Fisheries and Oceans Canada

Pêches et Océans Canada

2018-19 Departmental Results Report

Canada

Departmental Results Report 2018-19
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Minister's Message

I am pleased to present the 2018-19 Departmental Results Report for Fisheries and Oceans Canada (DFO) and the Canadian Coast Guard. DFO is the lead federal department responsible for managing Canada's fisheries and protecting the marine environment, while the Canadian Coast Guard, a special operating agency within our department, delivers programs and services that help keep our waterways safe, secure, and accessible.

OUR RESPONSIBILITY

Canada is a proud maritime nation that boasts the world's longest coastline and an offshore exclusive economic zone that equates to 3.7 million square kilometres or 37 per cent of our country's total landmass. We are also home to the Great Lakes, an immense sea of Arctic ice, and an abundance of freshwater resources. Taken together, this incredible wealth of water supports an intricate web of marine life which requires ongoing stewardship by all Canadians and all orders of government.

As Minister of Fisheries, Oceans, and the Canadian Coast Guard, I am proud to lead a department that dates back to Confederation but which also helps to shape Canada's domestic and global responses to some very modern challenges. Foremost among these challenges are addressing environmental degradation in ocean and freshwater resources and deriving sustainable economic benefit from our natural resources for coastal and Indigenous communities.

OUR PRIORITIES

Through sound science, forward-looking policy, and operational and service excellence, the Department focused on five organizational priorities in 2018-19. This helped us fulfill our departmental mission of providing Canadians with economically prosperous maritime and fisheries sectors, more sustainable aquatic ecosystems, and safe and secure waters. Priorities included:

- improved marine safety and ocean protection;
- a cleaner and sustainable environment;
- investments in science in support of evidence-based decision-making;
- reconciliation with Indigenous peoples; and
- operational improvements to support priorities.

OUR KEY ACCOMPLISHMENTS

In line with these priorities, some of our major accomplishments in 2018-19 included:

- implementing Canada's Oceans Protection Plan (OPP) to better protect our coasts and waterways, improve marine safety, and engage Indigenous communities in the co-management of our oceans;
- addressing Indigenous rights, interests, and aspirations through fisheries-related economic opportunities and participation in collaborative management approaches to improve Indigenous peoples' access to, and management of, aquatic resources and marine space. This included a comprehensive, joint review of DFO's Indigenous programs;
- protecting almost eight per cent of our marine and coastal areas in 2018-19 while continuing to work with our many partners to meet and surpass our international marine conservation targets;
- supporting sustainable economic development by launching the Canadian Fish and Seafood Opportunities Fund, which will help the Fish and Seafood sector develop existing markets and enter new ones;
- fulfilling the Minister's mandate commitment to act on the recommendations of the Cohen Commission on restoring sockeye salmon stocks in the Fraser River by finalizing the *Wild Salmon Policy 2018 to 2022 Implementation Plan*. This five-year plan outlines concrete actions the Department will take to help rebuild wild Pacific salmon populations and their habitats; and
- working collaboratively with Indigenous and Northern partners to create a new, stand-alone Fisheries and Oceans/Coast Guard Arctic Region to better address northern priorities including fisheries, marine safety, and environmental issues such as the impact climate change is having on Arctic marine ecosystems.

These, and many other accomplishments, are described in more detail within this report.

OUR COMMITMENT TO YOU

As Minister of Fisheries, Oceans, and the Canadian Coast Guard, I am proud of the work our department does to enhance environmental sustainability on behalf of fish harvesters and their associations, Indigenous peoples, shipping and port users, aquaculturists, recreational boaters, academia, non-profit organizations, environmental groups, regional fisheries management organizations (RFMOs), and all Canadians.

Going forward, we will implement new and innovative approaches to resolve problems and build a culture of measurement, evaluation, and innovation in our program and policy design and delivery. We will promote and sustain the environmental stewardship of our aquatic resources and safeguard our waterways for all Canadians.

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The Honourable Bernadette Jordan, P.C., M.P.
Minister of Fisheries, Oceans, and the Canadian Coast Guard

Results at a Glance

What Funds Were Used?

Fisheries and Oceans Canada's total actual spending for 2018-19 was $3,282,911,070.

Who Was Involved?

Fisheries and Oceans Canada's total workforce (full-time equivalents) for 2018-19 was 11,994.

Key Results Achieved:

Advancing Reconciliation with Indigenous peoples: Fisheries and Oceans Canada (DFO) continues to work collaboratively with Indigenous communities to advance reconciliation. A department-wide reconciliation strategy has identified priority actions including legislative, regulatory, policy, program, and operational changes in order to continue to move forward. In 2018-19, DFO participated in more than 60 negotiation meetings to advance treaty and reconciliation agreements. The Aboriginal Fund for Species at Risk has invested more than $2.2 million in 51 projects to address the recovery of species listed under the *Species at Risk Act* and prevent other species from becoming a conservation concern.

Protecting and Conserving Marine and Coastal Areas: The Government of Canada announced the designation of the Banc-des-Américains Marine Protected Area off the tip of the Gaspé Peninsula. This important designation, along with eight new marine refuges in Howe Sound, bring Canada closer to meeting its 2020 target. At the end of the 2018-19 reporting year, Canada had conserved 7.92 per cent of marine and coastal areas.

Enhancing Marine Safety and Protection Through the Oceans Protection Plan: An investment of $110 million beginning in 2017 for the Canadian Hydrographic Service will allow us to chart 23 high-priority commercial ports and near-shore areas, enhancing safety for mariners on all three coasts. In 2018-19, the Department completed modern hydrographic surveys for 16 of the 23 ports. The Coastal Restoration Fund has provided $55 million to support Indigenous and community groups, academics and non-profits to restore coastal aquatic habitats.

Supporting Economic Development in the Fish and Seafood Sector: The *Outlook to 2027 for Canadian Fish and Seafood* published by DFO projects a 20 per cent increase in the value of fish and seafood exports from Canada over the next 10 years to $8.1 billion in 2027. The Canadian Fish and Seafood Opportunities Fund was launched this year and will invest up to $42.9 million to help the fish and seafood sector promote market access to Canada's high quality, legally and sustainably sourced fish and seafood products.

In October 2018, Fisheries and Oceans Canada and the Canadian Coast Guard, in collaboration with Inuit Tapiriit Kanatami (ITK) announced a new, stand-alone Fisheries and Oceans/Coast Guard Arctic region[i] to be built in partnership with Indigenous and Northern partners. Following the announcement, the Department began engaging with Indigenous governments and organizations, Northern partners, and provincial and territorial governments on how to improve the delivery of programs and services in the Arctic, and on priorities and boundaries for the new region.

As the changing climate opens up this region to greater fishing, shipping, resource development, and other interests, DFO, the Coast Guard, and ITK want to ensure that Inuit, Indigenous peoples, and Northerners are at the center of the Department's decision-making in the region.

The new region seeks to advance reconciliation and support partnerships with Northerners through collaboration and improved service in the Canadian Arctic. The vision includes a service delivery model that supports the cultural diversity, geographical challenges, land-claim and self-government agreements, and the intergovernmental relationships that are currently in place.

The new region's transformative vision is intended to better address Northern priorities across DFO and Coast Guard mandates, including fisheries, marine safety, and environmental issues such as climate change impacts on Arctic marine ecosystems.

For more information on the Department's plans, priorities and results achieved, see the "Results: What We Achieved" section of this report.

Results: What We Achieved

Core Responsibilities

Fisheries

Description

Manage Canada's fisheries, Indigenous fisheries programs, aquaculture activities and support commercial fishing harbours while applying relevant legislation.

Departmental Results

The Fisheries Core Responsibility is focused on advancing the following Departmental Results:

- Canadian fisheries are sustainably managed;
- Canadian aquaculture is sustainably managed;
- the commercial fishing industry has access to safe harbours;
- fisheries, oceans and other aquatic ecosystems are protected from unlawful exploitation and interference;
- scientific information on fisheries resources is available to inform management decisions; and
- improved relationships with and outcomes for Indigenous people.

The indicators used to measure progress towards these results appear in the Results Achieved table beginning on page 13.

To support the Minister of Fisheries, Oceans, and the Canadian Coast Guard in achieving these results, the Department carried out the following key initiatives and activities.

Results

DFO works to support a healthy and sustainable fishing sector. Programs in the Fisheries Cores Responsibility ensured that reconciliation and Indigenous rights were addressed through fisheries-related economic opportunities and participation in collaborative management. The programs also supported sustainable economic development by publishing *Outlook to 2027 for Canadian Fish and Seafood* and launching the Canadian Fish and Seafood Opportunities Fund. The Department also fulfilled the Minister's mandate commitment to act on the recommendations of the Cohen Commission on restoring sockeye salmon stocks in the Fraser River by finalizing the Wild Salmon Policy 2018 to 2022 Implementation Plan. More information on these and other initiatives can be found below.

Cohen Commission

In 2018-19, as part of the launch of the 2019 International Year of the Salmon, DFO announced the successful completion of the mandate commitment to act on recommendations of the Cohen Commission[ii] on restoring sockeye salmon stocks in the Fraser River. To demonstrate ongoing commitment to protecting and conserving wild Pacific salmon, the Department also introduced the *Wild Salmon Policy 2018 to 2022 Implementation Plan*[iii], a five-year plan outlining concrete actions the Department will take to help rebuild wild Pacific salmon populations and their habitats.

Other achievements related to the Cohen Commission recommendations included the completion of five peer-reviewed assessments of the risk to Fraser River sockeye salmon due to pathogen transfer from Atlantic salmon farms in the Discovery Islands, B.C. For example, in February 2019, DFO completed an assessment on the risk to the salmon from Piscine Orthoreovirus[iv] (PRV). The scientific experts who peer-reviewed the data and risk assessment reached a consensus that the risk to Fraser River sockeye is minimal as a result of the transfer of PRV from aquaculture pens in the Discovery Islands. Details on the actions taken to address each recommendation of the Cohen Commission can be found in the Department's third and final Cohen Response Status Update[v].

In November 2018, DFO published **Outlook to 2027 for Canadian Fish and Seafood**[vi], a report that presents the results of a dynamic simulation model developed by the Department and includes projections of global consumption, production, and trade for 12 groups of related species of fish and seafood. Notably, it projects an increase in value of almost 20 per cent in fish and seafood exports over the next 10 years, from $6.8 billion in 2017 to $8.1 billion in 2027.

On December 5, 2018, DFO launched the **Canadian Fish and Seafood Opportunities Fund** (CFSOF), a pillar of the Atlantic Fisheries Fund[vii] initiative which was created following a Budget 2017 announcement[viii] made in partnership with provinces, and territories. From this initial launch, 16 Expressions of Interest were received from fish and seafood organizations from across Canada, eight of which became full proposals. Evaluation of the proposals has been completed, and a funding announcement will be forthcoming. Through the new CFSOF program, the Department continued to actively support the Canadian fish and seafood sector in developing existing markets and entering new markets.

Commissioner of the Environment and Sustainable Development's (CESD) 2016 Report: Sustaining Canada's Major Fish Stocks

This report[ix] details the findings of an audit that focused on whether DFO had identified and put in place key elements needed to manage Canada's fisheries for conservation and sustainability, such as management planning and the collection and analysis of information about the state of fish stocks and how many fish are caught.

In 2017, in response to the audit, the Department prioritized 19 key stocks that were in the precautionary approach critical zone with a goal of a staggered implementation which will be completed in 2020-2022. DFO also continued to complete and update, as needed, Integrated Fisheries Management Plans for all other major stocks, where required. DFO tracks the progress of developing these rebuilding plans and Integrated Fisheries Management Plans through a publicly-available work plan[x]. This work contributes to the sustainability of fisheries for future generations. The completion of the national Fishery Monitoring Policy, targeted for March 31, 2019, was delayed due an extension of the consultations and the high level of feedback from stakeholders and DFO regions. DFO expects to be able to finalize the policy in 2020-21.

DFO continues to invest in the rejuvenation of its inventory of fish production infrastructure, which produces salmon to help support commercial, recreational, and Indigenous harvest; science-based stock assessment; and, salmon conservation. Canada's investment in **salmon enhancement** helps sustain $90 million per year in Gross Domestic Product (representing a three-to-one return on the investment); supports almost 1,600 jobs for the Canadian economy; and, helps to maximize and maintain flexibility, adaptability, and diversity to support salmon production for current and future generations. In 2018-19, the Department continued to make significant progress on key initiatives to upgrade and renew salmon hatcheries and spawning channel[1] infrastructure. In support of government-wide environmental objectives, DFO upgraded the hatcheries' power systems and outer buildings, increasing their energy efficiency, and made significant progress on initiatives that follow the guidelines outlined in the Federal Sustainable Development Strategies[xi]. DFO also upgraded security, alarm, and fire systems; continued its installation of automation and control systems; replaced inefficient water pumps; and, completed or continued the drilling of new wells at various facilities. In addition, the Department started to incorporate renewable energy generation and replaced infrastructure in need of repair at all of the Salmon Enhancement Program facilities.

The Department made progress on its ongoing commitment to improving stock assessments by developing a **framework for incorporating climate change considerations into stock assessments** and employing more advanced quantitative stock assessment models. DFO has moved to annual assessments of Northern cod using an advanced quantitative model. In addition, the Department has also expanded its use of a Management Strategy Evaluation, a quantitatively complex approach that takes into account integrated input from science, management, and all stakeholders for setting and evaluating goals and management measures. This approach is being developed to assess and manage Northwest Atlantic mackerel as well as herring on both the Pacific and Atlantic coasts.

The Department is committed to the Government of Canada's **Open Data** Initiative, which increases public access to its scientific information holdings. DFO has worked closely with several government departments, academic institutions, and non-governmental organizations to advance the Canadian Integrated Ocean Observing System to make ocean science data more readily available.

DFO is committed to performing rigorous scientific activities in support of evidence-based decision-making throughout the Government of Canada. In 2018-19, the Department delivered on its commitment to **enhance the diagnostic capacity of its aquatic animal health laboratories** by 40 per cent, and provided test results for all requests submitted by the Canadian Food

[1] Spawning channels are artificial passages that provide additional spawning habitat to fish.

Inspection Agency. This work supports DFO's mandate commitment to ensure effective use of research resulting from restored federal funding.

The 2018-19 Evaluation of the Canadian Science Advisory Secretariat[xii] (CSAS) found that the CSAS science advisory process is a unique and important mechanism for developing and providing science advice in support of decision-making. The inclusion of peer review assessments for developing science advice is one of the main strengths of the CSAS science advisory process and is a best practice when using scientific information to inform fisheries management decisions. There is a growing demand for science advice within DFO and CSAS documents are used regularly to support work within the Department. The evaluation recommendations focused on standardization of formal communication, the implementation of a multi-year science advisory schedule, the development of clear guidelines and a conflict of interest policy, and work to improve compliance for the submission and publication of documents. The Department is taking this opportunity to respond to the evaluation's recommendations and renew the advisory process.

DFO also conducted environmental risk assessments and collaborated with other federal departments to conduct indirect human health risk assessments for any **fish products of biotechnology** notified under the *Canadian Environmental Protection Act*[xiii] and the *New Substances Notification Regulations*[xiv]. Seven notifications were received during 2018-19, related to salmon and ornamental fish. All seven risk assessments were completed and peer-reviewed science advice was provided to Environment and Climate Change Canada and Health Canada. These assessments support decision-making related to whether or not it is safe to allow the manufacture or importation of the fish and/or fish products in question.

DFO completed all five planned research projects aimed at developing cutting-edge **genomics technology** for fisheries management and the protection of aquatic ecosystems. These projects consisted of:

- the development and application of a hand-held tool to efficiently detect aquatic invasive species in the field using environmental DNA methods;
- parentage-based tagging[2] of chinook salmon in B.C.;
- investigation of the population structure and connectivity[3] of Atlantic cod in the western Atlantic using next-generation sequencing;
- rapid and sensitive environmental DNA[4] methods for early detection and mitigation of aquatic invasive species and monitoring of species at risk; and
- genomic analysis of spatial stock structure (i.e. when groups of fish of the same species have limited interaction) of Atlantic mackerel and Atlantic halibut, two species with populations ranging across the northwest Atlantic region.

