industry is a key employer and a substantial contributor to Newfoundland and Labrador's economy, with total production value in 2015 exceeding \$1.2 billion. Economic activity generated by the industry provided employment for nearly 17,500 people in more than 400 communities in 2015. The aquaculture industry experienced growth in 2015, mainly due to increased salmonid production. Although a relatively new industry, it has become an important economic driver in rural regions and represents nearly 13 per cent of total seafood industry production value.

Newfoundland and Labrador continues to offer strong competition in global seafood markets. In 2015, the province's seafood products were exported to more than 40 countries worldwide and our seafood exports were valued at \$1.01 billion. Strategic investments in areas such as fisheries science and innovation, aquaculture sustainable management, as well as research and development activities related to aquaculture, production, and marketing, support this economic activity. These investments also ensure we can meet the challenges in both industries and continue to capitalize on new opportunities as they arise.

I am pleased with the department's results attained throughout 2015-16. For 2016-17, under the new Department of Fisheries, Forestry and Agrifoods, I look forward to making progress on the 2016-17 objectives outlined in this report. The department, in partnership with other public sector and industry stakeholders, will continue its work to strengthen and expand our world-class seafood industry for the benefit of the people of Newfoundland and Labrador.

A handwritten signature in black ink that reads "Steve Crocker". The signature is written in a cursive, flowing style.

Steve Crocker, MHA
Carbonear - Trinity - Bay de Verde
Minister of Fisheries, Forestry and Agrifoods



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LAUREN & MITCHELL & CO

Celtic Venture

Randy J.

Brittany M. & Emma

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DO NOT
STEP ON
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INTRODUCTION

The Department of Fisheries and Aquaculture (DFA) supports and encourages the development and sustainability of the province's fishing and aquaculture industries. The department is responsible for the licensing and regulation of fish processing for both sectors, and also works within its mandate to promote, develop, encourage, and conserve these industries for the benefit of the province.

DFA has directly supported the sustainability of the province's growing aquaculture industry and its wild fishery through investments in infrastructure, innovation, and fisheries science. The department supports research and development that will improve harvesting and processing operations, supports the identification and development of opportunities for our seafood products in domestic and international markets, and works with Newfoundland and Labrador seafood companies and organizations to increase market awareness.

This annual report is the second for the 2014-17 planning cycle and reports on the work accomplished throughout 2015-16. It reports on the delivery of commitments set out in the department's previous annual report regarding market development and the sustainability of the fishing and aquaculture industries. It also provides a detailed overview of the highlights, expenditures, and collaborative activities of DFA throughout 2015-16.

VISION

The vision of the Department of Fisheries and Aquaculture is sustainable fishing and aquaculture industries that achieve their optimum economic contribution to the Province of Newfoundland and Labrador.

MISSION

By March 31, 2017, the Department of Fisheries and Aquaculture will have supported both the strengthening of the fishing industry and the expansion of the aquaculture industry to create sustainable and economic opportunities for the province.

MANDATE

The mandate of the Department of Fisheries and Aquaculture is: Realizing the optimum sustainable economic benefit from the fishing and aquaculture industries through the promotion, development, encouragement, conservation, and regulation of fisheries and aquaculture and the provision of long-term strategic direction on the sustainable use of coastal and ocean resources in Newfoundland and Labrador.





LINES OF BUSINESS

POLICY AND PLANNING

The department develops policies and provides advice on fisheries and aquaculture issues in support of resource and industry management, research, growth, and development. Specific activities include fisheries and aquaculture policy review, analysis, and development; review of fisheries management plans and scientific assessments conducted by Fisheries and Oceans Canada (DFO); strategic planning; program development and review; review and analysis of legislation; information management and administration; seafood trade policy research and analysis; collection, compilation, and presentation of statistical data; support to fisheries and aquaculture science; and the completion of economic, financial, and statistical analysis.

Through this line of business, the department maintains close affiliations with other government departments and agencies which have programs that impact on the province's seafood industry. In addition, the department represents the province's interests at national and international venues and provides input into the resource assessment and ocean management processes of DFO and international bodies responsible for fisheries assessment and management. Specifically, the department assesses scientific advice for various stocks and species, participates on resource assessment and management advisory committees, and assesses the impact of development upon fisheries.

The department plays a lead role in fisheries, aquaculture, and integrated ocean management within the province by promoting and supporting initiatives that allow for a coordinated approach to deal with ocean management issues. A focus is placed on those initiatives that impact the province's fishing and aquaculture industries, as outlined in government's Coastal and Ocean Management Strategy and Policy Framework.

INSPECTION, COMPLIANCE, AND REGULATORY ENFORCEMENT

The department performs comprehensive inspection, compliance, and regulatory enforcement duties for the fishing and aquaculture industries within its legislative authority. Fisheries field representatives ensure the seafood industry utilizes proper handling techniques and meets regulatory requirements, and they conduct inspections at fish buying stations, processing plants, aquaculture sites, dockside, and on board vessels throughout the province. In addition, the department is responsible for auditing fish buyers and processors located throughout the province to ensure compliance with regulations, policies, and conditions of licences.



Aquaculture and inspection staff examine aquaculture sites for fish health, compliance with the Code of Containment, and proper site boundary markings. The department also runs programs related to biosecurity, surveillance, and regulation of fish health on aquaculture sites throughout the province. These activities ensure compliance with the *Aquaculture Act* and Regulations, *Fish Inspection Act* and Regulations, and ministerial directives. The department reviews infractions of the acts and directives and takes appropriate legal action.

INNOVATION AND DEVELOPMENT

DFA places a strong emphasis on fisheries and aquaculture research, innovation, and development. The department assists the fishing and aquaculture industries through the provision of technical and financial support in the development of culturing, harvesting, processing, and marketing. Innovation within the fisheries and aquaculture sectors is fostered through extensive interaction with the private sector, industry-related organizations, other government departments, and academia.

The department provides financial assistance for industry-led research and development projects in the fishing industry through the Fisheries Technology and New Opportunities Program (FTNOP). This support includes the following activities:

Harvesting and Resource Development

Although harvesting is an area of federal jurisdiction, DFA's primary focus for this activity is to oversee the design and implementation of fisheries development projects with a focus on the assessment of species with underdeveloped fisheries, enhancing quality, resource surveys, the development of commercial species, and the utilization of appropriate on-board handling technologies aimed at maximizing catch value. DFA is also responsible for providing a range of technical services to the fishing industry, including expertise on vessel efficiency, sustainable fishing technology, and safety.

Processing Development

The goal of this activity is to enhance the productivity and competitiveness of the processing sector with a focus on the development of value-added and secondary production, development of underutilized species, and byproduct recovery. Assistance is provided in the form of technical and financial support related to product development, processing technology, packaging systems, and processing efficiency.



Aquaculture Development

The department provides technical advice and support to the aquaculture industry. This includes the assessment of species and sites, the review of development proposals, and the acquisition of data to explore the technical and/or economic aspects of development. The department also supports sustainable aquaculture through aquaculture health extension services, which provide front-line veterinary medicine, diagnostic services, fish health surveillance, biosecurity audits, evidence-based medicine, and fish health management.

LICENSING AND QUALITY ASSURANCE

DFA is responsible for the issuance of fish buyers' licences, fish processing licences, and aquaculture site licences, as well as the development and implementation of policies and legislation related to each type of licence. The department provides processing licensing policies and procedures to the Fish Processing Licensing Board. The board reviews and makes recommendations to the minister on all requests for new processing licences, transfers of licences, and changes of operator for fish processing plants, as well as appeals for reinstatement of licences cancelled due to inactivity. In its role as a licensing agency for aquaculture, as regulated under the *Aquaculture Act*, the department coordinates input from all relevant provincial and federal departments and agencies, as well as any organizations, groups, or individuals that have an interest in aquaculture development.

Other activities include:

Administration of Licensing Systems and Databases

Administration of the licensing information management systems, online services, and databases includes the collection and analysis of all information associated with fish purchases, production, and employment, and cataloguing the current and past history of fish buyers' and fish processing licences. Data collected includes processing plant production, fish purchases, plant employment, production on aquaculture farms, aquaculture employment, financial information, and inspection information.



Maintenance and Delivery of the Quality Assurance Program

The Quality Assurance Program supports the department's efforts to promote quality awareness in the fishing and aquaculture industries. The department monitors and assesses the quality of fish at dockside, in transport, and as it enters plants for processing; develops and evaluates new techniques to assess quality; produces and disseminates information on quality issues to industry participants; and implements measures for quality enhancement.

SEAFOOD MARKETING

DFA provides marketing support services to the provincial seafood industry and works with industry stakeholders on innovative and collective approaches to seafood market development. The department's primary seafood and fish products marketing activities include:

Market Development

The department works with the seafood industry to increase market awareness of and demand for Newfoundland and Labrador seafood and fish products and to increase exports to markets throughout the world. Marketing support services offered to industry include participation in trade shows and missions, advertising, foodservice and retail promotions, education, and support for private sector market and trade development initiatives.

Market Intelligence and Analysis





DFA provides market analysis and support by coordinating the collection and dissemination of timely market intelligence and information to industry stakeholders. Market information is provided to the Standing Fish Price-Setting Panel (in support of fish price collective bargaining initiatives), processor and harvester associations such as the Association of Seafood Producers, the Seafood Processors of Newfoundland and Labrador, and the Fish, Food and Allied Workers (FFAW). Information is also provided to the Newfoundland Aquaculture Industry Association (NAIA) and aquaculture companies to support strategic market development efforts.