Genomics[xiii] is defined as the study of genes and their functions. The more common term, genetics, is the study of heredity. The main difference between genomics and genetics is that genetics scrutinizes the functioning and composition of the single gene whereas genomics addresses all genes and their interrelationships in order to identify their combined influence on the growth and development of the organism.

[2] Parentage-based tagging is a genetic application that identifies fish to their hatchery of origin and age group.
[3] Population connectivity is the degree of interchange of individuals among geographically separated groups of a species, meaning an animal from one group can be found in a different one, and is believed to be an indicator of the resiliency of the species.
[4] Environmental DNA (eDNA) refers to molecules of DNA shed from organisms that are found in the environment and can be detected in a simple water or sediment sample. By analyzing eDNA, species present can be identified using only trace amounts of DNA in the sample, even from incomplete DNA.

Evaluation of the International Engagement Program
The International Engagement Program ensures access for Canadians to fish resources that are managed internationally, promotes sustainable fisheries management and healthy global marine ecosystems, and contributes to a stable international trade regime for Canadian fish and seafood products. An evaluation of the International Engagement Program[xvi] was performed in 2017-18. The evaluation recommended that the program:

1. develop and implement a process to improve coordination and collaboration;
2. initiate a strategic vision and improve on existing communication and collaboration efforts; and
3. establish the process for the strategic vision.

The Department took significant action on the first two recommendations, and a strategic vision has been drafted.

The Department continued to invest in strengthening its infrastructure at **small craft harbours** by further accelerating maintenance and repair projects to address asset deterioration and by prioritizing resources on keeping fishing harbours that are critical to the commercial fishing industry in good repair. DFO also reduced the number of **abandoned or wrecked vessels** located in federally-owned small craft harbours by assessing or addressing 14 vessels of concern.

DFO supports the Government of Canada's commitment to work toward a renewed, nation-to-nation relationship with Indigenous peoples, based on reconciliation, recognition of rights, respect, co-operation, and partnership, which will increase self-determination and close socioeconomic gaps. The Department made significant progress on renegotiations of key chapters of the **Pacific Salmon Treaty**[xvii]. Renegotiation of chapters 1, 2, 3, 5 and 6 was completed and provisional application of new chapters was implemented by January 1, 2019, with formal ratification of the chapters in May 2019. Renewed chapters respond to conservation concerns for Pacific salmon stocks in both Canada and the United States, and constitute a more precautionary, science-based approach that takes into account the ongoing impacts of climate change. Renewed chapters will, among other things, achieve:

- strengthened conservation measures and protection for key Pacific salmon stocks;
- reduced harvest pressure on Canadian stocks of concern;
- more certainty for harvesters in Canada, including Indigenous groups;
- more timely and robust scientific information regarding the status of Pacific salmon stocks; and
- increased partnership with B.C. Indigenous groups in stock assessment and monitoring.

The renewal of the Pacific Salmon Treaty reflects the Government's commitment to reconciliation by protecting and conserving the Pacific salmon resource that is of great important to Indigenous communities. As part of this commitment, DFO has been working closely with First Nations throughout B.C. and the Yukon during the renewal process to ensure greater stability in salmon access for First Nations.

In collaboration with its federal and provincial partners, DFO **advanced treaty and reconciliation agreements**, with over 60 negotiation meetings taking place in 2018-19. DFO maintained its commitment to strengthening partnerships and launching co-management practices with Indigenous communities. DFO also moved forward on a Department-wide **Reconciliation Strategy** that identifies priority actions covering legislative, regulatory, policy, program, and operational changes that will contribute to advancing reconciliation, with specific responsibilities monitored by DFO on an ongoing basis.

Evaluation of Aboriginal Programs
In March 2019, an evaluation[xviii] was completed of the DFO programs that support Indigenous fishing for food, social and ceremonial purposes under the authority of communal licences issued under the *Fisheries Act*. The programs also provide funding to Indigenous organizations to enable skilled personnel to undertake scientific research activities and to participate in advisory and decision-making processes related to aquatic resources and oceans management. The evaluation results indicated that there is a continued need for the Aboriginal Fisheries Strategy (AFS) and the Aboriginal Aquatic Resource Management Program (AAROM), and both programs contribute to departmental results. The evaluation recommended capacity building, formalized coordination within the Department, and consistency in data collection. Issues with sensitivity related to Indigenous recipients were also identified in interviews.

To better address the needs and interests of Indigenous groups regarding commercial fisheries and the management of aquatic resources and habitat, DFO conducted a **review of its Indigenous Programs**. As part of the renewal of the Aboriginal Aquatic Resource and Ocean Management program[xix] (AAROM), the Indigenous Program Review Panel[xx] released its phase one report in May 2018. The renewed AAROM program was launched with a new application process and networking activities. Most notably, the Northern Integrated Commercial Fisheries Initiative[xxi] was launched in May 2019. It is based on engagement and recommendations from the National Indigenous Fisheries Institute and will be co-delivered with Indigenous leaders in the fisheries sector. Through their unique co-development design and focus on achieving tangible outcomes identified by Indigenous partners, the Department's Indigenous commercial fisheries development and collaborative management programs are designed to promote equality for Indigenous people across Canada. In addition, a review of the Pacific Integrated Commercial Fisheries Initiative and the Atlantic Integrated Commercial Fisheries Initiative was completed in May 2019 and as a result DFO identified and implemented changes aimed at strengthening both programs.

The Department explored **federal aquaculture legislative regime**[xxii] options to help address concerns raised by Indigenous groups and stakeholders with respect to aquaculture growth, while protecting the environment. Following engagement with Indigenous groups, provinces, territories, and stakeholders, options were presented to the Canadian Council of Fisheries and Aquaculture Ministers in December 2018. The Ministers agreed to an approach to federal aquaculture legislation with limited scope that respects federal, provincial, and territorial jurisdiction and provides greater clarity to the sector.

In support of DFO's robust aquaculture science program, the Department conducted **aquaculture far-field monitoring** (water sediment and sub-sediment sampling) in all coastal regions, following a newly-developed, nationally-consistent sampling plan, for both finfish and shellfish sites. This allows the Department to better monitor any impacts of aquaculture well beyond the actual footprint of the specific site and will contribute to better understand the impact over time of this and other human activities on our oceans.

Evaluation of the Sustainable Aquaculture Program
The evaluation assessed the relevance, performance, and efficiency of the Program, with an emphasis on Atlantic Canada. The Program performs regulation and policy development activities that are supported by aquaculture research and peer-reviewed science advice, as well as enforcement activities. The evaluation recommended clarified program objectives, expanded scientific expertise, assessment of the risk of non-compliance with aquaculture regulation, enhanced enforcement and the establishment of regional working agreements with federal and provincial partners for coordinated enforcement, clarification of internal roles and responsibilities regarding siting decisions, harmonized decision-making, and the establishment of service standards to ensure timely delivery of advice.

DFO moved forward with its Management Action Plans in response to recommendations in the 2017-18 Evaluation of the Sustainable Aquaculture Program[xxiii]. As of March 2019, DFO began developing an analysis and proposal for a redesigned Sustainable Aquaculture program that aligns with the Department's four core responsibilities. DFO has established operational agreements with Environment and Climate Change Canada on both coasts for testing aquaculture samples. DFO also addressed a gap in its research capacity in the area of contaminant fate and effects (i.e. the distribution, degradation, and consequences of pollutants like oil in marine environments), which responds to recommendations of the evaluation.

The **National Fisheries Intelligence Service** (NFIS) is the intelligence arm of the Conservation and Protection (C&P) program. C&P enforces the *Fisheries Act* and associated Acts and Regulations to protect Canada's fisheries, aquatic ecosystems, waterways, and resources from unlawful exploitation and interference. NFIS produces strategic and tactical intelligence products to inform C&P's intelligence-led enforcement approach, and received an international award[xxiv] recognizing its leadership in the development of intelligence analysis methodology. In 2018-19, C&P used Integrity Investment resources to complete the NFIS organization through the implementation of its Central Zone, including 14 new intelligence officers and analysts. C&P also invested in the continuing operation of two National Digital Forensics Service laboratories (in the East and West zones) and one satellite laboratory (in Newfoundland), and in 2018-19 these laboratories supported over 30 C&P investigations and inspections.

To further enforce measures to protect our oceans and ensure sustainability of Canadian fisheries, on March 4, 2019, the Government of Canada announced a five-year contract[xxv] to provide fishery officers with longer range aircraft, expanding their range of operations and giving them enhanced tools to combat illegal fishing and increase Canada's maritime security. With bases in Nova Scotia, Newfoundland and Labrador, and British Columbia, this aerial surveillance will also allow high-fishing areas to be patrolled more often and for longer periods, and will help enforce measures put in place to protect endangered whales.

Fisheries and Aquaculture Clean Technology Adoption Program

In 2018-19, through the Fisheries and Aquaculture Clean Technology Adoption[xxvi] program (FACTAP), DFO signed 38 contribution agreements totalling just under $4.8 million. This funding supported improvements in clean technology for the fisheries, aquaculture, and fish processing sectors to reduce the potential environmental impacts of their activities. The types of projects that have been funded include:

- solar conversions for electricity generation;
- waste management process improvements;
- installation of energy efficient equipment such as heat pumps and environmentally friendly trawl gear that allows harvesters to reduce bycatch (catching animals that are not the ones intended);
- equipment to better visualize the ocean floor, avoid sensitive habitats, and prevent potential ghost gear losses. Ghost gear refers to any fishing equipment or fishing-related litter that has been abandoned, lost, or otherwise discarded and is some of the most harmful and deadly debris found in oceans.

Notably, in 2018, FACTAP committed $1.2 million over two years towards an energy-generating winch system that will be part of a suite of new energy-efficient devices designed to make the vessel the most "green" trawler in Newfoundland in a generation.

Results Achieved

Expected Departmental Result	Departmental Result Indicator	Target	Actual Results
Canadian fisheries are sustainably managed	Percentage of major fisheries that have limit reference points and harvest control rules	Greater than or equal to 42% by March 31, 2019	2016-17: 42% 2017-18: 43% 2018-19: 40%
	Percentage of decisions for major fisheries where harvest control rules were followed	100% by March 31, 2019	2016-17: N/A 2017-18: 100% 2018-19: 100%
	Percentage of major stocks in the cautious and healthy zone	Greater than or equal to 75% by March 31, 2020	2016-17: 67% 2017-18: 63% 2018-19: 49%
Canadian aquaculture is sustainably managed	Percentage of aquaculture farms that are compliant with *Fisheries Act* regulations	Greater than or equal to 90% by March 31, 2019	2016-17: 100% 2017-18: 83%[5] 2018-19: 99%
	Level of Canadian aquaculture production	Greater than or equal to 170,000 tonnes by March 31, 2019	2016-17: 187,374 tonnes 2017-18: 200,565 tonnes 2018-19: 191,416 tonnes
The commercial fishing industry has access to safe harbours	Percentage of core harbours that are in fair or better condition	Greater than or equal to 80% by March 31, 2019	2016-17: 86% 2017-18: 89% 2018-19: 89%
Fisheries, oceans and other aquatic ecosystems are protected from unlawful exploitation and interference	Percentage of compliance per inspection activity within the DFO regulated community	Greater than 90% by March 31, 2019	2016-17: 94% 2017-18: 96% 2018-19: 94%
Scientific information on fisheries resources is available to inform management decisions	Percentage of scheduled fisheries science advisory processes that were completed	Greater than or equal to 90% by March 31, 2019	2016-17: 96% 2017-18: 92% 2018-19: 100%
	Percentage of sustainable aquaculture research projects which provide information and/or advice to policy and decision-makers	100% by March 31, 2019	2016-17: 100% 2017-18: 100% 2018-19: 100%

[5] The decline in 2017-18 is due primarily to expanded inspection in the shellfish sector in the Pacific region.

Expected Departmental Result	Departmental Result Indicator	Target	Actual Results
Improved relationships with and outcomes for Indigenous people	Percentage of eligible Indigenous groups represented in agreements	Greater than or equal to 97% for AICFI[6] by March 31, 2019	2016-17: 97% 2017-18: 97% 2018-19: 97%
		Greater than or equal to 85% for PICFI[7] by March 31, 2019	2016-17: 85% 2017-18: 85% 2018-19: 85%
	Number of Indigenous people employed in commercial and collaborative management activities	Greater than or equal to 4,550[8] by March 31, 2019	2016-17: 4,535 2017-18: 4,529 2018-19: 4,535

Note: N/A indicates that the performance indicator was not in effect at that time, and therefore, data is not available.

As shown in the Results Achieved table above, DFO tracks its progress towards developing **precautionary approach reference points and harvest control rules for the major fish stocks** on the Sustainable Fisheries Framework[xxvii] checklist. The precautionary approach recognizes that in the absence of scientific certainty, conservation measures can and should be taken when there is knowledge of a risk of serious or irreversible harm to the environment and/or resources using best available information. DFO's precautionary approach policy identifies three stock status zones: healthy, cautious, and critical. Stocks in the critical zone are at low levels of abundance and serious harm could occur to the stock. Harvest control rules are agreed-upon management actions based on the population status of the stock; for example, if the population of a fish stock is above a specified level, a certain amount of harvesting can take place. DFO assesses fish stock levels by comparing the size of the stocks to reference points. The limit reference point (LRP) is the point below which the stock is in the critical zone and serious harm is likely.

In 2018-19, the Department broadened its oversight of stocks by adding new stocks to those that are surveyed in the Sustainability Survey for Fisheries[xxviii]. These new stocks were added to the list at a faster rate than LRPs and HCRs could be assigned to stocks, which resulted in a slight decrease in performance from the previous year. The assignment of LRPs and HCRs requires consultations and the acquisition of scientific data, both of which take considerable time. In March 2019, DFO published its work plan for 2019-20[xxix], which acts as a guidance document for prioritizing work throughout the year, and is expected to improve the Department's performance in this area despite the more ambitious number of stocks assessed. The target of 42 per cent includes stocks with LRPs and HCRs. DFO manages all major stocks to achieve goals of sustainable fisheries, whether HRCs are in place or not. For example, stocks without HRCs have management measures in place such as total allowable catches and time or area closures. Also, in addition to developing HCRs and LRPs, DFO prioritized the development of rebuilding plans for 19 fish stocks[xxx] in the precautionary approach critical zone.

[6] AICFI is the Atlantic Integrated Commercial Fisheries Initiative.
[7] PICFI is the Pacific Integrated Commercial Fisheries Initiative.
[8] These 4,550 include the 1,600 "Indigenous people employed in aquatic ecosystems and oceans science" (Results Achieved table on page 28).

As shown above, 49 per cent of **major stocks are in the cautious and healthy zone**. This number is due in part to the fact that over 40 per cent of major stocks currently have an unknown status. Recent amendments to the *Fisheries Act*[xxxi], which will require measures to maintain certain stocks at sustainable levels and implementation of rebuilding plans for some stocks that are depleted, are expected to contribute to improvements in performance over time.

As shown in the Results Achieved table above, the target for the percentage of **aquaculture farms that are compliant with *Fisheries Act* regulations** was exceeded. Enforcement efforts have identified some trends of non-compliance, but overall compliance is good. DFO's National Fisheries Intelligence Service has been engaged to gather additional information around specific areas of concern to assist in setting priorities. This work supports DFO's response to a recommendation in the CESD's Spring 2018 audit of Salmon Farming[xxxii], which recommended that DFO "should more effectively enforce aquaculture regulations and pursue additional enforcement measures."

Six Gender-based Analysis Plus (GBA+) Profiles were created for the seafood harvesting and seafood processing sector in the Maritimes region. The profiles were created for four geographical areas and are intended to provide analysts and decision-makers in the region with a tool to apply a GBA+ lens to their work.

In the Central and Arctic region, DFO performed the following GBA+ activities in order to generate disaggregated information on sex, gender, and other identity factors and impacts on diverse groups of people:

- socioeconomic analysis for Greenland halibut was presented to stakeholders at the Fishery Review Meeting held in February 2019;
- a cost-benefit analysis was completed for the proposed Tuvaijuittuq Marine Protected Area;
- a socioeconomic overview was completed for the High Arctic Basin Area of Interest; and
- a socioeconomic Risk Assessment of the presence of Grass carp in the Great Lakes Basin was performed and included an experimental design component to establish a linkage between ecological risk and socioeconomic risk and uncertainty.

Budgetary Financial Resources (dollars)

2018-19 Main Estimates	2018-19 Planned Spending	2018-19 Total Authorities Available For Use	2018-19 Actual Spending (Authorities Used)	2018-19 Difference (Actual minus Planned)
664,630,910	664,630,910	815,466,358	681,775,648	17,144,738

Human Resources (full-time equivalents)

2018-19 Planned	2018-19 Actual	2018-19 Difference (Actual minus Planned)
2,911	2,871	-40

Financial, human resources and performance information for Fisheries and Oceans Canada's Program Inventory is available in the GC InfoBase[xxxiii].

Aquatic Ecosystems

Description

Conserve and protect Canada's oceans and other aquatic ecosystems and species from human impact and invasive species.

Departmental Results

The Aquatic Ecosystems Core Responsibility is focused on advancing the following Departmental Results:

- negative impacts on Canada's oceans and other aquatic ecosystems are minimized or avoided;
- scientific information on Canada's oceans and other aquatic ecosystems is available to inform management decisions; and
- improved relationships with and outcomes for Indigenous people.

The indicators used to measure progress towards these results appear in the Results Achieved table on page 28.

To support the Minister of Fisheries, Oceans, and the Canadian Coast Guard in achieving these results, the Department carried out the following key initiatives and activities.

Results

DFO has a significant responsibility to protect the health of Canada's oceans and aquatic ecosystems. The Department exceeded its goal of conserving five per cent of Canada's marine coastal areas, having created marine protected areas and other effective conservation measures (OECMs) for 7.92 per cent. DFO also supports these ecosystems with the Oceans Protection Plan and the Coastal Restoration Fund. The Department also contributes to the protection of Canada's species, such as the endangered North Atlantic right whale, and performs measures to

prevent the spread of aquatic invasive species, like Asian carp, as well as supporting oil spill response measures.

Finally, DFO also promotes scientific activities through initiatives like the Arctic Science Fund. More information on these and other initiatives can be found below.

DFO takes its conservation responsibilities very seriously and undertook a variety of activities to achieve its goals. Having met its target of **protecting five per cent of Canada's marine and coastal areas**[xxxiv] by 2017, DFO built on this achievement by continuing to work with its federal partners and stakeholders to increase the proportion of areas protected to 7.92 per cent in 2018-19.

In June 2018, the Canada-Quebec Collaborative Agreement[xxxv] to establish a Marine Protected Area (MPA) network in Quebec was announced. Under this agreement, all MPA projects in Quebec will be jointly selected, planned, implemented, and designated by federal and provincial governments. The first project carried out under the Canada-Quebec Collaborative Agreement is the Banc-des-Américains MPA, designated under the *Oceans Act* in March 2019. The MPA has a conservation objective to encourage productivity and diversity of fisheries resources as well as the recovery of marine species at risk.

In addition, fisheries area closures that meet science-based criteria for OECMs[xxxvi], known as **marine refuges**, have been established throughout Canada's oceans to protect important species and ecosystem features. DFO also designated eight new marine refuges in Howe Sound to protect globally unique glass sponge reefs in 2018-19.

An agreement-in-principle was signed in October 2018 by the Government of Canada and the Qikiqtani Inuit Association that covered agreed-upon elements of the required Inuit Impact and Benefit Agreement for the **Tallurutiup Imanga National Marine Conservation Area in the Arctic**. It stated that both parties intend to work with the Government of Nunavut to initiate feasibility assessments for long-term protection measures in the High Arctic Basin. A Memorandum of Understanding (MOU) between the Government of Canada, the Government of Nunavut, and the Qikiqtani Inuit Association was agreed to in March 2019. The agreement (MOU) committed the parties to jointly consider long-term protection measures in Tuvaijuittuq.

In addition, DFO allocated $55 million in funding under the **Coastal Restoration Fund**[xxxvii] to 39 projects that are working to protect and restore important marine ecosystems on all Canadian coasts. The work is done through support for Indigenous and community groups, academics, and nonprofits, and all of the approved projects included Indigenous involvement in their planning or implementation. The funded projects undertook a combination of planning, restoration, capacity building, monitoring, reporting activities, and the mitigation of stressors affecting aquatic habitats and marine life. The funded projects began planning for their restoration work, and many of these initiatives have also begun physical restoration based on these plans.

DFO also built on the endorsement of the Pacific North Coast Integrated Management Area[xxxviii] Plan in February 2017 by continuing its progress in **planning and governance in the Pacific North Coast.** A Reconciliation Framework Agreement (RFA) for Bioregional Oceans Management and Protection between the Government of Canada (DFO and the Coast Guard, Transport Canada, Crown-Indigenous Relations and Northern Affairs Canada, and Environment and Climate Change Canada) and 14 North and Central Coast First Nations has been negotiated and was endorsed by all parties in June 2018[xxxix]. Parties to this RFA began to, and continue to, work together to coordinate ongoing efforts in oceans management and conservation of the Pacific North Coast, including the Pacific Northern Shelf bioregional conservation network. Of the 36 projects that contributed to the regional planning and response process across Canada, 18 took place in the Pacific region, and 17 of these were funded through contribution agreements with Indigenous Nations, non-governmental organizations, universities, and others.

In support of consistency and transparency around the work on MPAs, DFO developed and implemented a first-of-its-kind course on **cost-benefit analysis** (CBA) for regulatory programs that was well-attended by departmental economists from all regions throughout Canada. Cost-benefit analysis for regulatory programs is a structured approach to identifying and considering the economic, environmental, and social effects of a regulatory proposal so that decision-makers can determine which option will generate the greatest overall benefits to Canadians. This work was undertaken to ensure a common level and baseline understanding of departmental and federal approaches, with a view to ensuring national coherence in regulatory CBAs. DFO also published summaries of regulatory CBAs to increase transparency in decision-making. This work responds to the recommendations from the December 2018 Report on Canada's Network of Marine Protected Areas[xl] by the Canadian Council of Fisheries and Aquaculture Ministers (CCFAM).

Mobile Incident Command Centre

DFO began work on the development of a mobile Incident Command Operations Centre for response actions on Asian carp. In order to raise Canadians' awareness of the four species of Asian carp, DFO funded a live Asian carp educational exhibit at the Toronto Zoo throughout 2018-19, as well as a series of educational Asian carp webinars[xli].

DFO continues to transform its management tool kit using **genomics** research. The Department's scientists completed two multi-year research projects to develop and field test new tools that use environmental DNA (eDNA) to help detect and monitor invasive and at-risk species. The first tool aims to monitor finfish communities, including potential invasive fish, by applying DNA metabarcoding techniques, which is an advanced genomics method that can identify the presence of multiple species in one sample. The second eDNA tool targets the detection of specific single species by using techniques such as quantitative PCR (qPCR) or Digital PCR (dPCR). These advanced genomics technologies are seen as promising innovations that will allow for low-cost options for broad-scale and community-level monitoring of changes in biodiversity, invasive, and at-risk species resulting from climate change and other human activities. Specifically, two research projects were funded in 2018-19 under the Genomics Research and Development Initiative. The first tested an application of a hand-held tool to detect zebra mussels in the field using eDNA methods to support rapid mitigation efforts in the prairie provinces to prevent the spread of these invasive species. The second tested rapid and sensitive eDNA methods for early detection and mitigation of aquatic invasive species and at-risk species in Atlantic Canada.

Evaluation of the Fisheries Protection Program

In 2018-19, DFO made improvements to the Fisheries Protection Program, including to better address aquatic invasive species and complement the existing Asian carp and sea lamprey control programs. The Aquatic Invasive Species (AIS) Program was developed, national objectives were identified, and a governance structure was finalized in April 2018. The Program continued to build its capacity, with a goal to reach full operational capacity by 2021-22. This work responds to the 2016-17 Evaluation of the Fisheries Protection Program[xlii]. The evaluation recommendations focused on ensuring that DFO identifies clear national objectives for the AIS component and develops a governance structure that ensures accountability for results. With respect to the protection of fish, recommendations focused on DFO developing a clear plan to ensure that the required standards and guidelines are developed and implemented and that there is adequate oversight and monitoring of projects taking place on or near water. In addition, DFO developed new, modern monitoring plans, tools, and protocols to ensure that fisheries protection data is collected, analyzed, and captured in a consistent and standardized way. The Department reports on this data and outcomes achieved through an Annual Report to Parliament[xliii].

In support of the international Ballast Water Management Convention[xliv], DFO provided scientific advice to Transport Canada on the effectiveness of different **ballast water management**[xlv] strategies and published[xlvi] it in May 2019. This science advice then fed into the development of new *Canadian Ballast Water Regulations*[xlvii] by Transport Canada, which will help to protect Canada's waters from international aquatic invasive species being transported in ballast water.

Ballast water is water which is taken on by ships to provide stability and can later be discharged at a different location.

DFO is responsible for supporting Canada's **aquatic species at risk** under the *Species at Risk Act*[xlviii] (SARA). Within the Department, SARA is implemented to:

- manage species of special concern to prevent them from becoming endangered or threatened;
- provide for the recovery of wildlife species that are no longer in the wild, are endangered, or are threatened as a result of human activity; and
- prevent wildlife species from disappearing in the wild or becoming extinct.

Budget 2018 announced an investment of $1.3 billion over five years to support Canada's biodiversity and protect species at risk under the **Nature Legacy for Canada**[xlix]. This investment includes a federal contribution of $500 million to the $1 billion Nature Fund[l] to be delivered in collaboration with partners, with the aim of enabling multi-species, threat- and ecosystems-based approaches to species at risk recovery, protection, and management. For its part, DFO launched the $55 million Canada Nature Fund for Aquatic Species at Risk[li] with the aim of slowing the decline of aquatic species at risk and enabling a leap forward in species recovery through targeted funding for priority species, places, and threats. The program was launched in 2018-19 with an investment of approximately $1 million for five projects to help conserve aquatic species at risk. An additional 50 projects will be funded from 2019 through to 2023. In addition, the Aboriginal Fund for Species at Risk invested more than $2.2 million for 51 projects, and the Habitat Stewardship Program invested roughly $1.6 million in new stewardship projects and $2.2 million in continuing multi-year projects.

The Department, under Environment and Climate Change Canada's (ECCC) leadership, worked toward addressing the recommendations of the 2018 Horizontal Evaluation of the Species at Risk Program[lii]. DFO completed the three deliverables identified for action by March 2019. Implementation plans were established, focusing on multi-species approaches for priority places, species, and threats. DFO identified aquatic species at risk priorities for recovery actions in collaboration with stakeholders and Indigenous peoples and assessed best practices and policy approaches as they relate to the use of non-regulatory tools in supporting conservation outcomes for at-risk aquatic species.

DFO moved forward with action planning and the implementation of **recovery and protection measures for species at risk**. Specifically, the Department published recovery and management documents for more than 35 species and watersheds[9], setting out recovery and management objectives and identifying actions for the implementation of recovery measures. DFO also established the legal protection of critical habitats by issuing Critical Habitat Orders to protect the territories of 15 aquatic species. One example of the implementation of recovery measures is a Canadian Science Advisory Secretariat[liii] Science Advisory Report, Cumulative Effects Assessment for Northern and Southern Resident Killer Whale (Orcinus Orca) Populations in the Northeast Pacific[liv], which was published in March 2019, addressing a high-priority recovery measure identified in the Northern and Southern Resident Killer Whale Action Plan. This work aligns with priorities set out in the Nature Legacy, including through the advancement of multi-species, ecosystem-based approaches for priority places, species, and threats.

In 2018, DFO also released its updated and enhanced online **aquatic species at risk mapping tool**[lv]. This new and improved interactive map allows Canadians to see where aquatic species at risk and their critical habitats are located. Built on a user-friendly and intuitive platform, it replaces 375 static maps and allows users to zoom in and out on the data they are interested in and save and share their results. Most importantly, this mapping tool is an important resource for those who conduct projects near water, including projects that conserve and restore marine and freshwater environments, to help protect aquatic species at risk. In addition, and in support of the Species at Risk Program, the Department developed a framework for integrating economic analysis into the species at risk recovery cycle to further advance the protection, conservation, and recovery of at-risk aquatic species.

In June 2018, the Government of Canada announced Canada's **Whales Initiative**, a $167.4 million initiative to protect and support the recovery of the Southern Resident killer whale (SRKW), North Atlantic right whale (NARW), and the St. Lawrence Estuary beluga (SLEB). Several new initiatives in support of the protection of endangered whales were launched in 2018-19, many of which were undertaken in collaboration with Transport Canada, ECCC, and Parks Canada.

[9] A watershed is an area where precipitation drains into a body of water.

In 2018, the Department, along with Transport Canada and ECCC, also established the **SRKW Indigenous and Multi-stakeholder Advisory Group** to bring together Indigenous groups, multiple stakeholders, and affected communities to support communication and the coordination of activities to recover SRKW. Meetings of this group provide a forum for participants to discuss planned and in-progress SRKW actions, provide advice on SRKW recovery actions, identify opportunities for collaboration, promote dialogue, and improve shared understanding to reduce SRKW threats.

As part of Canada's Whales Initiative, Whale Science for Tomorrow[lvi] was announced in August 2018 to provide **funding to Canadian universities** for research on endangered whales in Canadian waters. This joint collaboration between DFO and the Natural Sciences and Engineering Research Council of Canada supports research that will aid the recovery of SRKW, NARW, and SLEB. In March 2019, close to $3 million in funding was provided to support three major research projects at Dalhousie University, the University of British Columbia, and the Université du Québec à Montréal.

In direct support of work in 2018-19, DFO hosted a workshop in February 2018, that brought together Canadian and international experts to review existing and emerging real-time **whale detection technologies**. Detecting the presence of whales in real-time could help alert mariners to the presence of whales in a particular area and reduce the risk of vessel collisions with whales. In addition, under the Oceans Protection Plan's Whale Detection and Avoidance initiative, DFO provided funding to partners to develop and/or test technologies that are able to detect the presence of whales in near real-time, specifically NARW and SRKW. These technologies include underwater microphones on both fixed and mobile platforms, such as autonomous underwater gliders that can detect whale sounds 24/7, and infrared cameras. The ability to capture up-to-date information on whale presence could help alert mariners to the presence of whales in a particular area and reduce the risk of vessel collisions with whales.

Recently, DFO began testing new **acoustic technology** in the Gulf of St. Lawrence that is capable of detecting the presence of NARW in near-real time. This testing involved the development and operation of whale voice sensors on DFO's existing oceanographic monitoring buoys, part of DFO's ocean observation network in the Gulf of St. Lawrence. The ability to capture up-to-date information on NARW presence in the Gulf of St. Lawrence could help with reducing the risk of vessel collisions with whales and whale entanglement in fishing gear by introducing fisheries management measures where and when necessary. In June 2018, DFO announced funding to support WhaleMap[lvii], a new interactive tool developed by Dalhousie University. This mapping tool displays recent NARW sightings and acoustic detections in eastern Canadian waters. These sightings and acoustic detections are collected from various sources, including aerial surveillance, vessel-based sightings, and underwater gliders equipped with microphones that record whale vocalizations. By publishing this information on the web, partners will be better

able to work together and ocean industries and members of the public will have rapid access to the most comprehensive information available.