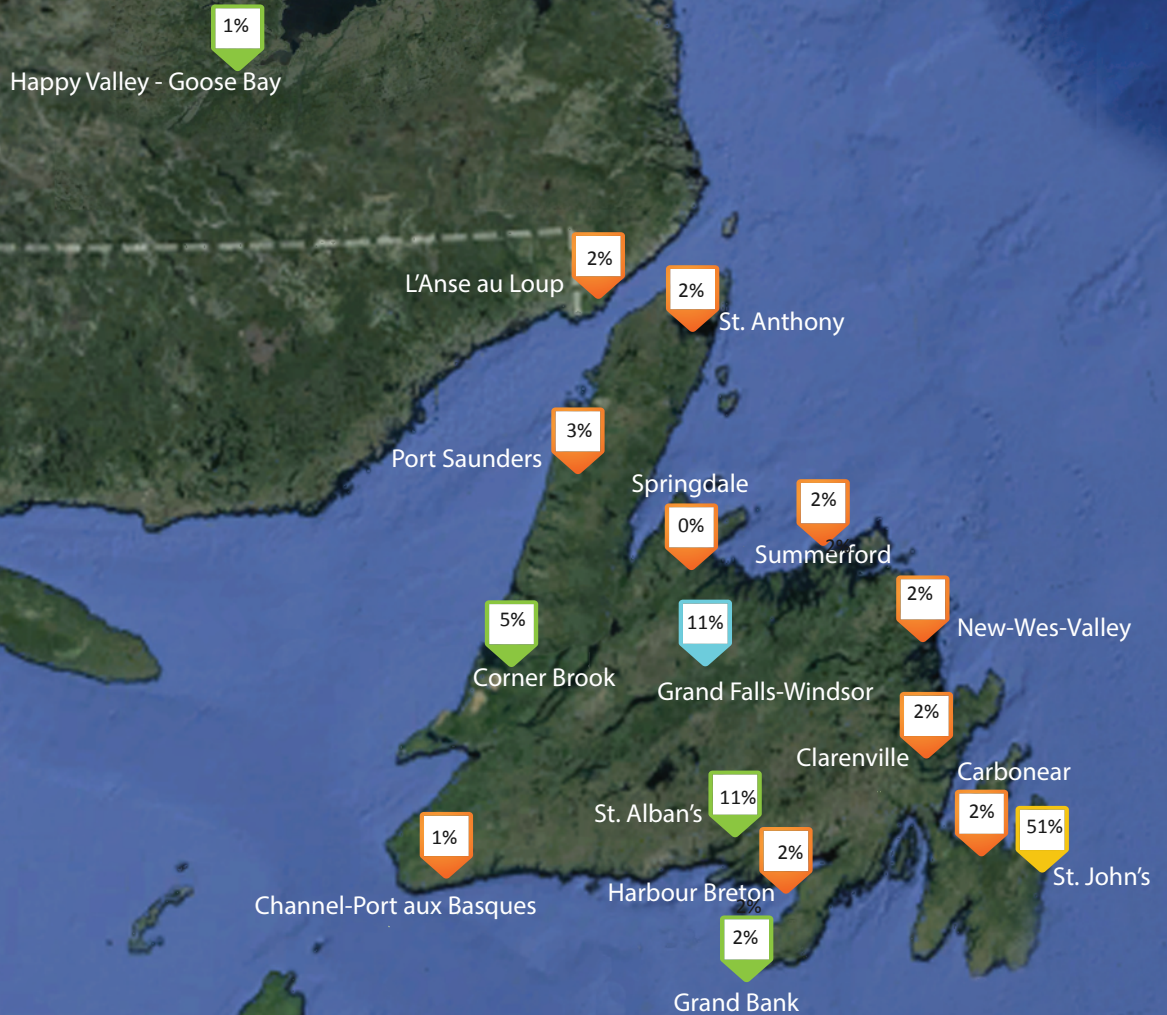
Outreach

The department interacts with other Provincial Government departments, the governments of other seafood-producing provinces, federal departments and agencies such as the Atlantic Canada Opportunities Agency, Agriculture and Agri-Food Canada, DFO, and Global Affairs Canada to coordinate participation in various trade shows and missions, and to cooperate on joint marketing and promotional activities.

Departmental Map

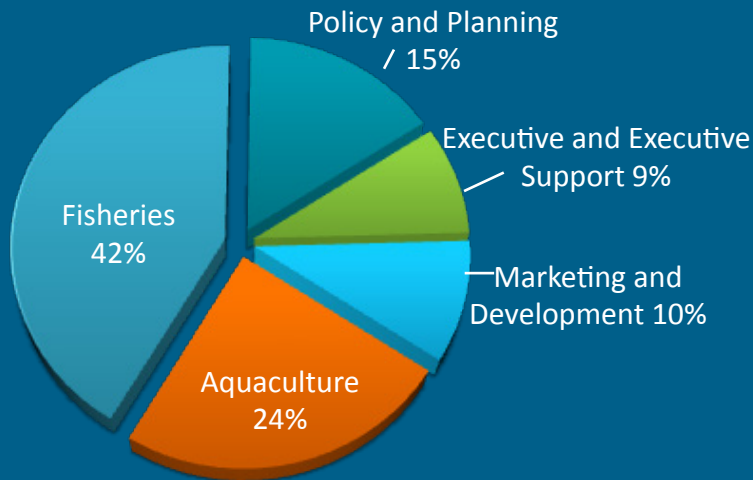
DFA headquarters is located in St. John's and the Aquaculture Branch main office is located in Grand Falls-Windsor. The department had 4 regional offices and 10 satellite offices situated throughout the province in 2015-16. The percentage (rounded) of departmental staff located at each office is indicated (not including vacant positions)*.

-  Department of Fisheries and Aquaculture Regional Offices
-  Department of Fisheries and Aquaculture Satellite Offices
-  Department of Fisheries and Aquaculture Headquarters
-  Aquaculture Branch Headquarters



*Note the percentage rounded may not equal 100.

EMPLOYEE DISTRIBUTION BY CATEGORY

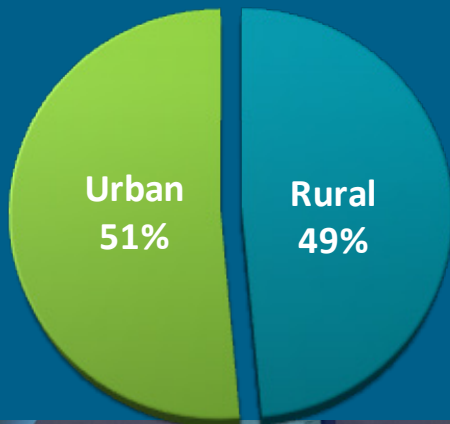


NUMBER OF EMPLOYEES

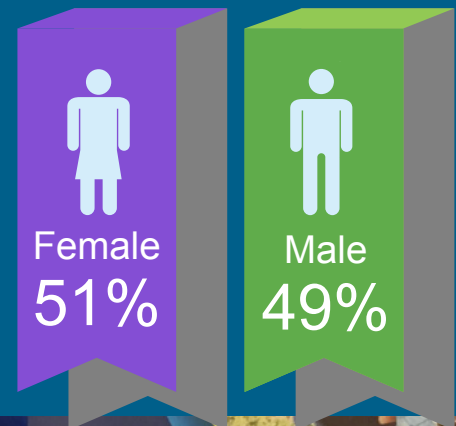
The department employs 103 people, working in 4 broad categories:

- a) Fisheries;
- b) Aquaculture;
- c) Marketing and Development; and
- d) Policy and Planning.

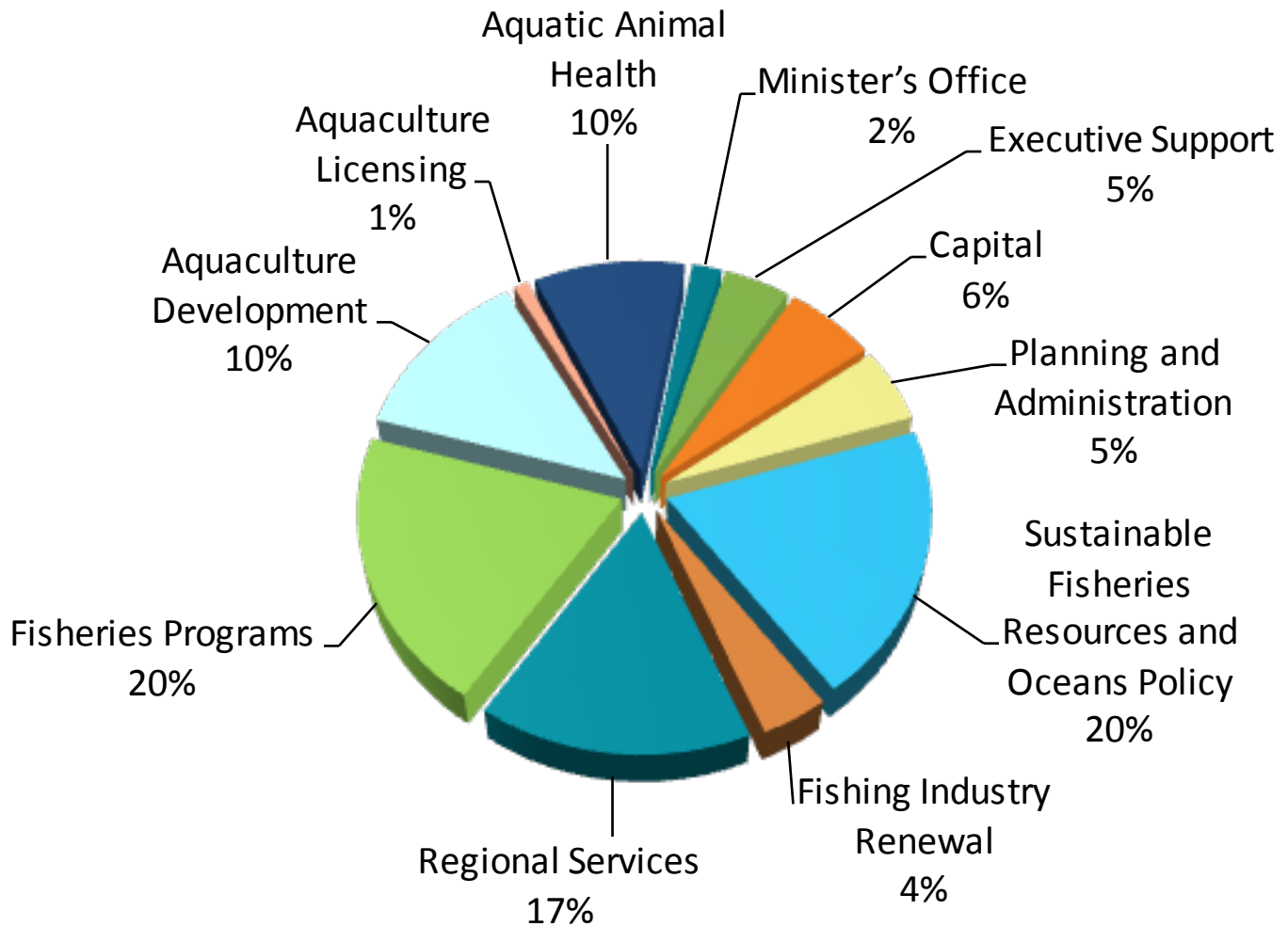
EMPLOYEE DISTRIBUTION BY RURAL/URBAN



EMPLOYEE DISTRIBUTION BY GENDER



DISTRIBUTION OF ACTUAL NET EXPENDITURES 2015-16*



*Note: Based on Statement (Unaudited) of Expenditures and Related Revenue. See Appendix A

LEGISLATION

The department's work is guided by the following provincial and federal legislation:

Provincial Legislation

- *Aquaculture Act* and Regulations
- *Business Investment Corporation Act* (Fisheries Loan Guarantee Program)
- *Fish Inspection Act* and Regulations
 - Fish Inspection Administrative Regulations
 - Fish Inspection Operations Regulations
 - Fish Inspection Ticket Offences Regulations

- *Fish Processing Licensing Board Act*
- *Fisheries Act* (Schedule C of the *Executive Council Act*)
- *Fisheries Restructuring Act*
- *Fishing Industry Collective Bargaining Act*
- *Professional Fish Harvesters Act*

Federal Legislation

- *Fisheries Act*
- *Fish Inspection Act*
- *Oceans Act*
- Marine Mammal Regulations
- *Species at Risk Act*



Working with industry stakeholders and developing strong partnerships are vital to fulfilling the strategic goals and objectives of the department. In 2015-16, the department collaborated on a variety of initiatives with academic institutions, other Provincial and Federal Government departments, public bodies, and stakeholders from various areas of the fishing and aquaculture industries.

The following are examples of collaborative activities the department engaged in that support the department's commitment to strengthen the roles of the fishing and aquaculture industries as key pillars of economic growth within the province through a focus on the core objectives of fisheries sector viability, market development and expansion, capitalizing on new opportunities, and sustainable development and management.