DFO dedicated significant survey efforts to better locate and map **North Atlantic right whales** in the Gulf of St. Lawrence. The Department conducted a total of 1,700 survey hours (900 aerial and 800 boat-based) to locate right whales to support a review of the species distribution in Canadian waters conducted at the Canadian Science Advisory Secretariat meeting in November 2018. This advice was used by decision-makers in both DFO and Transport Canada to develop fishing and shipping management measures for 2019-20. In addition, detection of other whale species through this survey will contribute to better understanding their distribution and abundance.

Under the Oceans Protection Plan's Marine Environmental Quality initiative, DFO provided funding to partners to undertake research that will help to better understand the impact of **shipping-related noise** on marine mammals, specifically the endangered NARW, SLEB, and SRKW.

For SRKW, some of these initiatives resulted in the implementation of **management recovery measures** in the 2018 and 2019 fishing seasons. The Government of Canada and its partners initiated the development of management measures for SRKW in November 2018, following the announcement in October 2018 of a further investment of $61.5 million over five years to address threats to SRKW. The measures DFO undertook include:

- critical habitat was protected off the west coast of Vancouver Island;
- aerial surveillance over SRKW critical habitat was increased by 30 per cent in 2018, following the implementation of fishery management measures for Chinook salmon, the whales' preferred prey;
- hatchery production of Chinook salmon was increased;
- changes were made to vessel approach distances in the *Marine Mammal Regulations*[lviii]; and
- Transport Canada led on sharing voluntary measures ships could take to avoid disturbing the killer whales.

The Department partnered with ECCC and Parks Canada with the goal of meeting international commitments under the **Convention on Biological Diversity** and national conservation target initiatives under the *Federal Sustainable Development Act*[lix] (FSDA). DFO contributed relevant information on population objectives to ECCC, which was then presented in aggregate by the Canadian Environmental Sustainability Indicators, the prime instrument to measure progress of the FSDA. DFO also worked toward its ongoing responsibility to meet a medium-term target under the

Biological diversity refers to all of the different kinds of life on Earth. Also called biodiversity, biological diversity is often used to refer to the total number of different species on Earth.

Healthy Wildlife Populations Chapter, which states that by 2020, species that are secure remain secure and populations of species at risk listed under federal law exhibit trends that are consistent with recovery strategies and management plans. Examples of actions taken by DFO to address the target include:

- continuing to streamline processes and procedures;
- adopting a multi-species, ecosystems approach for priority areas, threats and species to guide implementation efforts in line with the Nature Legacy; and
- mitigating capacity challenges.

Commissioner of the Environment and Sustainable Development Reports

DFO successfully reduced the number of outstanding recovery strategies and management plans, as well as action plans and critical habitat orders for aquatic species under the *Species at Risk Act*. As of March 2019, DFO had published 245 recovery-related documents for species at risk. This work responds to the Commissioner of the Environment and Sustainable Development (CESD)'s Spring 2018 report on Conserving Biodiversity[lx]. All published recovery documents can be accessed on the Species at Risk Public Registry[lxi].

In order to ensure that timely scientific advice was available to stakeholders and that backlogs were addressed, DFO met regularly with targeted stakeholder groups through regular proactive teleconference updates and at bilateral meetings and workshops. This work helped DFO make progress on responding to two recommendations in the CESD's 2018 Fall Report on Protecting Marine Mammals[lxii]. The CESD recommended that DFO, working with its partners, should implement the recovery measures identified in its action plans within the established time frames, and should implement measures that will protect marine mammals from the threats posed by marine vessels. A full list of the CESD's recommendations and DFO's responses for the performance audit on Protecting Marine Mammals is available on the website of the Office of the Auditor General of Canada[lxiii].

The Government of Canada is moving forward with **modernization in response to reviews of environmental and regulatory processes**, including amendments to the *Fisheries Act*[lxiv] to restore lost protections and incorporate modern safeguards. In addition, amendments to the *Navigation Protection Act*[lxv] were proposed, including renaming the Act to the *Canadian Navigable Waters Act*. The repeal and replacement of the *Canadian Environmental Assessment Act, 2012*[lxvi] with the new *Impact Assessment Act* and repeal and replacement of the *National Energy Board Act*[lxvii] with the *Canadian Energy Regulator Act* were also proposed. In addition, the proposed amendments in *Bill C-68 (An Act to amend the Fisheries Act and other Acts in consequence)*[lxviii] and *Bill C-69 (An Act to enact the Impact Assessment Act and the Canadian Energy Regulator Act, to amend the Navigation Protection Act and to make consequential amendments to other Acts)*[lxix] support important cross-cutting areas, such as public transparency and partnering with Indigenous peoples. All of these Acts received royal assent in June 2019. In addition to the legislative changes proposed in the *Fisheries Act*, the Department must be prepared to support the new requirements. DFO received additional resources to revitalize the Fish and Fish Habitat program through Budget 2018, and additional resources were also announced in the 2018 Fall Economic Statement to support the implementation of the Fish Stocks provisions. Initial staffing was undertaken in the regional offices to support the growth. DFO also allocated resources to support the implementation of the amendments and reconciliation with Indigenous peoples, including funding to support a grants and contributions program to support the participation of Indigenous peoples in fish and fish habitat conservation and protection.

Canada's marine ecosystems are undergoing significant changes in their structure and dynamics, which are related to a combination of climate change, natural variability (the normal changes that can occur in climates), and other human pressures. The Department is monitoring and studying the effects that changing ocean conditions are having on Canada's fisheries, aquatic ecosystems, and coastlines through the recently renewed **Aquatic Climate Change Adaptation Services Program** (ACCASP). In 2018-19, ACCASP funded 17 projects across Canada to advance work within the three priority areas of the program:

- monitoring and research to understand the state, extent, and impacts of changing ocean chemistry;
- assessments to understand the vulnerability of fisheries and small craft harbours to the impacts of climate change; and
- refinement of applied ocean models to improve the understanding and forecasting of ocean conditions such as water temperature, currents, and ocean chemistry.

DFO's scientists also contributed to ***Canada's Changing Climate Report***[lxx], which documents how and why Canada's climate has changed and what changes are projected for the future. The DFO-led 'Changes in Oceans Surrounding Canada' chapter of the report contains key messages related to the physical and chemical changes in the oceans surrounding Canada, such as changes in acidity, oxygen concentrations, and nutrient supply in specific areas, and discusses these changes in the context of changes caused by human impacts and natural climate variability.

The **Arctic Science Fund** supported research projects to examine Arctic marine climate change impacts. Eight projects were completed in 2018-19. Research was conducted in the Last Ice Area, the only Arctic region projected to retain summer sea ice until 2050. The research included ice core collections that look at deep columns of ice and the history they reveal, under-ice remotely operated vehicle surveys, drone and airplane aerial surveys of ice and marine mammals, and autonomous oceanographic observations. Field research in coastal and offshore Arctic marine ecosystems was also conducted in partnership with other government departments, northern communities, and scientists. This included extensive multi-disciplinary research in the Last Ice Area. The first marine mammal surveys in this region revealed a northern extension of the known distribution range of Atlantic walrus. This research improves understanding of Arctic ecosystems and how climate change is affecting species and habitats.

DFO continued to make improvements to the **Canadian Extreme Water Level Adaptation Tool**[lxxi], a science-based planning tool for climate change adaptation of coastal infrastructure related to future water-level extremes and changes in average wave heights (resulting from a combination of storm surges, tides, and ocean waves). Future projections of climate change in the marine environment indicate that rising sea levels and declining sea ice will cause changes in extreme water levels, which will impact Canada's coastlines and the infrastructure in these areas. Understanding these changes is essential for developing adaptation strategies that can minimize the harmful effects that may result. Extreme water levels along the marine coastline

are a result of a combination of storm surge, tides, and ocean waves. In 2018-19, a storm surge model was completed for the coast of B.C., which provides improved estimates of extreme water level history over the past four decades. This research was jointly carried out by the Institute of Ocean Sciences[lxxii] and the Bedford Institute of Oceanography[lxxiii] and will improve DFO's advice on vertical allowances[10] for sea level rise for small craft harbour locations in the Pacific region.

DFO worked with Indigenous and coastal communities and other stakeholders to establish and begin 39 projects to collect **coastal baseline information** at six sites, including one in the Arctic. The data being collected will be used to characterize and describe the coastal ecosystems and may help to inform evidence-based decision-making, including assessments of the effects over time of marine shipping, an initiative led by Transport Canada.

In support of sound, science-based decision-making, DFO also invested in **oceanographic observation, modelling, and monitoring**. For example, the Department deployed 23 Argo floats (drifting measurement devices that can be programmed to rise and sink on a schedule); deployed ten Viking buoys[lxxiv] that gather, archive, and transmit data; and flew 12 aquatic glider missions, collecting data on a variety of ocean variables.

To improve the efficiency and effectiveness of the Department's science activities, DFO purchased **new oceanographic equipment**. DFO acquired and successfully operated a Remotely-Operated Vehicle (ROV) under the multi-year pack ice of the High Canadian Arctic, providing the first observations of this type obtained by Canadian scientists. This region is one of the most remote and inaccessible regions in the world and is lacking baseline ecological knowledge. This technological advancement enhances data acquisition and characterization of unique sea ice ecosystem features to assess the current and future state of Canada's oceans that would not be accessible otherwise. DFO also purchased oxygen and fluorescence sensors to measure the amount of oxygen and chlorophyll in the water, as well as acoustic releases, which allow devices left to collect data on the sea floor to be retrieved by sending acoustic command signals causing them to rise to the surface for collection. These investments replace aging equipment used to assess oceanographic processes and ensure that DFO has the capacity to produce sound scientific information for decision-making.

DFO also conducted a ship-based survey in August and September of 2018 to sample the **Beaufort Sea ecosystem** in new areas and began to estimate ecosystem function and variability. The program, Canadian Beaufort Sea Marine-Ecosystem Assessment, was delivered with the support of co-management partners and community-hired staff. Sampling at priority locations

[10] Vertical allowances are recommended changes in the elevation of coastal infrastructure required to maintain the current level of flooding risk in the sea level rises that are predicted for the future.

enabled multi-year measurements required to assess changes over the years. Ecosystem sampling also targeted locations near sea ice that melt seasonally and have highly variable ice conditions, as well as locations in bays to examine the ecological roles of different habitats and their connections to the coastal and broader Beaufort region. In 2018-19, unlike in recent years, ice coverage in the study area was extensive during summer and fall months and presented unique opportunities to obtain summer samples near ice margins, a habitat that is understudied and is being altered due to the changing climate. The data from this survey work will support management and policy plans of the Department and the Government of Canada, including regional strategic environmental assessments, marine conservation targets, Arctic leadership, and new fisheries.

The Department also focused its research and monitoring efforts on increasing knowledge of freshwater ecosystems through an investment of $4 million over four years in the International Institute for Sustainable Development's **Experimental Lakes Area** in northwestern Ontario to support data collection for long-term data sets, analysis, and efforts to make this data available to the public.

Oil Spill-Response under the Oceans Protection Plan
In December 2017, the Government of Canada announced the $45.5 million Multi-Partner Research Initiative[lxxv] (MPRI) under the Oceans Protection Plan to establish an integrated, international research network to advance oil spill research in Canada and enhance Canada's level of preparedness and response capability. This initiative advances scientific knowledge to address major gaps in oil spill response and remediation strategies that will support the development, validation, and Canadian regulatory approval of Alternative Response Measures. The MPRI network of over 30 interconnected projects not only creates valuable training opportunities for Canadian university faculty and the next generation of experts, but also networks with key national and international organizations in oil spill research and response. The MPRI connects federal departments, provinces, indigenous groups, universities, foreign experts, industry, government agencies, and response organizations. Work is being funded on spill treating agents, on-site burning, oil translocation, decanting and oily waste disposal, natural attenuation, analytical chemistry, toxicology and modeling. The outcomes from the project will enhance the government's capability to predict oil behaviour, fate (i.e. distribution and degradation), and effects under Canadian conditions, as well as contributing essential information needed for the development and validation of Alternative Response Measures.

Under the new OPP project, Improving Substance Drift Prediction and Near-shore Modelling, the Government of Canada started building and refining **models for the prediction of ocean characteristics** like current, water level, temperature, and salinity in ports. New or improved ocean models will allow the Government of Canada to better predict the path of drifting substances, like spilled oil. This will enhance the protection of coastal communities. The improved models will also inform quick electronic communication of water current and water level conditions to mariners, which will provide mariners with modern tools for safe navigation, especially in busy ports. DFO aims to provide new and enhanced near-shore models for Kitimat, B.C.; Port of Vancouver, B.C.; Strait of Canso Port, N.S.; Port of Saint John, N.B.; St. Lawrence River (Quebec-Montreal).

Evaluation of Science Funding
The Department recently undertook an evaluation of its competitive science funding programs, and the final report[lxxvi] was released in March 2019. The science funding is available to internal researchers in the Department to conduct studies on a variety of topics that support the Department's objectives and priorities, and exist alongside other departmental research programs. The evaluation's recommendations focused on transforming the allocation process, standardizing tools and processes, improving communication practices, and increasing client satisfaction and engagement. Also, a Gender-based Analysis Plus (GBA+) indicated that, though the proportion of female scientists that applied for funding in the sample was the same as the proportion of female scientists who were approved for funding, successful female applicants received 85 cents for every research dollar received by their male counterparts. These recommendations and findings will be considered in the transformation of the Department's competitive science funding process.

In support of advancing reconciliation, DFO established an internal **Indigenous Collaboration and Science Task Team** with representation across DFO's regional offices. DFO also established the **Arctic region** and prepared for the process of engaging with Indigenous groups toward the development of an Arctic Science Strategy. This work includes developing an Arctic project inventory, creating an Indigenous Knowledge coordinator role in the Department to develop a framework for incorporating Indigenous knowledge in decision-making, and engagement and awareness activities within the Department.

Results Achieved

Expected Departmental Result	Departmental Result Indicator	Target	Actual Results
Negative impacts on Canada's oceans and other aquatic ecosystems are minimized or avoided	Percentage of marine coastal areas that are protected	Greater than or equal to 10%[11] by December 2020	2016-17: 1.14% 2017-18: 7.75% 2018-19: 7.92%
	Percentage of development projects occurring in or near water that effectively avoid, mitigate or offset impacts to fish and fish habitat	100% by March 31, 2020	2016-17: N/A 2017-18: N/A 2018-19: 94%
	Percentage of aquatic species/populations at risk listed under the *Species at Risk Act* for which a recovery strategy/management plan is completed	Greater than or equal to 75% by March 31, 2020	2016-17: N/A 2017-18: 88% 2018-19: 93%
	Percentage of approved requests for science advice on aquatic invasive species that are completed	Greater than or equal to 90% by March 31, 2019	2016-17: 100% 2017-18: 0%[12] 2018-19: 100%
Scientific information on Canada's oceans and other aquatic ecosystems is available to inform management decisions	Number of science products related to aquatic ecosystems that are available	Greater than or equal to 60 per year by March 31, 2019	2016-17: 64 2017-18: 60 2018-19: 60
	Percentage of scheduled science advisory processes on aquatic ecosystems that were completed	Greater than or equal to 90% by March 31, 2019	2016-17: 100% 2017-18: 93% 2018-19: 100%
Improved relationships with and outcomes for Indigenous people	Percentage of eligible Indigenous groups represented by collaborative management agreements and aggregate-level management bodies in support of aquatic ecosystems	Greater than or equal to 78% for Aboriginal Aquatic Resource and Oceans Management (AAROM) by March 31, 2019	2016-17: 78% 2017-18: 78% 2018-19: 78%
		Greater than or equal to 90% for Aboriginal Fisheries Strategy (AFS) by March 31, 2019	2016-17: 90% 2017-18: 90% 2018-19: 90%
	Number of Indigenous people employed in aquatic ecosystems and oceans science	Greater than or equal to 1,600 for AFS and AAROM by March 31, 2019	2016-17: 1,591 2017-18: 1,590 2018-19: 1,590

Note: N/A indicates that the performance indicator was not in effect at that time, and therefore, data is not available.

[11] DFO will contribute to the national target of 10%.

[12] There was one request for science advice on aquatic invasive species in 2017-18. The final report was not completed by March 31, 2018 as planned due to the unavailability of expert peer reviewers.

As shown in the Results Achieved table above, DFO exceeded its target of 90 per cent completion for the percentage of **scheduled science advisory processes on aquatic ecosystems** in 2018-19. DFO completed 100 per cent of the processes. Multi-year Canadian Science Advisory Secretariat (CSAS) planning has allowed the Department to respond to shifting client priorities and capacity issues (e.g., deferring science advisory meetings to the following year, if required). The Secretariat coordinates the provision of peer-reviewed scientific advice to support DFO's programs.

The indicator "Percentage of **development projects** occurring in or near water that effectively avoid, mitigate or offset impacts to fish and fish habitat", in the Results Achieved table above, was recently developed. The goal was to achieve a target of 100 per cent by 2020, and in 2018-19 DFO made substantial progress toward the 2020 target by achieving 94 per cent through a revitalization of the program that includes new guidance[lxxvii] for Canadians on how to better protect fish and fish habitat.

Budgetary Financial Resources (dollars)

2018-19 Main Estimates	2018-19 Planned Spending	2018-19 Total Authorities Available For Use	2018-19 Actual Spending (Authorities Used)	2018-19 Difference (Actual minus Planned)
170,713,160	170,713,160	256,495,357	239,288,497	68,575,337

Human Resources (full-time equivalents)

2018-19 Planned	2018-19 Actual	2018-19 Difference (Actual minus Planned)
1,287	1,289	3

Note: Because of rounding, figures may not add to the totals shown.

Financial, human resources and performance information for Fisheries and Oceans Canada's Program Inventory is available in the GC InfoBase[lxxviii].

Marine Navigation

Description

Provide information and services to facilitate navigation in Canadian waters.

Departmental Results

The Marine Navigation Core Responsibility is focused on advancing the following Departmental Results:

- mariners safely navigate Canada's waters; and
- a Canadian maritime economy that is supported by navigable waters.

The indicators used to measure progress towards these results appear in the Results Achieved table on page 32.

To support the Minister of Fisheries, Oceans, and the Canadian Coast Guard in achieving these results, the Department carried out the following key initiatives and activities.

Results

DFO and the Coast Guard are responsible for ensuring that Canada's waters are safe and navigable for mariners. The Department performed survey work to provide more detailed charts of navigable areas, upgraded navigation equipment like replacing three-season lighted buoys with all-season ones, and modernized equipment that is used for broadcasting information about marine safety, like weather and navigation warnings. More information on these and other initiatives can be found below.

In 2018-19, the Department completed modern hydrographic surveys[lxxix] for 16 of the 23 high-priority commercial ports in Canada, created up-to-date paper and electronic navigational charts for nine high-priority commercial ports across the country, and conducted 11 LIDAR (Light Detection And Ranging) surveys of near-shore areas identified as priority or high-risk in Haida Gwai, B.C., Lower North Shore, Q.C., Lake Superior, ON, North Channel, ON, western Newfoundland, Northumberland Strait and eastern Nova Scotia. The Department also enhanced electronic navigational chart coverage of areas within the **Low Impact Shipping Corridors** that had not previously been sufficiently surveyed and published charts for three areas. Three areas were surveyed within the Low Impact Shipping Corridors, as well as two in Ungava Bay and the priority work in Chesterfield Inlet. Three charts were published and ten additional charts were in production at the end of 2018-19 for the following areas: Bellot Strait and Approaches, Prince Regent Inlet, Coral Harbour and Approaches, Sugluk Inlet, Puvirnituq, Puvirnituq et les approches, Pangnirtung and Approaches, Ulukhaktok, Spence Bay and Approaches, and Approaches to Koojesse Inlet.

In addition, 2018-19 marked a major leap forward in improving the availability of **bathymetric data** (maps of underwater terrain) for Canada's navigable oceans, rivers, and lakes. For the first time ever, the Department released a complete inventory of high-resolution NONNA-100 bathymetric data[lxxx] free to the general public for non-navigational use. NONNA-100 products combine all validated bathymetric data acquired by Canadian Hydrographic Services (a DFO program) from a variety of survey platforms, including satellites, aircraft, and oceangoing vessels, as well as leading technologies like multibeam echosounder (a type of sonar used to map the seafloor) and LIDAR. These bathymetric products include a wealth of detail about the nature of Canada's seafloor, its depth, and other underwater features of our major bodies of water. They will be of interest to anyone, from marine biologists to marine engineers, with a use for detailed bathymetric data for purposes other than navigation.

"NONNA" refers to the "NON-NAvigational" purpose of the data, while "100" indicates the approximate image resolution of 100 metres. NONNA-100 Bathymetric Data represents a five-fold improvement in detail and accuracy over the 500-metre data formerly available to the general public from the Department.

DFO uses **Aids to Navigation** (AtoN), which include visual aids, audible aids, radar, and electronic aids, to provide important navigational safety information such as changes to channels. Several new Design and Review Specialists (DRS) were hired across Canada to enhance the system

review capacity. In addition, the International Association of Aids to Navigation and Lighthouse Authorities pilot training for AtoN employees began, which is intended to lead to more consistently-designed AtoN systems and contribute to greater safety for mariners and greater efficiency in the delivery of the program. Similarly, work to create certification training for AtoN personnel operating in the field also progressed. The Coast Guard advanced work on pilot training for its managers through the International Association of Marine Aids to Navigation and Lighthouse Authorities.

Canadian Coast Guard **Marine Communications and Traffic Services centres**[lxxxi] (MCTS) provide distress and safety call monitoring and coordinate responses, broadcast maritime safety information (weather and navigational warnings), screen vessels entering Canadian waters, deliver information and advice to regulate marine traffic movement, and take appropriate action to ensure the safe and efficient movement of vessels in Canadian waters. Under the Oceans Protection Plan Operational Network Project, the Coast Guard achieved its objective of modernizing 50 per cent of its MCTS remote communication sites where equipment, such as radio communication devices and radar antennas, is located.

To ensure service delivery in the case of outages or emergencies, the Coast Guard partially completed a business continuity plan for the Atlantic region's Halifax MCTS centre and completed a draft of a national plan. This work supported solving technical challenges and service outages **in MCTS equipment** by introducing contingency plans and full redundancy in telecommunication circuits.

Work to add **new radars and sensors** to the network to strengthen coastal surveillance, including the planned delivery of six radar towers, progressed in 2018-19. The technical and contract specifications for the acquisition and installation of new radars have been completed by the Coast Guard.

As recommended by the 2017 Evaluation of the Marine Communications and Traffic Services Program[lxxxii], the Coast Guard began the implementation of a national quality management system (QMS), which is expected to significantly increase national consistency and continuous improvement of services to raise the quality of MCTS services to its clients. The Coast Guard prepared an internal report and audited 11 of the 12 MCTS centres.

The Department also worked to invest in **green technology** for AtoN and MCTS assets through Coast Guard investments in low-carbon energy solutions by updating old equipment that had been scheduled for replacement at remote navigational sites.

In support of the Minister's mandate letter commitment to work with the Minister of Transport and the Minister of Environment and Climate Change to improve marine safety, the Marine Navigation program continued work on the **Four-season Lighted Buoy** initiative. Each winter, over 300 lighted buoys marking the St. Lawrence shipping channel are removed due to severe ice conditions and are replaced by approximately 100 more durable but unlighted buoys. The absence of lighted buoys during winter navigation conditions contributes to the unique navigation challenges faced by mariners in this part of the river. Work in this area aims to develop and deploy lighted buoys that can withstand the harsh winter conditions in the St. Lawrence shipping channel.

A full complement of staff was put in place in the Coast Guard's Western, Central, and Atlantic regions to manage **requests for Technical Review Process of Marine Terminal Systems and Transhipment Sites** (TERMPOL[lxxxiii]), which are navigational safety assessments. These staff will help advance work on full navigation and ship safety reviews of proposed oil, gas, and other marine terminals (areas where vessels berth) and transhipment sites (designated areas where cargo is handled between vessels). Also, the Coast Guard was able to clear its backlog of TERMPOL requests, which are voluntary and are completed on demand. They identify risks and propose actions to enhance marine safety.

In 2018-19, the Coast Guard initiated a **review of levels of service** for all of its programs to better address the requirements of users and to adapt service standards to their evolving needs. The Coast Guard also developed foundational documents and initiated the drafting of service standards that will form the basis of consultations with federal partners and other stakeholders in 2019-20.

Results Achieved

Expected Departmental Result	Departmental Result Indicator	Target	Actual Results
Mariners safely navigate Canada's waters	Number of marine incidents as a percentage of vessel movements	Less than 1% by March 31, 2019	2016-17: 0.02% 2017-18: 0.01% 2018-19: 0.03%
	Number of official navigational products created and/or updated from incorporation of new and/or archived modern hydrography per year in key areas	Greater than or equal to 200 by March 31, 2019	2016-17: 209 2017-18: 550[13] 2018-19: 824
A Canadian maritime economy that is supported by navigable waters	Number of marine incidents as a percentage of vessel movements	Less than 1% by March 31, 2019	2016-17: 0.02% 2017-18: 0.01% 2018-19: 0.03%
	Percentage of ship ice escort requests that are delayed beyond level of service (response time) south of the 60th parallel north	0% by March 31, 2019	2016-17: N/A 2017-18: N/A 2018-19: 8.2%
	Average time (in hours) beyond level of service (response time) for ice escort requests south of the 60th parallel north	0 by March 31, 2019	2016-17: N/A 2017-18: N/A 2018-19: 22

Note: N/A indicates that the performance indicator was not in effect at that time, and therefore, data is not available.

As shown in the Results Achieved table above, DFO significantly exceeded its target for the number of official **navigational products** created and/or updated from incorporation of new

[13] The number increased substantially from previous years due to a broadening of the definition of a "navigational product" as well as increased demand from the Oceans Protection Program.

and/or archived modern hydrography per year in key areas. This success was due to increased data collection arising from Oceans Protection Plan priorities and the incorporation of emerging data collection technologies such as LIDAR (Light Detection And Ranging) and autonomous underwater vehicles.

The Coast Guard met its goal of increasing the 2018-19 Arctic operating season by 21 days. However, as shown in the Results Achieved table above, the Coast Guard did not meet its targets of zero per cent of ship **ice escort requests** delayed beyond levels of service (response time) and average time beyond the level of service for ice escort requests south of the 60th parallel north. This was due to more difficult than average ice conditions with an early onset of ice coverage, resulting in the Coast Guard receiving many requests for service; these delays were compounded by technical difficulties aboard aging vessels. Fortunately, the new icebreaker, *CCGS Captain Molly Kool*, began its operations in 2018-19, and two additional ships were ordered in August 2018, which are expected to maintain the Coast Guard's icebreaking capacity and support mariners in the Arctic.

Budgetary Financial Resources (dollars)

2018-19 Main Estimates	2018-19 Planned Spending	2018-19 Total Authorities Available For Use	2018-19 Actual Spending (Authorities Used)	2018-19 Difference (Actual minus Planned)
312,150,541	312,150,541	541,118,852[14]	345,802,442[14]	33,651,901

Human Resources (full-time equivalents)

2018-19 Planned	2018-19 Actual	2018-19 Difference (Actual minus Planned)
1,801	1,761	-40

Financial, human resources and performance information for Fisheries and Oceans Canada's Program Inventory is available in the GC InfoBase[lxxxiv].

Marine Operations and Response

Description

Provide marine response services and operate Canada's civilian maritime fleet

Departmental Results

The Marine Operations and Response Core Responsibility is focused on advancing the following Departmental Results:

[14] The numbers above include a material difference from the 2018-19 Public Accounts as $697.7 million in Authorities Used and $697.7 million of associated Total Authorities Available For Use, both related to vessel procurement, have been realigned from Marine Navigation to Marine Operations and Response.

- Canadian Coast Guard has the capability to respond to on-water incidents;
- Canada's Civilian fleet has the capability to meet established service standards for clients; and
- increased Indigenous participation in Canada's marine response system.

The indicators used to measure progress towards these results appear in the Results Achieved table on page 41.

To support the Minister of Fisheries, Oceans, and the Canadian Coast Guard in achieving these results, the Department carried out the following key initiatives and activities.

Results

The Coast Guard's Marine Operations and Response teams are responsible for ensuring safety on Canadian waters by ensuring clear passages and responding to incidents that involve risks to mariners or substance spills on the water. To support this work, the Coast Guard engages in partnerships and co-management practices with Indigenous groups, ensures that it has stations wherever they are most needed, and that it has the equipment required to perform search and rescue, such as functioning vessels and tow kits. The Coast Guard also needs specialized staff to perform these important duties, and worked to ensure that its people had the support and training needed for a strong fleet today and in the future. More information on these and other initiatives can be found below.

Under the Oceans Protection Plan (OPP), the Coast Guard announced the first delivery of new marine environmental response equipment[lxxxv] for the Coast Guard's Western region. The new equipment includes a curtain boom, which forms a temporary barrier to contain an oil spill, and portable skimmers, which are used to collect, separate, and remove oil from the surface of the water. This new equipment is a critical component of Canada's world-leading marine safety system, helping to keep Canada's waters and coasts safe and clean now and for future generations.

Oceans Protection Plan is a comprehensive and transformative strategy to build a world-leading marine safety system and protect Canada's marine ecosystems. Fisheries and Oceans/Coast Guard worked to create a state-of-the-art marine safety system that protects Canada's waters, and which includes new preventive and response measures to be better positioned to prevent and respond to marine safety and pollution incidents.

As part of this work, the Coast Guard worked with Transport Canada to draft **legislative amendments** that came into force in December 2018. Amendments to the *Canada Shipping Act*[lxxxvi] strengthened the Coast Guard's authorities to enable more proactive, rapid, and effective response to oil spills in Canada's waters, while those to the *Marine Liability Act*[lxxxvii] will help ensure that timely and appropriate compensation is provided to victims of ship-source oil pollution, communities, and the Coast Guard.

In addition, the Coast Guard opened a new search and rescue station[lxxxviii] in Victoria, B.C., a new Integrated Services Centre and helicopter hangar[lxxxix] in Saint John, N.B., and reopened[xc] the **Maritime Rescue Sub-Centre in St. John's, Newfoundland and Labrador** for 24/7 operations. These facilities will allow the Coast Guard to improve marine safety systems, including search and rescue.

The Coast Guard also began the implementation of the OPP's priority of **strengthening partnerships and launching co-management practices with Indigenous groups**, including building local environmental response capacity to increase Indigenous participation in Canada's marine sector. One example is Regional Response Planning, a two-year pilot project in British Columbia's Northern Shelf bioregion area aimed at developing a holistic, evidence-based approach to environmental response planning in collaboration with Indigenous Nations, the Province of British Columbia, Transport Canada, and Environment and Climate Change Canada. The pilot project concluded on March 31, 2019 and will contribute to enhanced emergency response coordination in the region. The planning approach and lessons learned from the pilot project in northern B.C. will also be incorporated into ongoing Coast Guard environmental response planning, where applicable.

Also under the **Reconciliation Framework Agreement for Bio-regional Oceans Management and Protection** (Oceans RFA) a new governance structure was established through which exploratory discussions take place on marine planning, marine protected areas, shipping, marine safety, and oceans protection. For more information on the Oceans RFA, please see the Aquatic Ecosystems section of this report. Finally, in March 2019, an OPP Commitment to Action and Results was signed with the First Nations Fisheries Council to coordinate and implement the engagement opportunities of all OPP departments, achieving efficiencies and reducing engagement fatigue.