In 2015-16, DFA contributed to the viability of the fishing industry through its participation in a number of regional, provincial, and national committees which can be found on page 34. DFA's participation on these committees helps provide input and advice into the sustainable management of fish stocks, and protects the interests of the province's fishing industry. For example, DFA attended the Northern Shrimp Advisory Committee annual meeting to provide advice on issues such as the total allowable catch and other management measures, including access and allocation. The Northern Shrimp Advisory Committee is a cooperative effort between representatives of the northern shrimp industry (inshore and offshore licence holders, as well as special allocation holders), DFO, and government representatives from Atlantic Canada, Quebec, and Nunavut.

DFA also participated in a DFO-organized meeting to assess the risk that recreational boating poses with respect to the introduction and spread of aquatic invasive species. Advice generated from this meeting will be used to inform targeted research, monitoring activities, communication efforts, potential policy/regulatory changes, and the overall management of this sector.

To support the viability of the fishing industry, DFA also partook in federal science advisory processes to provide advice and input regarding resource status and to participate in the peer review of scientific information on the province's fisheries resources. The results from these science processes inform the establishment of management measures for the province's fish stocks. DFA participated in the following science advisory processes in 2015-16:

- Northwest Atlantic Fisheries Organization (NAFO) Subdivision 3Ps cod stock assessment*
- NAFO Subdivision 3Ps white hake stock assessment
- Assessment of Newfoundland and Labrador snow crab
- Northern cod stock assessment
- Assessment of northern and striped shrimp

* A map of all subareas in the NAFO Convention Area can be found at <http://www.nafo.int/about/frames/area.html>

SHARED COMMITMENTS



DFA was also a member of a number of working groups with DFO and industry in relation to establishing rebuilding plans for various groundfish stocks. These groups are focused on establishing precautionary approach frameworks, including northern cod, which will allow for continued growth of these stocks. This process will help stocks meet third-party certification requirements when full commercial fishing resumes. Participating members of these working groups also include the World Wildlife Fund (WWF), FFAW, Seafood Producers of Newfoundland and Labrador, Fogo Island Co-op, and the Groundfish Enterprise Allocation Council.

In 2015-16, DFA provided financial support towards collaborative fisheries research activities to contribute to fisheries sector viability. Funding was provided to the FFAW and the Centre for Ecosystems Research (CFER) to conduct tagging of Atlantic halibut to investigate its movements and distribution in the Gulf of St. Lawrence, and to also investigate the possibility of mackerel spawning off the northeast coast. Funding was also provided to the FFAW to carry out annual research projects on cod, lobster, and snow crab in areas around the province to help inform the status of this resource. The above initiatives were conducted in collaboration with DFO. In addition, funding was provided towards a study to enhance understanding of snow crab biology, which is being conducted by DFO and the University of New Brunswick. Funding was also provided to Memorial University to gain a better understanding of the aquaculture potential of the province's sea cucumber resource.

In an effort to promote professionalism and skills development among commercial sealers, DFA supported and participated in the delivery of the Professional Fish Harvesters Certification Board's humane harvesting and quality/handling/health workshops for commercial sealers throughout the province in 2015-16. Given that DFO now requires commercial seal harvesters to complete this training as a condition of licensing, this is a vital component of the department's support for the sealing industry in the province. The department is pleased to have supported this shared commitment with the Professional Fish Harvesters Certification Board again in 2015-16, as it has since 2011.

SHARED COMMITMENTS



To foster market development and expansion opportunities in the seafood industry, the department collaborated with a number of industry stakeholders in 2015-16. Many of these initiatives also allowed the seafood industry to capitalize on new opportunities.

In 2015-16, DFA continued to work with industry, other Provincial Government departments, the Federal Government, and other jurisdictions to expand market access and address seafood tariffs to facilitate market development and expansion.

In partnership with the Restaurant Association of Newfoundland and Labrador, the Newfoundland and Labrador Chef's Association, and the Forestry and Agrifoods Agency, DFA supported "From This Rock" culinary events promoting Newfoundland and Labrador agrifood and seafood products. In conjunction with the Newfoundland and Labrador Chef's Association, DFA promoted seafood products at local events such as "Food Day Canada" in St. John's and "The Gathering" in Burlington, Newfoundland and Labrador.

In support of market development and expansion, the department worked with the other Atlantic Canadian provinces to develop videos and print material promoting local seafood (shrimp, mussels, and oysters) to chefs and culinary students. Additionally, videos that were previously developed through these partnerships for lobster, crab, and salmon were translated into seven languages and shown at trade shows and promotional events. These materials were also distributed to seafood companies to complement their marketing activities.

Under the Atlantic Canada Exports banner, the Atlantic provinces continue to work together to promote Atlantic Canadian seafood and capitalize on new opportunities in new and existing markets. The group shared the cost of maintaining the Atlantic Canada Exports website, in addition to advertising and promotional events related to Seafood Expo Global, the China Fisheries and Seafood Expo, and Seafood Expo North America. A cost-shared program between the Atlantic provinces and the Atlantic Canada Opportunities Agency provided the majority of the funding for these projects.

In collaboration with other Atlantic provinces, as well as the Canadian Trade Commissioner Service, DFA organized promotional and matchmaking events around several of these trade shows. Prior to Conxemar, an international frozen seafood products exhibition, a matchmaking session and networking reception was held in Lisbon, Portugal, with Atlantic Canadian companies and some of Portugal's major retailers, seafood distributors, and foodservice providers. During Seafood Expo Asia, a two-week Atlantic Canadian seafood promotion was held at a high-end hotel/restaurant which was launched with a media event. In the days following the media event, the Atlantic seafood promotion appeared on Facebook, Instagram, blogs, websites, and a daily online newspaper.



ONLINE SERVICES

As reported in 2014-15, the department capitalized on new opportunities in technology by working with the Office of the Chief Information Officer and with companies from the processing sector to test the prototype of the department's new online licensing service. In 2015-16, testing concluded and the system was launched. This new online service allows fish processors to submit renewal applications and reports, as well as pay licence fees, electronically.

The department needed to upgrade multiple systems used for inspections and licensing of processing plants and aquaculture sites. Extracting and analyzing information from these systems often took a significant amount of time and resources. The new system supports a holistic view of the department's data to support decision-making. In addition, the following benefits are realized in one system: reduced application and renewal processing times; integration with Geographic Information Systems technology; reduction in the volume of paper documents sent and received by the department; simplified collaboration between branches of the department; and the ability for clients to submit and review information online.

This project resulted in long-term change, specifically related to workflow and accountability processes pertaining to fisheries and aquaculture licensing and inspection. At the end of this reporting period, 75 per cent of processing companies had registered to use the system. This number is expected to approach 95 per cent in the next year.

SHARED COMMITMENTS



The department worked with many partners in 2015-16 on initiatives to address the sustainable development and management of both the fishing and aquaculture industries.

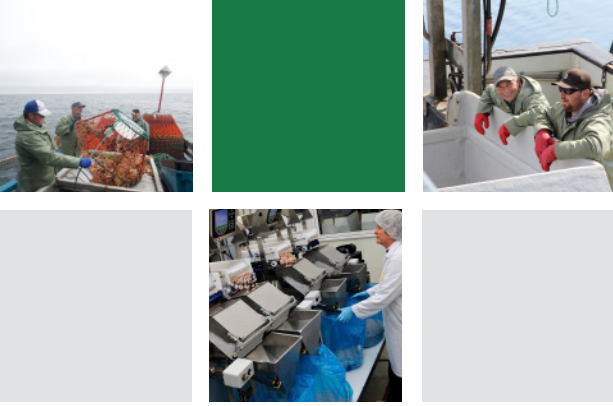
DFA helped organize World Oceans Day activities along with representatives from DFO, WWF, the FFAW, Canadian Parks and Wilderness Society, and the Fisheries and Marine Institute of Memorial University (MI). World Oceans Day is an annual celebration that encourages people around the world to recognize the significance of the ocean from a cultural, economic, and resource standpoint and as an important habitat for an abundance of marine life.

In 2015-16, the department also worked with stakeholders to support the sustainable development and management of the aquaculture industry. In doing so, DFA drafted an Aquaculture Waste Management Action Plan with input from industry and government stakeholders. DFA continued to engage with DFO and other Canadian jurisdictions, through the Canadian Council of Fisheries and Aquaculture Ministers and its sub-groups, in the ongoing implementation of the new Federal Aquaculture Activities Regulations to identify areas of federal-provincial cooperation. As discussed further in the performance section of this report, the department also worked with NAIA and the Department of Advanced Education and Skills (AES) to initiate a labour market analysis for the aquaculture industry to identify labour market issues, anticipated future labour requirements, and potential new labour entrants.

AQUACULTURE PRODUCTION

In 2015, the Newfoundland and Labrador aquaculture industry rebounded following a significant decline in production in 2014. Total production in 2015 was more than double 2014 levels, growing from 9,240 tonnes to 22,815 tonnes. Market value saw similar increases, rising 172 per cent, from approximately \$59 million in 2014 to just over \$161 million in 2015. The majority of the growth was due to increased salmonid production which rose more than three times compared to 2014 levels, in terms of both production volume and market value.

The drop in production and associated product losses seen in 2014 were the result of impacts from Infectious Salmon Anaemia virus and super chill events between 2012 and 2014. Mitigation strategies such as contingency planning and robust monitoring by the Department of Fisheries and Aquaculture helped mitigate the impacts and facilitate the turnaround observed in the past year. The industry is on track to rebound to historic production highs over the next year.



STRATEGIC ISSUE 1:

FISHING INDUSTRY SUSTAINABILITY

GOAL:

By March 31, 2017, the Department of Fisheries and Aquaculture will have supported the fishing industry in becoming more sustainable and viable.

OBJECTIVE 2:

By March 31, 2016, the Department of Fisheries and Aquaculture will have supported the fishing industry to become more sustainable.

MEASURE:

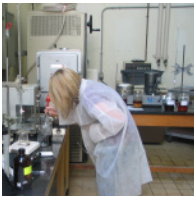
Supported the fishing industry to become more sustainable.

INDICATORS:

- Supported the development and testing of innovative harvesting technology
- Invested in fisheries science
- Participated in planning for the recovery of northern cod
- Supported activities that enable fisheries to meet sustainability certification criteria

OPENING DISCUSSION

The Newfoundland and Labrador fishing industry remains a key employer and contributor to the provincial economy, particularly in rural areas. Thus, the long-term social, cultural, and economic sustainability of the fishing industry is vital to the province. In 2015-16, the department worked towards its second year's objective under the Strategic Plan 2014-17 to provide support for a more sustainable fishing industry. This work included support for the development and testing of innovative harvesting technology to foster efficiency, quality, and diversification, as well as investments in fisheries science to support the long-term sustainability of provincial fisheries resources. The department participated in planning for the recovery of northern cod to support the sustainability of the fishing industry as it faces a challenging regime shift. DFA also supported activities that enable fisheries to meet sustainability certification criteria in order to maintain and improve the competitive position of the industry. These supports and investments will contribute to fishing industry sustainability.



STRATEGIC ISSUE 1

RESULTS

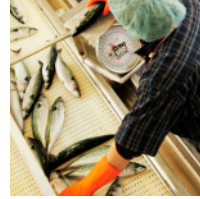
SUPPORTED THE DEVELOPMENT AND TESTING OF INNOVATIVE HARVESTING TECHNOLOGY

In 2015-16, the department supported the development and testing of innovative harvesting technology by funding the following projects through FTNOP.