The Coast Guard successfully established **24/7 Regional Operations Centres** in the Atlantic, Western, and Central and Arctic regions, as well as a 24/7 National Command Centre. These centres monitor and assess marine events, mainly marine pollution incidents. They will reinforce the Coast Guard's capacity to better plan and coordinate an effective response during an incident and reduce delays in communicating important information internally and to Indigenous groups, other partners, stakeholders, and the public. The Department is now better equipped to respond to and manage major environmental pollution incidents.

The Department put in place nationally consistent policies, directives, and documentation that support its role as **the lead federal agency for all ship-source oil spills or pollution incidents** in waters under Canadian jurisdiction. This work responds to the 2016 Evaluation of the Environmental Response Services Program[xci]. The evaluation recommended that the Coast Guard articulate more clearly, to its internal and external stakeholders, its role as the lead federal agency when it comes to responding to ship-source spills in Canadian waters.

The Coast Guard also strengthened its command systems to lead the response to marine emergencies and to ensure a coordinated response to oil spills to protect coastal environments and Canadians at sea. Notably, it adopted the **Incident Command System** (ICS), an internationally recognized standard system and best practice for emergency management. The Coast Guard's ICS**,** which was developed over several years and completed in 2018, is a standardized, on-scene, adaptable command-and-control methodology for incident

management. It contributes to efficient and safe responses in coordination with partners, such as other government departments, private industry, Indigenous communities, and stakeholders, and can be used to coordinate across organizations in different jurisdictions. It is applied throughout the country and validated through oil pollution responses and multiple exercises.

The Coast Guard, Transport Canada, and Environment and Climate Change Canada worked collaboratively toward establishing a legal and operational framework to enable the Department to use **Alternative Response Measures** (ARMs) in environmental response activities, such as materials for treating spills and on-site burning of flammable spilled material. ARMs provide additional oil spill response options beyond those provided by conventional mechanical recovery technologies and have the potential to mitigate environmental impacts from oil spills.

In 2018-19, the Coast Guard worked to procure and enter into service the equipment identified in its Environmental Response Equipment Modernization initiative[xcii]. The Department completed procurement for various types of environmental response equipment, such as containment systems (floating barriers), recovery systems (skimmers, which remove floating oil), high-speed sweep systems for oil recovery, and communication equipment. The Coast Guard expects to undertake the remaining procurement activities in upcoming years.

In 2018-19, the Coast Guard continued to work with Transport Canada to implement legislation putting in place an **oil tanker moratorium**, which is intended to protect habitats and Indigenous and coastal communities in British Columbia's north coast. The draft legislation reached Third Reading in the Senate in 2018-19 and received royal assent[xciii] in June 2019.

The Coast Guard continued to advance the **national strategy on vessels of concern** and began its development of a suite of policies to support the implementation and enforcement of the new *Wrecked, Abandoned, or Hazardous Vessels Act*[xciv], which received royal assent in February 2019 and came into force on July 30, 2019. The Coast Guard continued to update a national inventory of vessels of concern across Canada and awarded the contract for the development of a Risk Assessment Methodology which provides a risk-based strategy to prioritize vessels in the national inventory to determine the scope and scale of the issue.

The Coast Guard used experimental methods to support the Government of Canada's sustainable development goals and its commitment to drive down greenhouse gas emissions. The Department's fleet of vessels provides a unique testing ground for trials of innovative technologies and human interactions with these technologies, which will help Canada and the international maritime community reduce the harmful environmental impacts associated with maritime activities, including airborne, waterborne, and acoustic pollution, as well as vessel collisions with marine mammals.

The Coast Guard implemented **Risk-based Analysis of Maritime Search and Rescue Delivery** (RAMSARD) methodology nationally. RAMSARD analysts study past incident, traffic, weather, and environmental data to develop recommendations that will enhance Canada's maritime search and rescue capacity and will contribute to sound decision-making. The Coast Guard has drafted reports for seven Search and Rescue Areas and has revised the methodology to adapt it to Coast Guard processes.

The **Canadian Coast Guard Auxiliary** (CCGA) is a national non-profit organization of 4,000 volunteer members with access to 1,100 vessels who enhance the Government of Canada's maritime search and rescue response capacity and respond to approximately 25 per cent of maritime calls for assistance each year. (For example, in 2018-19, the Canadian Coast Guard Auxiliary responded to 24 per cent of the 6,392 maritime search and rescue incidents in Canada.) The Coast Guard also supported the continued expansion of CCGA membership in the Arctic through increased funding for the Arctic chapter and through the Indigenous Community Boat Volunteer Pilot Program. In 2018-19, this program provided funding to the communities of Clyde River, Kugluktuk, Yellowknife, Tuktoyaktuk, Nutnatsiavut, Cambridge Bay, and Gjoa Haven to purchase search and rescue boats and related equipment to support their participation in the CCGA.

The Coast Guard established an interim **in-shore rescue boat station in Rankin Inlet** in the Arctic in July 2018. Across Canada, the Coast Guard employs post-secondary students to provide supplementary maritime search and rescue services during the busy summer season; in the North, the recruits are Indigenous students. The Rankin Inlet crew completed training with the local CCGA unit to ensure that responses to search and rescue incidents are well-coordinated. By participating in a number of community events, the crew built strong partnerships and promoted safe boating practices. The crew also spent over 100 hours on the water and successfully responded to two search and rescue cases. As a result, the station in Rankin Inlet has improved marine search and rescue coverage for the area and has reduced reliance on other resources such as the Canadian Armed Forces or Canadian Coast Guard icebreakers.

The Department developed a revised methodology for its **Economic Impact of Canada's Marine Sector Study**, which ensures that its results are comparable to Gross Domestic Product and employment estimates published by Statistics Canada. This new methodology improves the consistency of data for tracking economic indicators related to Canada's marine sectors over time, and provides more accurate baseline information to guide policy development and decision-making.

National Shipbuilding Strategy

The Coast Guard took delivery of two channel survey and sounding vessels in October 2018. These new 40 foot boats, with a crew complement of four, will replace two 140 foot boats that were nearing the end of their lifespan and required a crew of 14. They will allow hydrographic surveys to be conducted with better accuracy while reducing data-gathering time. They will also be able to assist with a number of activities related to search and rescue, aids to navigation, law enforcement, environmental response, and natural disasters, as well as supporting ecosystems and fisheries science. The Coast Guard had also expected to take delivery of two offshore fisheries science vessels, but this has been delayed and the vessels are now expected to be delivered in 2019-20 with a third in 2020-21. Prior to a February 2019 Government decision to re-sequence the construction of several vessels, construction engineering for an offshore oceanographic science vessel (OOSV) had been underway. Construction of the OOSV is now anticipated to commence in late 2020 and finish in 2024.

The Coast Guard took delivery of two new lifeboats[xcv], the *CCGS McIntyre Bay* and *CCGS Pachena Bay*, in 2018-19. The two new lifeboats are the third and fourth of a total of 20 being built under the Federal Infrastructure Initiative, the Fleet Renewal Plan, and the OPP. The Department of National Defence (DND) and the Coast Guard will work together to develop more efficient, timely and streamlined processes to improve defence procurement. For further information on the progress of defence procurement in 2018-19, please see the Defence Procurement Strategy[xcvi].

The Coast Guard increased its **emergency towing capacity** by procuring a total of 47 emergency tow kits between 2017-18 and 2018-19 and installing them on all 14 of the Coast Guard's major vessels in 2018-19 (two in the Western region, two in the Central and Arctic region, and 10 in the Atlantic region). The remaining procured tow kits are shore-based and stored at strategic locations throughout Canada.. The Coast Guard also received two leased large vessels capable of towing large ships in distress on the West Coast and put them into service. The first Emergency Offshore Towing Vessel was delivered in November 2018 and the second in December 2018. The Coast Guard and Transport Canada also completed the West Coast Towing Needs Assessment to identify current and future needs, gaps, and areas of risk along the British Columbia coastline and to inform future decisions for investments in emergency towing capacity in Canada. The report was then distributed to Indigenous communities, industry stakeholders, and other federal government departments for feedback and comments.

The Coast Guard had also expected to take delivery of one **helicopter flight simulator**, but this has been postponed from 2018-19 to 2019-20 due to construction delays. The flight simulator will be used to train pilots on both light- and medium-lift helicopters, which will ensure that aircraft operations are safe, efficient, and compliant with regulatory requirements.

The Coast Guard moved forward with the **Vessel Refurbishment Project** to fund the maintenance of its vessels, with the goal of being able to fully fund maintenance requirements and ensure that assets are in reliable condition until the end of their life cycle. Some of the initiatives funded through the Vessel Refurbishment Project include the Delegated Statutory Inspection Program, Remotely Operated Vehicles (used for underwater hull inspections), and the Helicopter Deck Monitoring System. In 2018-19, the second year of the project, the Coast Guard allocated an additional $5 million to assist in the completion of vessel refurbishments.

The Coast Guard recently established a dedicated engineering team to ensure that principles of innovation are incorporated into designing the **next-generation fleet**. The innovation team will work to improve the way the Coast Guard conducts its operations and minimize both its impacts on the environment and any limitations that might be experienced by its personnel. The team will conduct an analysis of workflows on board ships and look to incorporate ergonomic and equality principles into the design of new vessels according to Gender-based Analysis Plus (GBA+) principles, wherever possible. The next-generation vessels will also be outfitted with modern technology that will allow greater Internet access and enable the crew to communicate with friends and family while at sea, which can have positive mental health impacts.

Fostering a diverse workforce and a more inclusive and respectful workplace continued to be a top priority for the Coast Guard in 2018-19. Specific attention was placed on applying a Gender-based Analysis Plus (GBA+) lens to inform the Coast Guard's review of its uniform manual, crewing factor[15], national recruitment and retention strategy, fleet renewal plan, and ship design and refurbishment. The Coast Guard also continued its efforts to create an inclusive workplace through employee and management empowerment, education, awareness, and leadership development. In addition, the Coast Guard celebrated diversity and inclusion by participating in various annual events, including Orange Shirt Day, which honours and demonstrates respect for Indigenous peoples in Canada, and by expanding its participation in Pride Parades across the country to show support for those who identify as lesbian, gay, bisexual, transgender, queer, and two-spirit (LGBTQ2+). The Coast Guard also participated in programs that promote women in science and technology careers through events like Girls Fly Too[xcvii], which provides women and girls of all ages with the opportunity to be engaged in non-traditional jobs through the world's largest outreach initiative aimed at inspiring female future leaders in aviation, aerospace, marine and defense.

The Coast Guard launched the **Force Generation Initiative**, which will develop strategies, products, and frameworks to strengthen its ability to recruit and develop a diverse, highly-trained, engaged, professional, and at-the-ready workforce. This team will consult heavily across the organization, including seagoing and shore-based employees, management, and senior management to determine the highest-priority requirements to support the training and

[15] "Crewing factor" refers to the optimal staffing levels on vessels to enable program delivery while meeting legal, regulatory, and policy requirements and taking into consideration elements such as the size of the vessel, the type of personnel, the certification they require, leave entitlements, and required training.

development of its employees, including career development and career management tools and assistance. For example, the Coast Guard has already developed career maps for ship crews and officers, outlining all of the training and certification required to advance, as well as highlighting shore-based work opportunities available at different points in their careers. This work responds to a recommendation made in the 2017-18 Evaluation in Support of the Canadian Coast Guard's Seafarers Establishment[xcviii], which aimed to determine the number of operational personnel (afloat and ashore) that are required to deliver Coast Guard programs effectively and sustainably.

The Department also conducted a 2018-19 Evaluation to support Canadian Coast Guard Force Generation[xcix] and a people strategy and action plan to address the findings. This developmental evaluation, designed to gather information to support the new initiative, followed up on some of the findings and recommendations of the Evaluation in Support of the Canadian Coast Guard's Seafarers Establishment. In particular, it proposed a methodology for determining a sustainable seagoing crew, with consideration of current provisions for maternity, parental, and adoption leave, family-related leave, and an assessment of needs for sick, long-term, and disability leave. The Coast Guard focused on developing competency profiles for every group and level in the organization, which will be used to build the competency-based career management tool.

The Coast Guard also completed a draft **national training plan for its ships' officers and crew**, aimed at ensuring they have sufficient training to maintain certification and allow vessels to sail with the required crew complement. This was the second version of the plan, which was first published in 2016-17. This plan will be updated on an annual basis to better serve the training needs of Coast Guard operational personnel including supporting career progression and succession planning for ships' officers and crew.

In May 2018, the Coast Guard began individual **training programs and renovation of its Regional Operations Centres**. Training programs were initiated for over 40 new employees. The increased need for specialized marine training was highlighted by the 2017 Evaluation of the Canadian Coast Guard College[c], and DFO's management action plan in response to the recommendation includes a strategic plan with direction on the use of modern learning platforms and technology.

Through the deployment and testing of the new **Ice Management Simulator** at the Canadian Coast Guard College, up-and-coming officers, personnel, and other stakeholders were trained in ice operations to meet the new Polar Code[ci] training requirements using the Transport Canada-approved Polar Code training. Two courses were delivered in the spring of 2019. The Canadian Coast Guard College had also committed to continuing to implement training initiatives to **improve the efficiency and safety of Arctic operations** and the ability of crew members to respond to emergencies on-board Coast Guard vessels. This work has been delayed.

Results Achieved

Expected Departmental Result	Departmental Result Indicator	Target	Actual Results
Canadian Coast Guard has the capability to respond to on-water incidents	Percentage of responses to environmental incidents that meet established standards	100% by March 31, 2019	2016-17: 100% 2017-18: 100% 2018-19: 100%
	Percentage of search and rescue responses that meet established standards	Greater than or equal to 99% by March 31, 2019	2016-17: N/A 2017-18: 97% 2018-19: 98%
Canada's civilian fleet has the capability to meet established service standards for clients	Operational days delivered versus planned	Greater than or equal to 90% by March 31, 2019	2016-17: 93% 2017-18: 90% 2018-19: 87%
	Percentage of operational days lost due to crewing and other logistic issues	Less than or equal to 3% by March 31, 2019	2016-17: N/A 2017-18: N/A 2018-19: 0.7%
	Percentage of operational days lost due to unplanned maintenance	Less than or equal to 3% by March 31, 2019	2016-17: 3.4% 2017-18: 6.5% 2018-19: 3.4%
Increased Indigenous participation in Canada's marine response system	Percentage of times Indigenous community vessels or assets responded to marine incidents	Greater than 3% by March 31, 2022	2016-17: N/A 2017-18: N/A 2018-19: N/A

Note: N/A indicates that the performance indicator was not in effect at that time, and therefore, data is not available, unless otherwise specified.

Regarding the indicators "**Operational days** delivered versus planned" and "Percentage of operational days lost due to unplanned maintenance" in the Results Achieved table above, a decline in performance was experienced in 2018-19 with some Coast Guard vessels out of commission, but was partially mitigated by reassigning a vessel to an area where more support was needed. The trend downward in these results is related to the high levels of unplanned maintenance required by an aging fleet of vessels. New vessels are under construction and, in time, the aging vessels will be able to be retired once new ones are delivered.

While data is not yet available to identify the "percentage of times **Indigenous community vessels or assets** responded to marine incidents," as seen in the table above, a new strategy is in development to collect and report on the data by March 2022.

Budgetary Financial Resources (dollars)

2018-19 Main Estimates	2018-19 Planned Spending	2018-19 Total Authorities Available For Use	2018-19 Actual Spending (Authorities Used)	2018-19 Difference (Actual minus Planned)
884,251,849	884,251,849	1,668,354,969[16]	1,540,252,005[16]	656,000,156

Human Resources (full-time equivalents)

2018-19 Planned	2018-19 Actual	2018-19 Difference (Actual minus Planned)
3,786	4,104	318

Financial, human resources and performance information for Fisheries and Oceans Canada's Program Inventory is available in the GC InfoBase[cii].

Internal Services

Description

Internal Services are those groups of related activities and resources that the federal government considers to be services in support of programs and/or required to meet corporate obligations of an organization. Internal Services refers to the activities and resources of the 10 distinct service categories that support program delivery in the organization, regardless of the Internal Services delivery model in a department. The 10 service categories are: Acquisition Management Services, Communications Services, Financial Management Services, Human Resources Management Services, Information Management Services, Information Technology Services, Legal Services, Materiel Management Services, Management and Oversight Services; and Real Property Management Services.

Departmental Results

The Department's Internal Services support all of the programs and activities for DFO, including the Canadian Coast Guard, and ensure that they have the people and tools needed to provide effective services to all Canadians. The Department needs a complement of staff that is well-trained, whose mental and physical wellbeing are supported, and whose diversity is celebrated, and Internal Services focused on these priorities. The thousands of staff members also require strong technical tools to support their work, and Internal Services supported this through improvements like the Application Rationalization initiative and network upgrade. You will find more information on these and other Internal Services achievements for 2018-19 below.

[16] The numbers above include a material difference from the 2018-19 Public Accounts as $697.7 million in Authorities Used and $697.7 million of associated Total Authorities Available For Use, both related to vessel procurement, have been realigned from Marine Navigation to Marine Operations and Response.

Through the **Application Rationalization Initiative**, Fisheries and Oceans/Coast Guard is streamlining its information technology (IT) systems and processes to improve the efficiency of its IT systems and program delivery. The Department is developing critical information management and technology applications, such as the Ecosystems and Fisheries Management Systems Integration initiative, to provide better systems to support Fisheries and Oceans/Coast Guard programs.

Fisheries and Oceans/Coast Guard began a transition to **cloud-based computing** to modernize services to Canadians, with the first version of the DFO cloud environment up and running. This cloud environment is already providing data storage and computing solutions for DFO scientists. In addition, a high-performance computing proof of concept was completed, which showcased problem-solving for complex analytical and modelling problems for departmental scientists using hundreds to thousands of computing cores.

The implementation of the **Government of Canada's Electronic Documents Records Management Enterprise Solution** (GCDocs) has been extended by three years in order for adjustments to be made to the onboarding process to allow for better support regarding change management. To improve uptake, the Department will revisit its rollout strategy and will migrate content from the old document management system. Once completed, the implementation of GCDocs will modernize information management processes, support meeting directives for effective recordkeeping practices within the Department, and ensure that information is organized, available, and managed throughout its lifecycle to better support departmental decision-making, implementation of programs, and improved service to Canadians.

Implementation of the **System Integration Project**, part of an initiative to rationalize Fisheries and Oceans/Coast Guard's materiel management, has helped ensure that the Department's inventory is accurately valued. Through this project, the Department established automated internal controls and enhanced processes by interfacing six warehouse locations across Canada with a national warehouse asset management system and the departmental financial management system. Two warehouses, of the eight initially chosen, progressed from the initial phase of the project to the second phase.

Fisheries and Oceans/Coast Guard also improved the efficiency of internal processes by upgrading aging information technology networks. The first two phases of the **Network Upgrade** project were completed, with the exception of one remaining site. This upgrade resulted in increased network performance for the sites, along with Internet and Wide Area Network (WAN) enhancements and consolidations. The third phase is ongoing.

In order to support the Government of Canada's initiatives to identify opportunities for savings and efficiencies in back-office management, Fisheries and Oceans/Coast Guard completed a business case to **renew the financial system** and implement a more modern one, which will align with Government of Canada standards. This will also contribute to improving connections

between human resources and financial systems as part of the Government of Canada's Financial Management Transformation initiative.

Since the launch of the **Phoenix pay system** in 2016, ongoing pay discrepancies have disproportionately impacted operational groups within the Department, particularly Coast Guard Fleet personnel. In the spring of 2018, the Deputy Minister approved the creation of the Pay Stabilization Team, which acts as the first point of contact for employees and managers requiring pay support and provides counselling for life events, coordinating priority payments, or assistance with the Phoenix software. It lessens the burden on the Public Service Pay Centre staff by processing some transactions internally, and ensuring integrity of data and the accuracy of service requests sent to them. Building on knowledge and experience gained since the early days of Phoenix, the Pay Stabilization Team has developed training and tools to engage with stakeholders and improve and maintain the accuracy and timeliness of all pay-related requests submitted by Fisheries and Oceans/Coast Guard employees and managers. The team has also proactively identified numerous trending issues, which allowed the Department to identify and address root causes and prevent hundreds of pay issues and further reduce the burden on the central pay office.

Safety Security Emergency Services began to develop an integrated **Crisis Management Plan** (CMP) which will integrate all internal services, allowing for a more consistent and coordinated response to incidents, rather than developing a siloed approach to business continuity planning (BCP) for critical internal services. The plan will complement existing program area BCPs, contingency plans, and other departmental emergency plans, and will identify assigned roles and responsibilities, procedures, and assets for the response to and recovery from any major interruption regardless of its cause. The CMP will be used by crisis management teams, assessment teams, business continuity teams, and crisis communications teams in the regions and at the departmental level to minimize damages or losses, and provide direction on resource allocation and communications. This approach is being developed in response to a number of incidents over the last 18 months that resulted in service interruptions (e.g. suspicious packages, server room glycol spill, tornado, email outage, and power outage). Lessons learned from all recent incidents are still being processed and a larger scale Business Intake Analysis to update all defined critical services is underway. The focus over the last year has been on ensuring all BCPs are reviewed, updated, and exercised and that the tools to facilitate the new BIA are in place. Currently the Department has 66 per cent of BCPs updated and has exercised 83 per cent of these plans, with an objective to have all plans updated and exercised by the end of 2019-20.

Rather than developing a BCP specific to the delivery of safety, security, and emergency services, DFO launched in 2018-19 the development process of an integrated Crisis Management Plan, which includes the ten internal service categories and allows for a more consistent and coordinated approach to business continuity management for critical internal services.

In 2018-19, Safety, Security and Emergency Services developed a BCP Completion Checklist to ensure that DFO's 141 BCPs are adequately reviewed, updated, and exercised. In collaboration with sectors and regions, DFO implemented semiannual processes for updating and testing/exercising BCPs. In 2018-19, 66 per cent of all BCPs were updated as planned and 39 per cent were tested or exercised.

In 2018-19, the **Real Property** Program was recognized by Treasury Board Secretariat (TBS) in its Management Accountability Framework[ciii] Departmental Report for its high level of maturity in real property management practices. The Program introduced formal risk assessment exercises, expanded strategic planning and policy training for regional staff, and implemented a quality assurance program for the capital program of works[17].

Fisheries and Oceans/Coast Guard worked to ensure that the Department's **organizational structure** remained efficient, effective, affordable, sustainable, and able to respond to surges in workload. The Department developed a Classification Renewal Strategy that will be implemented over the coming years. The Department began work on the Classification Renewal, which aims to implement guidance from the TBS Occupational Group Structure Review[civ], a government-wide modern classification system that will lead to improved quality and consistency of job evaluation decisions, a reduced number of distinct job evaluation standards, and an effective way to value the skills, effort, responsibility, and working conditions of work. The Department also put in place a human resources planning framework based on the concept of workforce development, a holistic approach to human resources management, integrated human resources planning, and capacity development to improve organizational success by aligning the workforce to current and future needs.

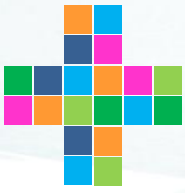
The Department's new **Diversity and Inclusion Framework** sets the foundation for all initiatives within the Department to support a diverse and inclusive workforce and workplace. The 2018-2021 Employee Equity, Diversity and Inclusion Action Plan was approved in December 2018 and builds on the accomplishments of the previous plan to go beyond the four designated employment equity groups[18]. It presents a concerted effort to weave inclusion into the fabric of the organization and supports efforts to continue to build an increasingly diverse workforce. This multi-year action plan supports efforts to reflect the growing and changing diversity within Canadian society by continuing to attract and retain highly-talented people from different backgrounds and cultures, which together enrich the Department's policies and programs as well as the quality of services provided to Canadians.

New initiatives were pursued and existing programs were expanded with the help of strategic partners, such as the national Your Professional Network (YPN), to better serve and retain the Department's significantly growing employee base. The network has grown to over 800 employees nationally and has a wide range of support from senior management across the Department. These programs included the delivery of student and employee onboarding initiatives such as the annual career boot camp, speed mentoring, mentoring projects, onboarding sessions and training, on-site visits, and career coaching with senior management. The YPN supports workplace priorities and commitments such as the Government of Canada Workplace Charitable Campaign and National Public Service Week, wellness and mental health, inclusion and diversity, respect, and employee retention by contributing to employee satisfaction at work and delivering professional growth

[17] The capital program of works is the strategic capital investments made for maintaining the integrity and capability of the Department's real property assets, which supports the current and future delivery of departmental programs and services.
[18] The four designated employment equity groups are women, Indigenous people, visible minorities, and persons with a disability.

opportunities. Departmental outreach is achieved through Deputy Minister and Minister Town Halls and Armchair discussions, blog posts, internal messages on available resources and training, a new Mental Health Consultative Committee, the continued development of the 'welcome center' to support new hires, and continued networking opportunities with senior executives. The network also supports the advancement of the Government of Canada's public service renewal strategy and priorities set out in Blueprint 2020, one example of which is through the annual Dragons Den event in which employees can submit ideas to improve our workplace with the focus on advancements that are agile, inclusive, and equipped. Career development opportunities are offered to staff through the national observer program in collaboration with Governance and through the "Take Me With You" campaign, which encourages the attendance of junior staff in meetings related to their interests or career advancement. The YPN has also ensured the Department continues to receive the name of Top Employer for Young People and for the National Capital Region for the fourth year in a row.

The Department continues to support **employee mental health** through initiatives focused on raising awareness, decreasing stigma, and creating a psychologically healthy and safe workplace. A Health Strategy, which aligns with the Federal Public Services Workplace Mental Heath Strategy[cv], was developed and addresses recommendations presented in all three reports produced by the Joint Task Force on Mental Health and the Safe Workspaces report[cvi]. DFO continues to be supportive of mental health training and awareness and has implemented a peer support program. The Department also started developing a Psychological Health and Safety System based on the National Standard of Canada for Psychosocial Health and Safety in the Workplace[cvii], which will help to foster healthy workplaces, contribute to employee morale, improve attendance and retention, and help to identify and eliminate psychosocial hazards. In addition, a team has been fully staffed in preparation for the implementation of a disability management program which was launched in August 2019. Also, the Canadian Coast Guard College implemented mental health and well-being initiatives, providing counseling services for officer cadets and participating in pilot projects to promote mental health, enhance resiliency, prevent harm, and address incidents and concerns. This work responds to a recommendation in the Evaluation of the Canadian Coast Guard College[cviii] that the college make additional efforts to better support students.



DFO began working with the Canada Revenue Agency and Statistics Canada to assess potential alternative data sources for supporting Gender-based Analysis Plus (+) that could support analyses at the regional rather than the provincial level while safeguarding the privacy and confidentiality of information. DFO also identified a vital need to educate more employees on the importance and function of GBA+ to ensure that the Department can meet important assessment deadlines and growing responsibilities around GBA+. In order to meet this need, the work of the GBA+ Focal Point, a role of knowledge and responsibility in the Department, was shared among additional employees to varying degrees.

Experimentation and innovation, at a variety of scales, are essential elements of the Department's core business and mandate. For example, the Inuit Marine Monitoring Program Pilot tested real-time vessel monitoring by Inuit marine monitors in the Arctic. The Department also began developing and testing a framework on experimentation that will further encourage and support a culture of experimentation and innovation across the organization. In addition,

the Department is promoting innovation and experimentation through the Results Reserve Fund, an initiative designed to support internal projects that advance departmental priorities and achieve results in new ways. In 2018-19, 14 projects were selected for funding through a competitive assessment process. The fund supported projects such as "Whales on the Web,"[cix] an initiative that integrated new acoustic detection technology buoys in the St. Lawrence River to detect right whales in real time, which contributed to the protection of right whales from collisions and entanglement in fishing gear.

The Department fully implemented the **Policy on Results**[cx], which sets out the fundamental requirements for Canadian federal departmental accountability for performance information and evaluation, while highlighting the importance of results in management and financial decision-making, as well as public reporting. The Department did so by continuing to foster a results-based culture where performance information is available and used for decision-making, program learning, and the optimization of results. An electronic system to aid in the planning and reporting of results information was developed in 2018-19 and is expected to be implemented by Fisheries and Oceans/Coast Guard in 2019-20.

The Government of Canada recently launched an initiative to experiment with methods for delivering grants and contributions. TBS calls this initiative **Generic Terms and Conditions**. This allows departments to get the most out of government spending. They can help promote value for money and evidence-based decision-making by allocating funding based on the achievement of concrete goals, rather than tasks and activities. To support this initiative, the Department created a community of practice for the grant and contribution community at DFO and the Coast Guard to share best practices including Terms and Conditions for Transfer Payment programs. The use of new Terms and Conditions, including for example the Innovative Solutions Canada for Plastics challenge, was undertaken.

Budgetary Financial Resources (dollars)

2018-19 Main Estimates	2018-19 Planned Spending	2018-19 Total Authorities Available For Use	2018-19 Actual Spending (Authorities Used)	2018-19 Difference (Actual minus Planned)
413,878,040	413,878,040	491,662,034	475,792,478	61,914,438

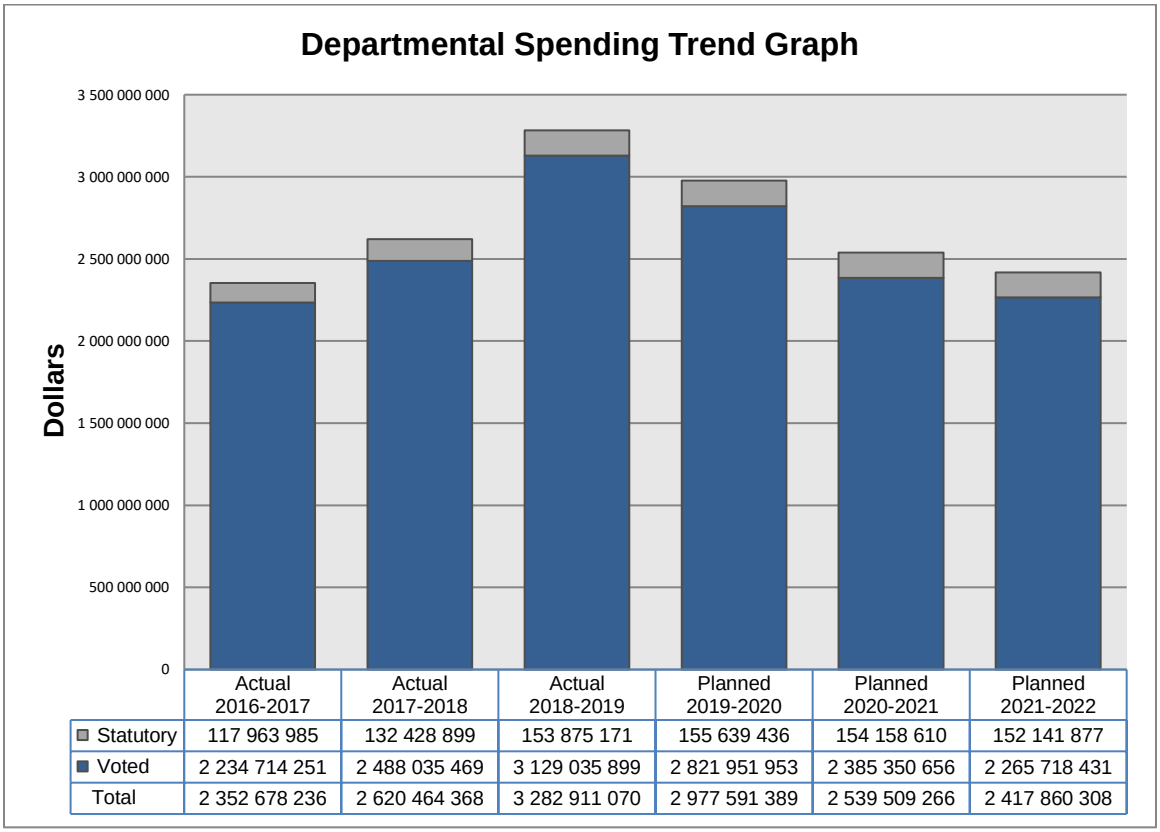
Human Resources (full-time equivalents)

2018-19 Planned	2018-19 Actual	2018-19 Difference (Actual minus Planned)
1,980	1,968	-12

Analysis of Trends in Spending and Human Resources

Actual Expenditures

Departmental Spending Trend Graph



	Actual 2016-2017	Actual 2017-2018	Actual 2018-2019	Planned 2019-2020	Planned 2020-2021	Planned 2021-2022
Statutory	117 963 985	132 428 899	153 875 171	155 639 436	154 158 610	152 141 877
Voted	2 234 714 251	2 488 035 469	3 129 035 899	2 821 951 953	2 385 350 656	2 265 718 431
Total	2 352 678 236	2 620 464 368	3 282 911 070	2 977 591 389	2 539 509 266	2 417 860 308

The Department's total actual spending for 2018-19 was $3,282.9 million. This represents an increase of 25.3 per cent compared to the total actual spending for 2017-18 ($2,620.4 million).