- Approximately \$100,000 in funding to Haley Bear Enterprises to purchase and test a multi-species auto longline system. While the use of longline is not a new harvesting method, the multi-species (cod, turbot, and halibut) approach of this project is new. The ability to have a diversified fishing enterprise ensures a higher chance of success in an industry that can be highly variable from year to year. Longline harvested fish also has superior quality, as opposed to harvesting with trawls or gillnets, resulting in higher market prices for harvesters. Longline harvesting is also considered to have a smaller impact on the marine environment and vessels use less fuel when using this harvesting method.
- Approximately \$38,000 in funding to Torngat Fish Producers Cooperative Society for the development of new arctic char harvesting technology. This technology will allow for harvested fish to be live bled and stored properly at sea to maximize quality, resulting in higher market prices for harvesters. A portion of the project funding will also be used to evaluate traditional scallop fishing technology to determine the best vessel design to enable local fishers to utilize one vessel size/design for both char and scallop fisheries.
- Approximately \$16,000 funding to CHY Enterprises to purchase and install an automatic net stacking system (Gillnet Fleeter). This new system uses a hydraulic device to haul and fleet nets at high speeds, and allows crew members to sort fish at comfortable working positions, reducing muscle strain and fatigue for crew members. The Gillnet Fleeter is also gentler on the fish, which provides a better quality product, resulting in higher market prices for harvesters.
- Approximately \$25,000 funding to MI to study the effectiveness of LED lights inside shrimp trawls in reducing the incidence of bycatch, mainly capelin, juvenile redfish, and juvenile turbot.

INVESTED IN FISHERIES SCIENCE

In 2015-16, DFA invested \$2.6 million to support world-class fisheries science at CFER. Since 2010, the Provincial Government has provided more than \$15 million to CFER to support the long-term sustainability of provincial fisheries resources. In addition to enhancing fisheries science capabilities in Newfoundland and Labrador, CFER also continued to offer fisheries research and training opportunities to graduate students both locally and internationally in 2015-16.



STRATEGIC ISSUE 1

To support CFER's research activities in 2015-16, the state-of-the-art fisheries research vessel RV Celtic Explorer was chartered for a fifth consecutive year to conduct research with a focus on surveys, stock assessments and sustainable fisheries, ecosystems structure and change, and climate and fisheries influences, as well as species biology, ecology, and behaviour.

DFA's Fisheries Research Grant Program also funded several research initiatives in an effort to partner with the fishing industry and academia to enhance fisheries science collaboration within Newfoundland and Labrador. Research activities included satellite tagging projects (cod and halibut) and stock assessments activities (post-season snow crab survey, lobster science log book, and at-sea sampling initiative, quantification of mackerel spawning, etc.)

DFA also provided financial assistance under the Fisheries Innovation and Development Division Grant Program (\$6,250) and the Fisheries Research Grant Program (\$5,000) for year one of a three-year study by the Ocean Sciences Centre to study the life cycle of sea cucumbers and determine opportunities for farming this species. There is limited information on the biology of sea cucumber, such as size-at-age and productivity/yield, which makes it difficult to ensure the sustainable utilization of the resource. The project involves investigating the relationship between size and age as well as multiple components to also support the development of aquaculture technologies for sea cucumber.

PARTICIPATED IN PLANNING FOR THE RECOVERY OF NORTHERN COD

In October 2015, DFA funded and participated in a processors delegation trip to Iceland to view innovative processing technology and processing operations for codfish. The information collected from activities during the trip will enable the department and stakeholders to consider best practices in groundfish harvesting and production as it plans for the anticipated growth of northern cod and other groundfish stocks in Newfoundland and Labrador.

Though it did not meet during the reporting period, a working group consisting of DFO, DFA, industry representatives, CFER, and the WWF is developing a rebuilding plan for northern cod. The plan will include rebuilding targets and harvest control rules to guide management decisions. DFO anticipates that the rebuilding plan will be finalized by 2017.

As directed in the minister's December 2015 mandate letter, DFA committed to the creation of a fisheries advisory council. Recognizing the need to prepare for opportunities arising from the return of groundfish, the council's first task will be the preparation of a cod revitalization plan. In this fiscal year, DFA undertook the necessary preliminary work to allow for the establishment of this council in 2016-17.

DFA also participated in the regional assessment process for northern cod held from March 21 to March 31, 2016. This was a particularly important process to provide input into planning for the recovery of northern cod because DFO is planning for its first full assessment of northern cod early in 2016-17.



STRATEGIC ISSUE 1

As discussed below in further detail, participation in and funding of Fisheries Improvement Projects (FIPs) related to northern cod, while pursued with the intent of obtaining Marine Stewardship Council (MSC) certification, is directly linked to northern cod recovery, as rebuilding plans are often critical elements of stocks gaining certification.

SUPPORTED ACTIVITIES THAT ENABLE FISHERIES TO MEET SUSTAINABILITY CERTIFICATION CRITERIA

The MSC is an international non-profit organization that was created to assess and certify fisheries as sustainable based on three core principles: sustainable fish stocks, minimizing environmental impact, and effective management. Many major seafood retailers have committed to sourcing only seafood that has been certified as sustainable by eco-labels such as MSC. For fisheries that have not been certified as sustainable, retailers will generally continue sourcing from those fisheries that are demonstrating progress towards achieving certification. This progress must typically be demonstrated through engagement in an FIP that helps move a fishery towards meeting or exceeding the standards of MSC or an equivalent eco-label.

In 2015-16, DFA provided funding to the WWF towards a northern cod FIP as a precursor to obtaining MSC certification. This funding supported the completion of a pre-assessment to identify obstacles that would preclude the northern cod fishery from achieving MSC certification. DFA provided funding to the Association of Seafood Producers towards a separate FIP established for northern cod, which supported the completion of a habitat and bycatch analysis. DFA also participated in working group meetings for the project.

DFA participated in an FIP working group process for NAFO Divisions 3LNO American plaice and provided funding through marketing grants to assist the NAFO Divisions 3LN redfish fishery in obtaining sustainable seafood certification.

DFA provided funding to undertake a full MSC assessment for the NAFO Divisions 3Ps Atlantic cod fishery and worked with an assessment team comprised of industry (Icewater Seafoods Incorporated and Ocean Choice International) and government stakeholders. This fishery obtained MSC certification in March 2016.



STRATEGIC ISSUE 1

DISCUSSION OF RESULTS

During 2015-16, the department was successful in addressing the issues of fishing sustainability through its various supports to industry. Investments in innovative harvesting technology contribute to a viable fishing industry by helping improve the quality of landed catch, resulting in higher market prices for harvesters. Improving quality of the landed catch also allows the industry to expand into high-end markets. Continued investments in fisheries science is resulting in a better understanding of fisheries ecosystems, helping inform decision-making that contributes to the sustainable management of the province's fishery. Given the recently observed ecosystem changes and resurgence of the northern cod stock, it was important that the department participate in planning for the recovery of northern cod. In 2015-16, DFA supported activities that enabled fisheries to meet sustainability certification that will enhance the marketability of the province's fishing resources, allowing the industry to capitalize on new market opportunities.

OBJECTIVE FOR 2016-17

OBJECTIVE 3:

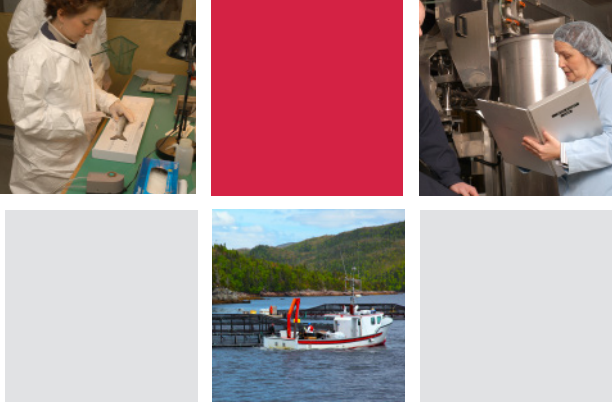
By March 31, 2017, the Department of Fisheries and Aquaculture will have implemented programs to better support the fishing industry to become more sustainable and viable.

MEASURE:

Implemented programs to better support the fishing industry to become more sustainable.

INDICATORS:

- Implemented a development program to support innovation and transition to a more groundfish-centric fishing industry
- Established a fisheries advisory council
- Reviewed and implemented changes to existing departmental programs to support a more sustainable fishing industry



STRATEGIC ISSUE 2:

AQUACULTURE SUSTAINABILITY

GOAL:

By March 31, 2017, the Department of Fisheries and Aquaculture will have supported improved sustainability of the aquaculture industry.

OBJECTIVE 2:

By March 31, 2016, the Department of Fisheries and Aquaculture will have updated aquaculture regulations and policies to foster the sustainability of the aquaculture industry.

MEASURE:

Updated aquaculture regulations and policies to foster the sustainability of the aquaculture industry.

INDICATORS:

- Supported the implementation of items identified under the Newfoundland and Labrador Sustainable Aquaculture Strategy 2014:
 - Aquaculture sustainable management
 - Aquaculture support capacity
 - Aquaculture research and development
- Reviewed aquaculture policies and procedures

OPENING DISCUSSION

The Newfoundland and Labrador aquaculture industry is an increasingly important economic driver for rural regions of the province. The department is committed to the continued development of the industry through the utilization of strategies that promote social, economic, and environmental sustainability. The Newfoundland and Labrador Sustainable Aquaculture Strategy 2014 (the Strategy) was released in December 2014. The document outlines three strategic priorities for the aquaculture industry: sustainable management, support capacity, and research and development, and identifies departmental actions to address each. During 2015-16, the department prioritized three work items under the Strategy: waste management planning for the aquaculture industry, a review of the Aquaculture Licensing Policy and Procedures Manual, and the ongoing oceanographic work to further inform Bay Management Area refinement and development. Additional work towards other strategic initiatives was also completed throughout the 2015-16 fiscal year. In 2015-16, the department began implementation of items identified under the three strategic priorities identified in the Strategy and reviewed policies related to aquaculture licensing and development.



STRATEGIC ISSUE 2

RESULTS

SUPPORTED THE IMPLEMENTATION OF ITEMS IDENTIFIED UNDER THE NEWFOUNDLAND AND LABRADOR SUSTAINABLE AQUACULTURE STRATEGY 2014: AQUACULTURE SUSTAINABLE MANAGEMENT

Aquaculture sustainable management is one of the strategic priorities of the Strategy. In 2015-16, the department undertook several activities to address waste management planning for the aquaculture industry. Waste management is a vital component of a biosecurity regime and is necessary for the continued sustainability of the aquaculture industry. DFA engaged stakeholders from other Provincial Government departments and agencies, as well as industry, to contribute to a provincial waste management strategy. Between spring and fall 2015, the department sought input from departments and agencies with an interest in, or responsibility for, environmental and waste management. Input from industry was also sought through NAIA. Feedback was used to inform the structure and scope of an aquaculture waste management action plan. In addition, the department supported the second phase of an industry-led initiative to explore the potential for commercial-scale ensiling operations for the aquaculture industry. Ensiling helps aquaculture companies better manage waste by making fish fodder or fertilizer from it, and the process also adds to biosecurity levels in the industry. During this period, NAIA sourced the manufacturing of equipment required to conduct commercial-scale ensiling operations. A demonstration project is expected to begin in spring 2016.

The department also undertook work related to several other strategic initiatives identified under aquaculture sustainable management during 2015-16, including continuation of the surveillance and biosecurity audit programs, and participation in the federal process to develop and implement the federal Aquaculture Activity Regulations.

INVESTMENT IN AQUACULTURE EXPANSION

Northern Harvest Sea Farms is the largest aquaculture producer in the province and is the world's first salmon company to achieve four-star Best Aquaculture Practices status from the Global Aquaculture Alliance.

In 2015-16, DFA invested \$8.15 million in Northern Harvest Sea Farms through the Aquaculture Capital Equity Program to support a \$17.6 million expansion of its salmon aquaculture operations in the province. This significant investment will increase production capacity in the sector and is anticipated to increase the company's employment from 145 to 180 full-time equivalent positions.

The funding provided will go towards capital asset investments in grow-out technology, including automatic feeding systems, nets, cages, underwater lighting, mooring, and service vessels. These investments will increase the company's production of Atlantic salmon which the company intends to process locally.

The economic impact of this development will benefit the entire Coast of Bays region, resulting in an increase of approximately \$55 million in provincial Gross Domestic Product, 772 person years of employment, and an additional \$30 million in wages, salaries, and benefits over the next 10 years.



STRATEGIC ISSUE 2

In 2015-16, the department continued to invest in oceanographic research to support aquaculture sustainable management practices and future expansion of the industry with the allocation of \$240,000 for this initiative. The research will inform the further development and enhancement of salmon aquaculture Bay Management Areas for Newfoundland and Labrador. This work provides sound scientific data to manage and ensure the continued success and long-term sustainability of this growing industry by enhancing health and biosecurity.

AQUACULTURE SUPPORT CAPACITY

Another priority of the Strategy is aquaculture support capacity, under which the department focused its efforts on reviewing the current governance structure for the aquaculture industry. In addition to conducting a comprehensive internal review of policies and procedures related to the aquaculture industry (see indicator two below), the department continued engaging with other provincial departments and agencies through the Deputy Ministers' Aquaculture Planning Committee and worked with NAIA and AES to initiate a labour market analysis for the aquaculture industry.

The Deputy Ministers' Aquaculture Planning Committee met on June 12, 2015. Senior management from nine provincial departments and agencies met to discuss the implementation of the Strategy and the priority initiatives for 2015-16. Items on the agenda included the economic impact of aquaculture and waste management options for the industry. The committee expects to meet again in 2016-17.

The department also engaged in work to initiate a labour market analysis, which would include a training capacity review, and an attraction and retention strategy for the aquaculture industry. This analysis has been identified as a strategic priority to support the growth and sustainable management of the aquaculture industry. In May 2015, DFA had preliminary meetings with AES to determine options for developing a labour market profile for the sector. AES's Labour Market Partnerships Program was subsequently identified as a potential funding source that required an industry partner. In spring 2015, NAIA was engaged as an industry partner in the project, and in October 2015 it submitted a proposal to AES. During the first quarter of 2016, government conducted an internal review of the proposal and in March a committee was established to oversee the project. NAIA is currently developing a request for proposals to complete the work, and the project is expected to begin in fall 2016.

DFA, along with the Department of Business, Tourism, Culture and Rural Development, also invested \$1.5 million in infrastructure to refurbish the Harbour Breton wharf and introduce new pre-rigor processing technology at the fish plant in the community. The wharf at Harbour Breton is a significant piece of regional infrastructure for the expanding aquaculture industry in the Coast of Bays region. This is the first time this technology will be used in Newfoundland and Labrador and it will assist in producing seafood of the freshest and highest quality.

As outlined in the following indicator, the department supported research and development projects through FTNOP, some of which have the added benefit of enhancing aquaculture support capacity.



STRATEGIC ISSUE 2

AQUACULTURE RESEARCH AND DEVELOPMENT

Continuous research and development is key to the sustainability and viability of the aquaculture industry. Research and development informs sustainable development by encouraging evidence-based management decisions, while innovation enhances competitiveness. The department was involved in several initiatives under the research and development priority during 2015-16, including biophysical data collection to inform sustainable management, ongoing oceanographic research to support the further development of salmon aquaculture Bay Management Areas, ongoing aquatic invasive species monitoring for the shellfish sector, and continued monitoring of closed containment advancements globally.

Through FTNOP, the department also supported a number of innovative research and development projects, as follows:

- Provided approximately \$38,000 funding to Merasheen Oysters Inc. to acquire a Floating Upweller System (FLUPSY) to grow oysters. The FLUPSY system is a floating raft that is moored in warm, nutrient-rich, brackish water. The proposed FLUPSY will have the capacity to house five million oyster spat each spring and kickstart their growth before being transferred to the marine sites for final grow-out. This system allows for a higher survival rate than oysters that are directly placed into marine sites, providing the company with enough juveniles to sustain a commercial level of oysters annually.
- Provided approximately \$65,000 funding to Nova Fish Farms for the fourth phase of an ongoing project to test the viability and performance of a Danish-origin strain of trout. The main goal of this project is to provide local trout growers with a hardy strain of fish that have better survivability at sea-entry, a very critical stage where current strains have difficulties and experience unsatisfactory mortality rates.
- Provided \$100,000 in funding to the Ocean Sciences Centre to support research into alternative methods for sea lice management using native cunner and lumpfish as “cleaner fish” for cultured Atlantic salmon. This project has the potential to enhance capacity in our province and assist salmon farmers with sea lice management.
- Provided approximately \$41,000 to LBA Enterprises Ltd. to construct a through-ice mussel harvesting unit and associated equipment which would allow the company to access product during times of the year when mussels cannot currently be harvested. The proposed equipment, the first of its kind, will help ensure a consistent supply of product to the marketplace which will help gain new customers and maintain existing clients.

REVIEWED AQUACULTURE POLICIES AND PROCEDURES

The Aquaculture Licensing Policy and Procedures Manual (the Manual) is the major policy document which guides the aquaculture industry. Policies related to licensing, development, aquatic animal health, and inspections are currently included in the document. The Manual has not undergone a comprehensive update since 2004; revisions have been policy-specific. However, recent industry growth and changes to the management of the industry have highlighted the need to conduct a complete review and update the Manual to address those changes.



STRATEGIC ISSUE 2

The department engaged in several activities in 2015-16 to provide the necessary background work for updating the Manual. During spring and summer 2015, the Aquaculture Branch completed an initial review of the Manual to identify areas to be considered during the amendment process. As well, frontline Aquaculture staff reviewed stakeholder feedback collected during 2010 and 2013 industry consultations to identify comments related to aquaculture licensing and incorporate any applicable suggestions. DFA established an Aquaculture Policy and Procedures Manual Review Working Group to oversee the review and amendment process. The working group had its inaugural meeting in August 2015 and results of the internal review were presented to senior management and other working group members. Amendments are anticipated to be finalized in 2016.

DISCUSSION OF RESULTS

During 2015-16, the department was successful in fostering the sustainability of the aquaculture industry. Work towards waste management planning, along with biosecurity auditing and ongoing oceanographic research, will support biosecurity and improved environmental sustainability for the industry as a whole. Investments in support capacity, particularly the development of a labour market profile for aquaculture, will provide valuable information to help ensure economic sustainability for the regions where aquaculture is occurring. Industry-led research, supported through FTNOP, will encourage innovation that, in turn, will support the long-term sustainability of aquaculture in the province. Amendments to the governance structure will ensure that current industry practices are in line with departmental goals for sustainable management. Work in 2016-17 will build on, or complement, the work completed in 2015-16 and will be focused on initiatives that foster industry sustainability.

OBJECTIVE FOR 2016-17

OBJECTIVE 3:

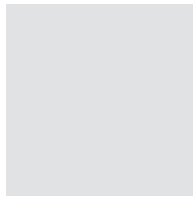
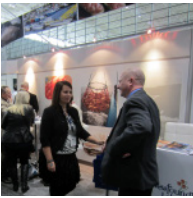
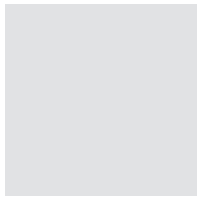
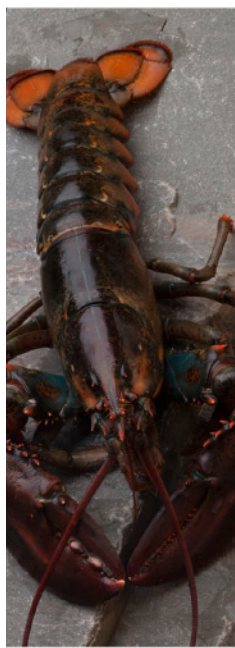
By March 31, 2017, the Department of Fisheries and Aquaculture will have commenced the implementation of initiatives to foster the sustainability of the aquaculture industry.

MEASURE:

Commenced the implementation of initiatives to foster the sustainability of the aquaculture industry.

INDICATORS:

- Drafted recommendations for aquaculture policy amendments
- Continued to support industry-led initiatives to enhance sustainability of the industry
- Commenced collaborative initiatives that address priority areas to support aquaculture sustainability



STRATEGIC ISSUE 3:

MARKET DEVELOPMENT

GOAL:

By March 31, 2017, the Department of Fisheries and Aquaculture will have supported the fishing and aquaculture industries to capitalize on new market opportunities.

OBJECTIVE 2:

By March 31, 2016, the Department of Fisheries and Aquaculture will have continued the development of initiatives to assist industry to pursue new market opportunities.

MEASURE:

Continued the development of initiatives to assist industry to pursue new market opportunities

INDICATORS:

- Expanded market research and intelligence
- Supported provincial participation in trade shows and missions
- Supported industry market certification and traceability
- Supported targeted promotional activities
- Supported product development and diversification

OPENING DISCUSSION

While export volumes in 2015 were on par with 2014 export volumes, the export value of Newfoundland and Labrador’s seafood products reached a record high in 2015, at slightly more than \$1 billion. Marketing and promotion of the province’s seafood industry has been a priority of government. During 2015-16, DFA worked towards the development of initiatives to assist the seafood industry to pursue new market opportunities as its second year’s objective. This included expanding its market research and intelligence activities, as well as supporting the provincial seafood industry through a number of initiatives and activities to facilitate its pursuit of new market opportunities. These supports included participation in trade shows and missions, industry market certification and traceability, targeted promotional activities, and product development and diversification.



STRATEGIC ISSUE 3

RESULTS

EXPAND MARKET RESEARCH AND INTELLIGENCE

In 2015-16, DFA provided market intelligence and support to industry and to the Standing Fish Price-Setting Panel to facilitate collective bargaining. Independent market intelligence reports were provided for a number of species from international consultants, including shrimp (Denmark, United Kingdom, and United States), crab (United States and Japan), cod (United States), mackerel (Norway), and capelin (Norway). Various market reports were commissioned by the department and provided to industry based on budget, cost, and requirement, which all vary from year to year.

In addition to the above market research and intelligence, DFA provided a grant of approximately \$35,000 to MI to participate in PrimeFish, a European marketing initiative that will provide MI with the ability to develop marketing software to predict and forecast market trends in the European seafood market. This tool will be made available to industry, market analysts, and public authorities. Participation in this three-year project will provide insight into consumer markets in the UK and access to a prediction modelling tool that can be used to plan for new product development and investment in new technology. In addition, along with general analysis of the seafood market, this project will study and analyze seafood supply chains of particular importance to Atlantic Canada, such as farmed Atlantic salmon, Atlantic cod, and herring.

Additionally, DFA provided \$30,000 in FTNOP funding to Cape Broyle Sea Products Ltd. to allow it to conduct market analysis to determine detailed customer product specifications for sea cucumber, including weight ranges, cuts, packaging, and moisture content. The project also includes research and evaluation to determine ways to improve upon current cutting equipment and tentacle removal options.

SUPPORTED PROVINCIAL PARTICIPATION IN TRADE SHOWS AND MISSIONS

Provincial participation in seafood trade shows and missions is essential to fostering the success of provincial seafood producers in international markets. In 2015-16, DFA provided funding to local processors to participate in the Brussels Seafood Expo.

In 2015-16, DFA also provided funding to Notre Dame Seafoods to facilitate travel to China and Japan to conduct product and market research on raw snow crab products. The China visit included tours of crab processing companies to view crab production methods and participation in the China Fisheries and Seafood Expo in Qingdao. The company also visited existing and prospective customers in Japan to discuss product forms and markets for raw snow crab.

DFA and provincial seafood industry representatives participated in key international seafood trade shows, including Seafood Expo North America, Boston, USA; Seafood Expo Global, Brussels, Belgium; Conxemar, Vigo, Spain; Seafood Expo Asia, Hong Kong, China; and the China Fisheries and Seafood Expo, Qingdao, China. These shows were also attended by various industry representatives. DFA provided market intelligence to industry participants prior to these shows, dealt with show logistics, provided booth and meeting space, and organized matchmaking and networking sessions with buyers and other participants.



STRATEGIC ISSUE 3

DFA organized a number of promotional and matchmaking events around several of the trade shows it attended:

- Prior to the China Fisheries and Seafood Expo, the department co-organized an Atlantic Canada and British Columbia matchmaking and networking session in Seoul, South Korea. Local seafood importers, traders, and foodservice buyers met with Canadian companies to discuss potential business opportunities.
- During the China Fisheries and Seafood Expo, the Atlantic provinces organized a 10-day restaurant promotion with a premium seafood restaurant in Qingdao, China. The promotion began with a media launch that included cooking demonstrations from an executive chef featuring lobster and sea cucumber.

Additionally, Seafood Expo North America, Conxemar, and the China Fisheries and Seafood Expo each featured a chef station where Atlantic Canadian chefs prepared a variety of seafood products for tasting by potential customers. During Seafood Expo Asia and Conxemar, DFA worked with other Atlantic provinces to recruit a Canadian chef to deliver a Master Class highlighting the flavourful and versatile qualities of snow crab and lobster.

SUPPORTED INDUSTRY MARKET CERTIFICATION AND TRACEABILITY

With funding assistance from DFA, the fishing industry continued to pursue eco-certification, particularly MSC certification, in 2015-16. In 2015, over 80 per cent of Newfoundland and Labrador seafood products from wild fisheries, by value, had obtained MSC certification. More than 90 per cent of the province's aquaculture operations have achieved Best Aquaculture Practices certification.

In 2015-16, with financial support from DFA, the 3Ps cod fishery and 3LN redfish fishery were in assessment against the MSC standard and the Grand Banks yellowtail fishery was recertified. As noted in Strategic Issue 1, the NAFO Subdivision 3Ps cod fishery obtained MSC certification in March 2016. This fishery is the first cod fishery certified in the Northwest Atlantic and is important to maintaining access to the valuable UK cod market.

In 2015-16, DFA provided FTNOP funding to the Fisheries Science Stewardship and Sustainability Board to complete year three of the Lobster and Halibut Traceability Project, which is implementing a consumer-based online tracking system that allows consumers to trace their seafood directly to the harvester. Because traceability is becoming increasingly important to consumers, providing this information is one way to expand the markets for our province's lobster and halibut.

SUPPORTED TARGETED PROMOTIONAL ACTIVITIES

In partnership with the Restaurant Association of Newfoundland and Labrador, the Newfoundland and Labrador Chef's Association, and the Forestry and Agrifoods Agency, DFA supported "From This Rock" culinary events promoting Newfoundland and Labrador agrifood and seafood products. This initiative featured a team of chefs which travelled the province to create five-course, fine-dining events at various locations to give consumers the opportunity to experience fresh, local food.

In cooperation with the Newfoundland and Labrador Chef's Association, DFA promoted seafood products at local events such as "Food Day Canada" in St. John's and "The Gathering" in Burlington, Newfoundland and Labrador. In addition to targeted promotional activities intended to promote the use and consumption of fresh, local seafood, DFA also provided FTNOP funding to companies wishing to promote specific products in local and international markets.



STRATEGIC ISSUE 3

For example, DFA provided approximately \$26,000 of FTNOP funding to Torngat Fish Producers Co-operative Ltd. to prepare new packaging materials for various arctic char products, along with a company marketing pamphlet with a specific emphasis on the aboriginal-harvested arctic char products. This project proposed the design of three vacuum seal packages of various graphic design layouts with branding that sought to appeal to niche markets for northern wild fish that bears cultural significance.

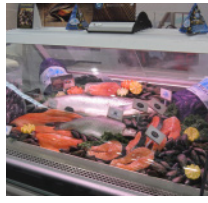
DFA also provided \$29,400 in FTNOP funding to Eastern Fish Markets Ltd. to complete market research and create a marketing and branding strategy specifically for live lobster. The marketing and branding strategy will help the company increase its share of the live lobster market and expand both locally and nationally. These marketing initiatives will help the company capitalize on new opportunities stemming from its recently upgraded live lobster holding facility which increases its holding capacity and extends its holding season.

SUPPORTED PRODUCT DEVELOPMENT AND DIVERSIFICATION

In 2015-16, DFA provided financial support for many projects aimed at product development and diversification through FTNOP. The development of new products or products forms and the diversification of the seafood industry can provide the means to capitalize on new opportunities. The following are some examples:

- Provided \$23,550 to the Seafood Processors of Newfoundland and Labrador to conduct a technical analysis of fresh fish packaging systems. This project will provide alternative packaging methods to styrofoam, which is an environmental concern for buyers and markets, and will determine which are best suited for fresh fish shipments. This project has the potential to make Newfoundland and Labrador more environmentally friendly and competitive in the fresh groundfish market. Currently, much of the province's fresh groundfish is sold in local markets. Improved packaging may provide opportunities in other markets.
- Provided \$100,000 to Beothic Fish Processors Ltd. to purchase and install a new automated high-precision combination feeding and filleting system which produces high-yield butterfly or single herring fillets, allowing the company to expand its product lines.
- Provided \$87,600 to Shell-Ex for improvements to its processing line to enable the processing of crab shells, in addition to existing processing capacity for shrimp shells, at the company's marine bio-refinery. As reported in 2014-15, Shell-Ex is a company focused on creating value from discarded shrimp shells. These activities reduce waste by utilizing byproduct and create new commercial opportunities with the extraction of chitin, which is used in many industrial applications, from shellfish waste.
- Provided approximately \$14,000 to Phocalux International Inc. to research technical requirements and determine economic feasibility for the establishment of a marine oil refining facility at its seal processing operation in Fleur de Lys. The technical evaluation included process options, required technology, and return on investment potential. The research component of this project was to include a lab analysis of seal oil and a review of potential raw material sources. These activities might allow the company to plan for improved oil processing opportunities which could potentially diversify the marine oil industry in the province.

Each FTNOP application submitted to the department is subject to a formal review process and assigned to a project officer. Throughout the project review process, the project officer works with the proponent to address evaluation criteria such as economic impact, sustainability, competitive impacts, commercial potential, industry



STRATEGIC ISSUE 3

trends/markets, regulatory impacts and compliance, and costs. Projects are also assessed on how well their goals and objectives meet the primary objective of the program, which is to provide support for harvesting, processing, aquaculture development, and marketing initiatives in order to diversify and increase the overall viability of the provincial seafood industry. Once approved, projects are monitored by the project officer, with necessary assistance from regional staff, through regular phone and email contact with proponents, as well as site visits. Departmental staff also provide technical advice throughout this process where possible, particularly in the proposal stage.

DISCUSSION OF RESULTS

Throughout 2015-16, DFA was successful in continuing the development of initiatives to assist industry in pursuing new market opportunities. These included providing market intelligence and facilitating market research initiatives to inform industry about new market opportunities. The department also supported participation in trade shows and missions to provide networking opportunities, allowing seafood companies to showcase their products to new and existing markets and connect with potential buyers and consumers. In the world seafood market where certification and traceability are increasingly becoming less a competitive edge and more of a requirement, DFA successfully continued its support of market certification and traceability for Newfoundland and Labrador seafood to assist industry's ability to pursue new market opportunities. Similarly, supporting the research and development of new product lines and the diversification of our seafood industry gives it the flexibility to adapt to market demands and emerging trends and take advantage of new market opportunities.

OBJECTIVE FOR 2016-17

OBJECTIVE 3:

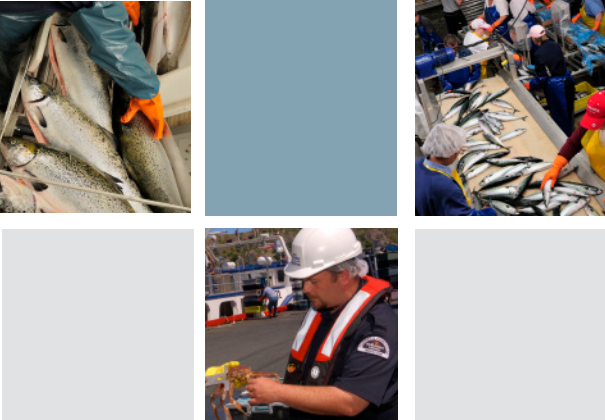
By March 31, 2017, the Department of Fisheries and Aquaculture will have continued the development of initiatives to assist industry to pursue new market opportunities.

MEASURE:

Continued the development of initiatives to assist industry to pursue new market opportunities.

INDICATORS:

- Enhanced Pan-Atlantic and/or Pan-Canadian market development initiatives
- Continued to support provincial participation in trade shows and missions
- Expanded targeted promotional activities in emerging markets



FISHING INDUSTRY OPPORTUNITIES AND CHALLENGES

The fishing industry remains an important economic driver in Newfoundland and Labrador, particularly for rural communities, employing approximately 17,500 people in harvesting, processing, and aquaculture operations in 2015, and generating indirect benefits for many more individuals and enterprises. In 2015, the landed value of wild fisheries reached a record high of \$738 million. The department is encouraged by these successes and strives to ensure that the fishing industry continues to remain competitive.

OPPORTUNITIES

The department continues to work with industry and other stakeholders to ensure the province's fishing industry adapts to changing conditions and remains competitive in the marketplace. Currently, the Newfoundland and Labrador fish processing sector has an array of opportunities to pursue.

In light of increased global seafood consumption, the demand for sustainable seafood continues to rise, with more major retailers and establishments seeking diversified high-end markets which have a potential for positive impacts on the province's seafood exports. Continued eco-certification and product traceability initiatives are assisting the industry in gaining and maintaining market access as the demand for certified and traceable products continues to increase. Trade agreements also provide opportunities for the industry to eliminate trade barriers such as tariffs and pursue potential export growth.

A new opportunity for our province's oldest industry is the recent introduction of regulations to permit the direct sale of fish. This allows individual consumers and food premises to legally purchase some species of fish directly from harvesters. This presents new opportunities for fisheries tourism and the ability to offer visitors a true local cultural experience. It also provides an opportunity for the province's restaurant industry to prepare and serve fresh, local seafood in their establishments.

Trade agreements provide opportunities for the industry to eliminate trade barriers and pursue potential export growth. The Canada-European Union Comprehensive Economic and Trade Agreement, when implemented, will provide provincial seafood producers with considerable opportunities. Tariff-free access to the lucrative European Union seafood market will provide Newfoundland and Labrador producers with opportunities to develop new value-added and branded seafood products. Market access achieved through the Trans Pacific Partnership, when implemented, in particular tariff eliminations in Vietnam and Japan, will provide the province's seafood producers with significant market opportunities in countries which have a traditionally high per capita consumption of fish and seafood. The Canada-Korea Free Trade Agreement which entered into force in January 1, 2015, will provide seafood producers with an opportunity to compete on a level playing field with suppliers from countries which already have free trade agreements with South Korea. All tariffs on fish and seafood will be eliminated in 12 years, providing an opportunity to capitalize on South Korea's growing seafood market.



FISHING INDUSTRY OPPORTUNITIES AND CHALLENGES

Programs like FTNOP are helping the fishing industry adapt and succeed by encouraging innovation and supporting new opportunities that improve efficiency and product quality, while reducing environmental impact. In the harvesting sector, increased science and research capabilities, largely from the activities of CFER, have informed sustainable resource management and strengthened the province's engagement in the Federal Government's fisheries resource management process. In addition, the newly elected Federal Government has committed to reinvest significantly in fisheries science and collaborate with provincial governments.

There is also an opportunity for increased collaboration with fishing industry stakeholders. Through the planned creation of a fisheries advisory council, government will work to increase the overall viability and competitiveness of the seafood sector, particularly as we prepare for opportunities arising from the return of groundfish.

Recent research surveys have demonstrated a decline in the northern shrimp and snow crab resource in certain areas, while warmer water temperatures are having a positive impact on the province's groundfish resources. This apparent regime shift from shellfish to groundfish represents an opportunity for our province to both return to a historic fishery and to evolve towards a highly modernized groundfish industry through utilization of innovative approaches and advanced technologies. Fisheries-related research and development activities have the potential to increase industry's efficiency, productivity, and international competitiveness; however, this regime shift also poses a number of challenges.

CHALLENGES

As previously mentioned, the province's fishing industry, once very dependent on groundfish, has been focused on shellfish for much of the last two decades, and any future regime shift will represent an equal challenge on many levels. This resource uncertainty, along with overcapacity in both the harvesting and processing sectors, the seasonality of the industry, and aging infrastructure are some of the internal challenges facing the fishing industry.

In addition, the industry continues to face external challenges which impact margins, including competition from low-cost producers, trade embargos and bans, exchange rate fluctuations, and high overhead costs. Both the harvesting and processing sectors face a number of workforce challenges, including a dwindling and aging workforce. Attraction and retention of new workers has become difficult due to seasonal employment and non-competitive incomes in the sector. Evolving technology in the work environment requires workers to receive specialized training before entering the industry. Although improved technology brings opportunities for sustainable development of the fishing industry, specialized training required for new participants will require government to work with industry and academic partners to enhance skills training where necessary.

Despite numerous challenges in the sealing industry, the department remains committed to the development of new opportunities for the sealing industry and will continue to work closely with industry stakeholders to develop new products and new markets.



AQUACULTURE INDUSTRY

OPPORTUNITIES AND CHALLENGES

The provincial aquaculture industry is having a significant positive impact on the economy of Newfoundland and Labrador that continues to revitalize communities in the Coast of Bays region, New World Island, and west coast regions. Aquaculture is now considered the most rapidly expanding food production system in the world, representing an enormous economic opportunity for this province.

OPPORTUNITIES

The development climate for the provincial aquaculture industry is favourable, with an abundance of marine space that is well-suited for aquaculture development of the three main commercial species currently cultured here, namely salmon, trout, and mussels. The province has a skilled and experienced workforce and good collaborative relationships among its industry, government, and academic/research institutions. These characteristics provide potential diversification opportunities as well, as seen in 2015-16 with the licensing of the province's first commercial oyster sites.

As with the fishing industry, increasing demand for high-quality, certified, sustainable seafood continues to present an enormous opportunity for the aquaculture industry. Sustainability is important to buyers and consumers, and retailers and foodservice operators have adopted procurement policies to ensure the seafood products they purchase are grown, harvested, and processed in a manner that is sustainable and environmentally responsible. For example, the mussel sector's certification to the Canadian Organic Aquaculture Standard was the first such mussel certification in North America and provides increased export opportunities and market penetration for farmed blue mussels.

Additional opportunities for growth are being supported through various departmental initiatives, including marine infrastructure development, waste management, Bay Management Area development, and the expansion of aquatic animal health capacity.

The department continues to work with stakeholders and local governments to identify opportunities to cultivate additional components of the aquaculture supply chain, such as aquaculture support services that provide further economic and employment opportunities in rural Newfoundland and Labrador.



AQUACULTURE INDUSTRY OPPORTUNITIES AND CHALLENGES

CHALLENGES

Internal factors that may impede the development of the industry include the need for improved marine infrastructure, increased biosecurity, a flexible and efficient regulatory environment, increased aquatic animal health management services, and waste management. Externally, other factors that may impede the development of the province's aquaculture industry include market price fluctuations, exchange rate volatility, access to capital, competition from producers in other provinces and countries, high fish food costs, and environmental conditions. From a human resources perspective, the major challenges will be attracting and retaining highly skilled employees and providing specialized training in evolving technologies in the work environment.

Another of the biggest challenges facing the aquaculture industry is the need to address public misinformation regarding aquaculture risks. There are many myths about aquaculture that cause uncertainty and doubt amongst the general public. It is vital that the industry continue to keep an open dialogue with the public to ensure public confidence in this growing industry.

DFA is already working on initiatives to address many of these challenges. The Newfoundland and Labrador Sustainable Aquaculture Strategy 2014 is a guide to future policy and investment decisions aimed at fostering the success of the aquaculture industry. It aims to address many of these internal and external impediments to development, ensuring that the industry is ecologically sustainable and continues to contribute socially and economically to the province's rural economy.



APPENDIX A

Department of Fisheries and Aquaculture Statement (Unaudited) of Expenditures and Related Revenue

Summary for the Year Ended March 31, 2016*	ESTIMATES		
	Original	Amended	Actual
	\$	\$	\$
EXECUTIVE AND SUPPORT SERVICES			
Minister's Office			
Minister's Office	333,200	431,700	376,582
General Administration			
Executive Support	823,700	824,800	742,126
Capital - Administrative Support	975,000	1,035,000	1,034,639
Policy and Planning Services			
Planning and Administration	1,095,200	969,500	900,499
Revenue - Provincial	(2,000)	(2,000)	(2,877)
Sustainable Fisheries Resources and Oceans Policy	3,524,000	3,476,700	3,411,518
Fishing Industry Renewal			
Coordination and Support Services	1,647,500	1,647,500	621,878
Executive and Support Services Subtotal	8,396,600	8,383,200	7,084,365
FISHERIES DEVELOPMENT			
Regional Services			
Administration and Support Services	3,009,500	3,057,800	2,914,833
Revenue - Provincial	(10,000)	(10,000)	(17,467)
Fisheries Programs			
Seafood Marketing and Support Services	1,099,300	1,119,300	989,120
Revenue - Provincial	(45,000)	(45,000)	7,800
Licensing and Quality Assurance	329,800	414,500	366,286
Compliance and Enforcement	487,300	480,900	428,362
Fisheries Innovation and Development	2,912,500	2,912,500	2,788,127
Capital - Sealing Industry Inventory Financing	(1,000,000)	(1,000,000)	(1,220,137)
Fisheries Subtotal	6,783,400	6,929,100	6,241,324
AQUACULTURE			
Aquaculture Development			
Aquaculture Development and Management	1,629,400	1,611,300	1,330,117
Aquaculture Capital Equity Investment	2,800,000	2,800,000	407,782
Aquaculture Licensing			
Aquaculture Licensing	206,400	181,400	164,239
Aquatic Animal Health			
Aquatic Animal Health	1,762,900	1,757,400	1,701,909
Aquaculture Subtotal	6,398,700	6,350,100	3,604,047
Department Total	21,578,700	21,662,400	16,929,736

*Source Document: Report on Program Expenditures and Revenues of the Consolidated Revenue Fund for the Year Ended 31 March 2016 (Unaudited).
Note: Audited financial statements are not required of the Department of Fisheries and Aquaculture.

COMMITTEE PARTICIPATION

NATIONAL COMMITTEE PARTICIPATION:

- Canada/France Fisheries Advisory Committee
- Canadian Council of Fisheries and Aquaculture Ministers, with associated task groups, working groups, and committees
- Canadian delegation to Northwest Atlantic Fisheries Organization meetings
- Canadian Food Inspection Agency Working Group for Disease Control
- Committee on the Status of Endangered Wildlife in Canada
- Federal and Provincial Introductions and Transfer Committee
- Federal/Provincial Export Market Development Consortium
- Federal/Provincial Market Development Council
- Fur Institute of Canada Sealing Committee
- Health Canada Expert Advisory Panel on Veterinary Drugs
- National Fish Health Management Working Group
- Seafood Value Chain Roundtable

REGIONAL/PROVINCIAL COMMITTEE PARTICIPATION:

- 3Ps and 2+3KLNO Groundfish Advisory Committees
- Atlantic Coastal Action Plan Humber Arm Environmental Association/Bay of Islands Coastal Management Area Committee
- Atlantic Coastal Zone Information Steering Committee
- Atlantic Council of Fisheries and Aquaculture Ministers with associated task groups, working groups, and committees
- Atlantic Large Pelagic and Mackerel Advisory Committee
- Atlantic Regional Interdepartmental Shellfish Committee
- Atlantic Seal Advisory Committee
- Atlantic Seafood and Food Trade Group
- Bay St. George and Port au Port Peninsula Marine and Coastal Resources Steering Committee
- Canada-Newfoundland and Labrador Committee on Ocean Management
- Coast of Bays Coastal Planning Committee
- Eastern Aquaculture Veterinary Association (sub-committees)
- Gulf Groundfish, Gulf Shrimp, and Gulf Capelin Advisory Committees
- Newfoundland and Labrador Aquatic Invasive Species Steering Committee
- Newfoundland and Labrador Molluscan Shellfish Working Group
- Newfoundland and Labrador Regional Cod Recovery Working Group
- Newfoundland and Labrador Small Pelagic Advisory Committee
- Newfoundland Lobster Sustainability Board – Executive Committee
- Northern Shrimp Advisory Committee
- Offshore Clam and Scallop Advisory Committee
- Placentia Bay Integrated Management Planning Committee
- Provincial Coastal and Ocean Network
- Redfish Working Group

Note: These lists are not exhaustive.

EVENT PARTICIPATION

TRADE EVENTS:

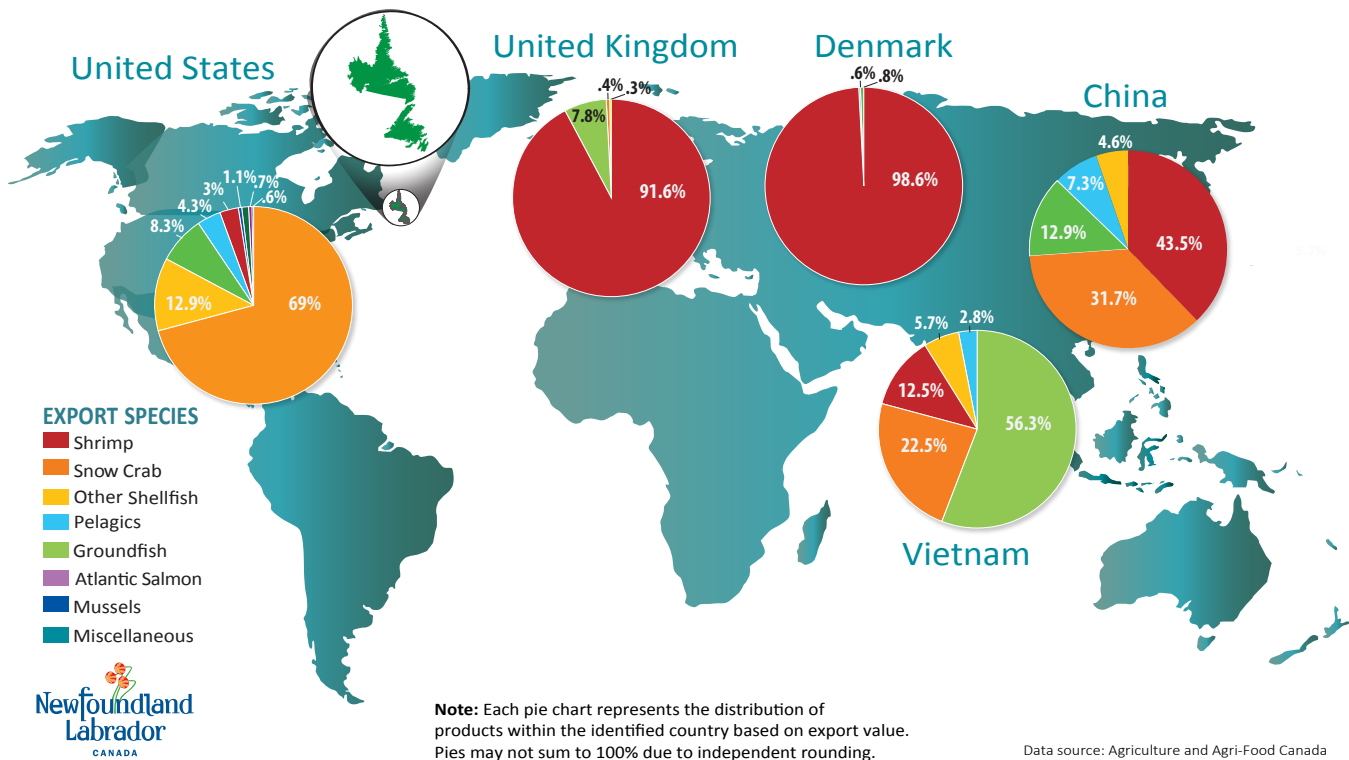
- Seafood Expo Global, Brussels, Belgium - April 2015
- Seafood Expo Asia, Hong Kong, China - September 2015
- Conxemar, Vigo, Spain - October 2015
- China Fisheries and Seafood Expo, Qingdao, China - November 2015
- Seafood Expo North America, Boston, Massachusetts - March 2016

CONFERENCES AND EVENTS:

- Canadian Council of Fisheries and Aquaculture Ministers, Fredericton, New Brunswick – November 2015
- Atlantic Council of Fisheries and Aquaculture Ministers, Halifax, Nova Scotia – January 2016
- Fisheries Council of Canada Conference – Vancouver, British Columbia – October 2015

Note: These lists are not exhaustive.

TOP FIVE WORLD MARKET DESTINATIONS FOR SEAFOOD PRODUCTS NEWFOUNDLAND AND LABRADOR, 2015



Global seafood demand and prices remained stable at high levels in 2015, with Asia in particular driving fish consumption growth around the world. Newfoundland and Labrador benefitted from an improved global marketplace and exported seafood products to over 40 countries worldwide. The weak Canadian dollar also benefitted the province in 2015, providing favourable returns for exporters.

Total export value in 2015 increased 15.6 per cent from the previous year, reaching \$1.01 billion. This was a record high for Newfoundland and Labrador. The corresponding total export volume remained on par with 2014 at approximately 134,000 tonnes.

The United States of America was Newfoundland and Labrador’s largest seafood export destination in 2015, accounting for 40 per cent of total export value. In total, the province exported 38,751 tonnes of seafood product to the United States, with a corresponding export value of \$403.4 million. Snow crab was the major species exported to United States in 2015, totalling \$278.6 million.

China was the province’s second largest seafood product export destination in 2015, accounting for 20 per cent of total export value. Both export value and volume to China increased relative to the previous year. Export value increased 23.7 per cent to \$202.4 million and export volume increased 22.1 per cent to 33,731 tonnes. Snow crab and shrimp were the two major species exported to China by Newfoundland and Labrador in 2015, having export values of \$64.1 million and \$88 million respectively.

Other key market destinations for Newfoundland and Labrador seafood products by export value in 2015 included the United Kingdom at 9.2 per cent, Denmark at 6.0 per cent, and Vietnam at 4.1 per cent. Combined, the United States, China, United Kingdom, Denmark, and Vietnam accounted for approximately 80 per cent of total Newfoundland and Labrador seafood product export value.




foundland and Labrador

Newfoundland
Labrador

Prince
Edward
Island

NL EXPORTS
\$1.01 B

Full year 2015

USA 
\$403 M

CHN 
\$202 M

UK 
\$94 M

DNK 
\$61 M

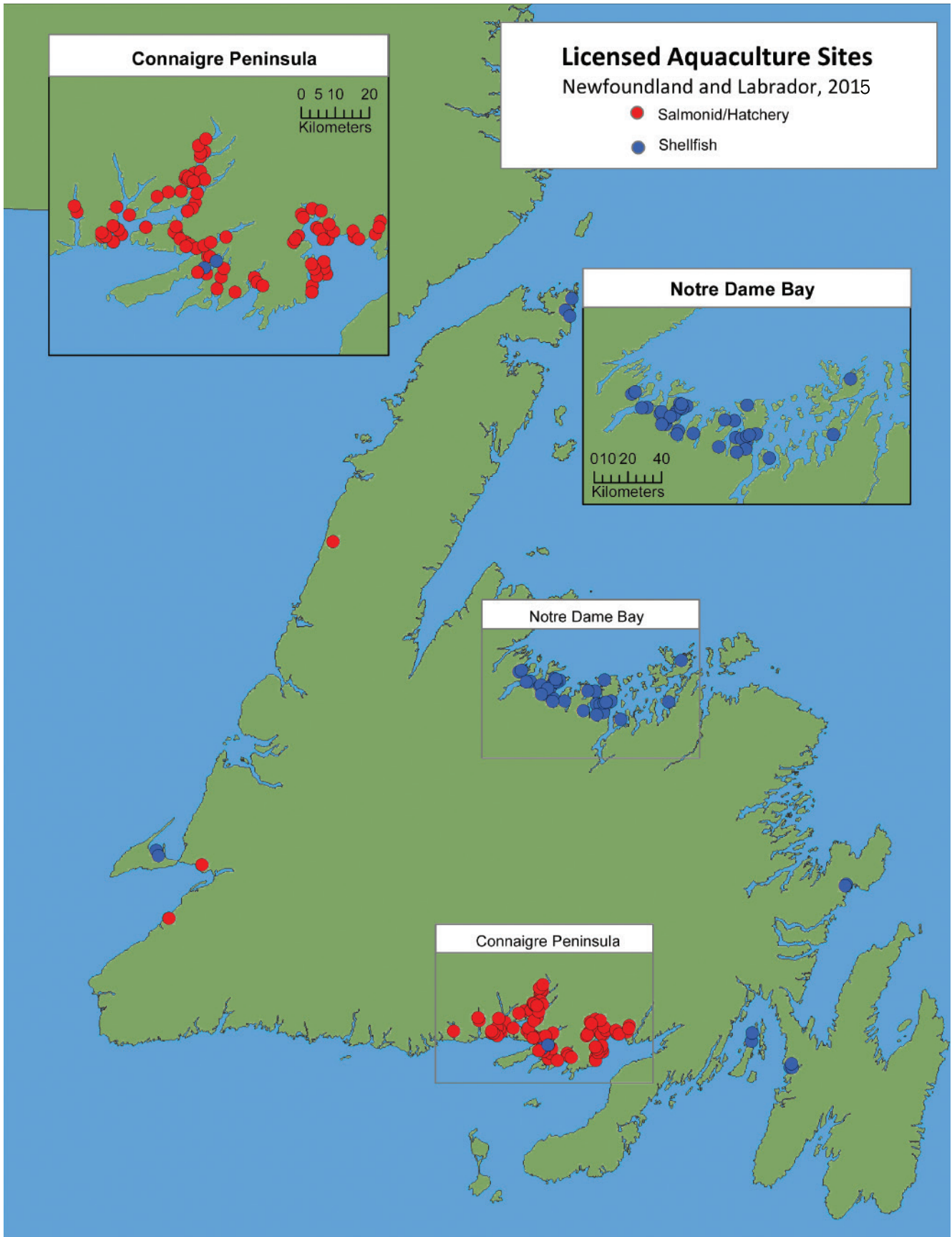
VNM 
\$42 M

atlantic
canada
expo

Prince
Edward
Island

ARTISANAL
SMALL BATCH

MUSSEL KING



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PHOTO REFERENCES

Front and back cover feature image: Belleoram

Front cover inset: mussel plant, seafood booth in China,
Newfoundland and Labrador seafood, Fogo Island wharf

Back cover inset: shrimp harvesters, mussel
farmer, plant at Black Tickle, shrimp boat

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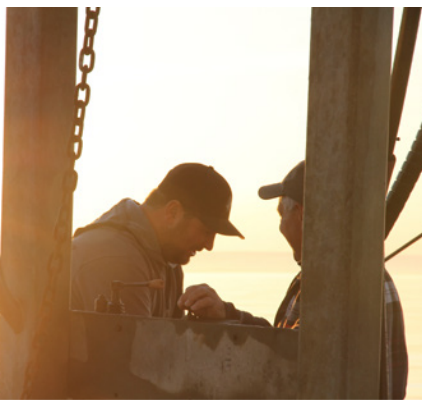
ACRONYMS AND ABBREVIATIONS

The following acronyms and abbreviations are used
throughout this document and are provided here for reference.

AES – Department of Advanced Education and Skills
CFER – Centre for Ecosystems Research
DFA – Department of Fisheries and Aquaculture
DFO – Fisheries and Oceans Canada
FFAW – Fish, Food, and Allied Workers
FIP – Fisheries Improvement Project
FLUPSY - Floating Upweller System
FTNOP – Fisheries Technology and New Opportunities Program
MSC – Marine Stewardship Council
MI – Fisheries and Marine Institute of Memorial University
NAFO - Northwest Atlantic Fisheries Organization
NAIA – Newfoundland Aquaculture Industry Association
WWF – World Wildlife Fund



Newfoundland
Labrador
CANADA



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