This increase is mainly attributed to an increase in total authorities approved by Parliament and allocated by Treasury Board. The increase in funding relates to items such as the Canadian Coast Guard icebreakers and the Canadian Coast Guard Offshore Oceanographic Science Vessel project.

Budgetary Performance Summary for Core Responsibilities and Internal Services (dollars)

Core Responsibilities and Internal Services	2018-19 Main Estimates	2018-19 Planned Spending	2019-20 Planned Spending	2020-21 Planned Spending	2018-19 Total Authorities Available for Use	2018-19 Actual Spending (Authorities Used)	2017-18 Actual Spending (Authorities Used)	2016-17 Actual Spending (Authorities Used)
Fisheries	664,630,910	664,630,910	882,808,991	733,518,470	815,466,358	681,775,648	693,291,563	708,078,659
Aquatic Ecosystems	170,713,160	170,713,160	259,872,522	263,637,530	256,495,357	239,288,497	206,486,345	159,544,548
Marine Navigation	312,150,541	312,150,541	353,094,537	345,959,300	541,118,852[19]	345,802,442[19]	308,053,064	242,274,533
Marine Operations and Response	884,251,849	884,251,849	1,071,604,997	797,877,278	1,668,354,969[19]	1,540,252,005[19]	925,024,349	848,039,855
Subtotal	**2,031,746,460**	**2,031,746,460**	**2,567,381,047**	**2,140,992,578**	**3,281,435,536**	**2,807,118,592**	**2,132,855,321**	**1,957,807,595**
Internal Services	413,878,040	413,878,040	410,210,342	398,516,688	491,662,034	475,792,478	487,609,047	394,740,591
Total	**2,445,624,500**	**2,445,624,500**	**2,977,591,389**	**2,539,509,266**	**3,773,097,570**	**3,282,911,070**	**2,620,464,368**	**2,352,678,236**

At the outset of 2018-19, Fisheries and Oceans Canada's planned spending was $2,445.6 million. Incremental funding from Supplementary Estimates, Budget 2018, carry forwards and other sources brought the total authorities to $3,773.1 million, which is $490.2 million higher than the $3,282.9 million in expenditures.

The $1,327.5 million increase from planned spending to total authorities is mainly attributed to Supplementary Estimates funding for: icebreakers for the Canadian Coast Guard; the Canadian Coast Guard Offshore Oceanographic Science Vessel project; advancing reconciliation on Indigenous and treaty rights issues; and operating and capital budget carry forwards from the previous year. This also includes Budget 2018 funding for items such as Protecting Canada's Nature, Parks & Wild Spaces and Renewing Canada's Network of Small Craft Harbours.

The difference of $490.2 million between total authorities and actual spending is mainly the result of timeline changes in the completion of projects, which caused funding to be carried forward to future years.

2018-19 Budgetary Actual Gross Spending Summary (dollars)

Core Responsibilities and Internal Services	2018-19 Actual Gross Spending	2018-19 Actual Gross Spending for Specified Purpose Accounts	2018-19 Actual Revenues Netted Against Expenditures	2018-19 Actual Net Spending (authorities used)
Fisheries	681,775,648	0	0	681,775,648
Aquatic Ecosystems	239,288,497	0	0	239,288,497
Marine Navigation	369,945,472[19]	0	-24,143,030	345,802,442[19]
Marine Operations and Response	1,557,317,955[19]	0	-17,065,950	1,540,252,005[19]
Subtotal	**2,848,327,572**	**0**	**-41,208,980**	**2,807,118,592**
Internal Services	475,792,478	0	0	475,792,478
Total	**3,324,120,050**	**0**	**-41,208,980**	**3,282,911,070**

[19] The numbers above include a material difference from the 2018-19 Public Accounts as $697.7 million in Authorities Used and $697.7 million of associated Total Authorities Available For Use, both related to vessel procurement, have been realigned from Marine Navigation to Marine Operations and Response.

Actual Human Resources

Human Resources Summary for Core Responsibilities and Internal Services (full-time equivalents)

Core Responsibilities and Internal Services	2016-17 Actual	2017-18 Actual	2018-19 Planned	2018-19 Actual	2019-20 Planned	2020-21 Planned
Fisheries	Because of changes in the reporting framework for DFO/Coast Guard, figures for full-time equivalents by Core Responsibility are not available prior to 2018-19.		2,911	2,871	3,070	3,030
Aquatic Ecosystems			1,287	1,289	1,612	1,613
Marine Navigation			1,801	1,761	1,838	1,820
Marine Operations and Response			3,786	4,104	3,973	3,976
Subtotal	**8,429**	**9,233**	**9,785**	**10,026**	**10,493**	**10,439**
Internal Services	1,675	1,877	1,980	1,968	2,194	2,190
Total	**10,104**	**11,110**	**11,765**	**11,994**	**12,687**	**12,629**

Note: Because of rounding, figures may not add to the totals shown.

Expenditures by Vote

For information on Fisheries and Oceans Canada's organizational voted and statutory expenditures, consult the Public Accounts of Canada 2018–2019[cxi].

Government of Canada Spending and Activities

Information on the alignment of Fisheries and Oceans Canada's spending with the Government of Canada's spending and activities is available in the GC InfoBase[cxii].

Financial Statements and Financial Statement Highlights

Financial Statements

Fisheries and Oceans Canada's financial statements (unaudited) for the year ended March 31, 2019, are available on the Fisheries and Oceans Canada[cxiii] website.

Financial Statements Highlights

The financial highlights presented within this Departmental Results Report are intended to serve as a general overview of Fisheries and Oceans Canada's Condensed Statement of Operations and Condensed Statement of Financial Position as presented in Fisheries and Oceans Canada's unaudited financial statements. These financial statements are prepared in accordance with accrual accounting principles and, therefore, are different from the figures provided in other sections of this Departmental Results Report and information published in the Public Accounts of Canada, which are prepared on appropriation-based reporting. The complete unaudited financial statements can be found on the Fisheries and Oceans Canada[cxiv] website.

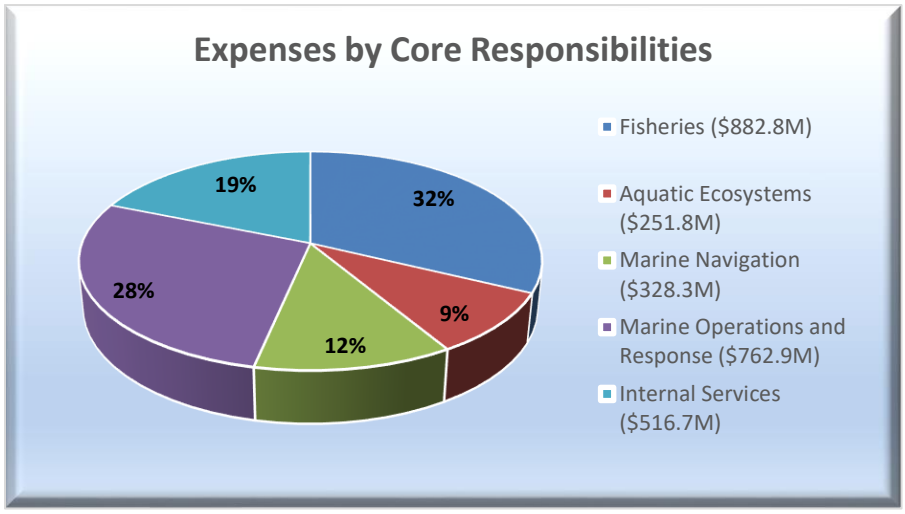
Condensed Statement of Operations (unaudited)

For the year ended March 31, 2019 (dollars)

Financial Information	2018-19 Planned Results	2018-19 Actual Results	2017-18 Actual Results*	Difference (2018-19 actual minus 2018-19 planned)	Difference (2018-19 actual minus 2017-18 actual)
Total expenses	2,560,459,000	2,742,492,591	2,264,314,860	182,033,591	478,176,731
Total revenues	39,000,000	43,819,402	41,445,539	4,819,402	2,374,863
Net cost of operations before government funding and transfers	2,521,459,000	2,698,673,189	2,222,869,321	177,214,189	475,801,868

* Comparitive figures have been reclassified to conform to the current year's presentation.

EXPENSES

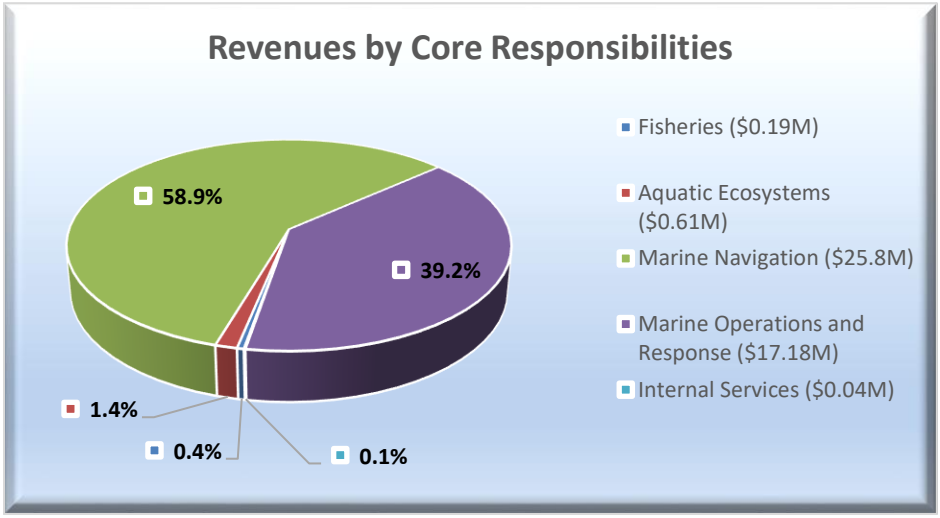


Total expenses were $182 million higher than planned results because of the additional authorities received by Fisheries and Oceans Canada during the year, but not included in the planned results at the time of preparation of the Departmental Plan.

Total expenses in support of Fisheries and Oceans Canada's programs and services were $2,742.5 million in 2018-19, an increase of $478.2 million or 21.1 per cent when compared to the previous year's total expenses of $2,264.3 million.

This increase is mainly attributed to an increase in salary and benefits of $74.2 million, an increase in transfer payments of $54.5 million, an increase in amortization of tangible capital assets of $34.3 million, an increase in claims and litigation expense of $161 million, and an increase in remediation expense related to contaminated sites of $79.4 million, and other expenses which include net loss on disposal of tangible capital assets of $40.8 million.

REVENUES



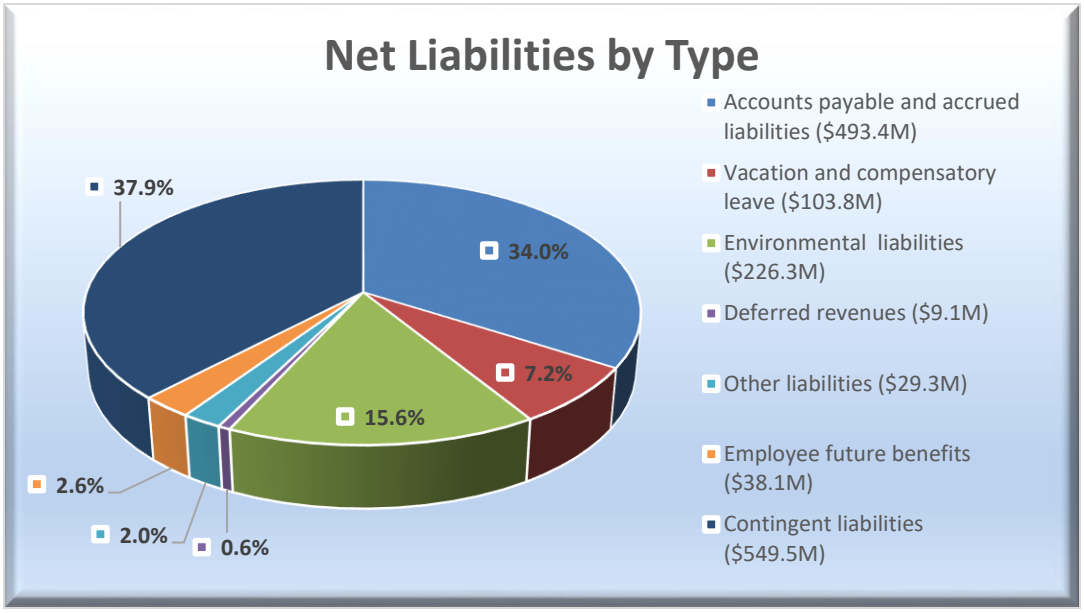
The total actual revenues for 2018-19 were higher than the planned results by $4.8 million mainly because of an increase in revenues for Marine Navigation Services Fees, Icebreaking Services Fees, and Maintenance Dredging Services Fees.

Total actual revenues were $43.8 million in 2018-19, a slight increase of $2.4 million or 5.8 per cent when compared to the previous year's total actual revenues of $41.4 million.

Condensed Statement of Financial Position (unaudited)

As of March 31, 2019 (dollars)

Financial Information	2018-19	2017-18	Difference (2018-19 minus 2017-18)
Total net liabilities	1,440,458,468	1,087,577,188	352,880,280
Total net financial assets	525,052,764	484,337,195	40,715,569
Departmental net debt	915,405,704	603,239,993	312,164,711
Total non-financial assets	5,447,006,958	4,439,907,616	1,007,097,342
Departmental net financial position	4,531,601,254	3,836,668,623	694,932,631



Total net liabilities were $1,440.5 million as at March 31, 2019, an increase of $352.9 million or 32.4 per cent when compared to the previous year's balance of $1,087.6 million. The increase is mainly attributed to an increase in accounts payable and accrued liabilities of $37.6 million, an increase in the allowance for contingent liabilities of $205.5 million, and an increase in allowance for environmental liabilities related to contaminated sites of $96.8 million.

NET FINANCIAL ASSETS

Total net financial assets were $525 million as at March 31, 2019, an increase of $40.7 million or 8.4 per cent when compared to the previous year's balance of $484.3 million.

This is mainly attributed to an increase in the amount due from the Consolidated Revenue Fund of $37.9 million.

DEPARTMENTAL NET DEBT

The increase in net debt of $312.2 million is mainly attributed to an increase in net cost of operations before government funding and transfers.

NON-FINANCIAL ASSETS

Total non-financial assets were $5,447 million as at March 31, 2019, an increase of $1,007.1 million or 22.7 per cent when compared to the previous year's balance of $4,439.9 million. The increase is mainly due to a net increase in tangible capital assets of $1,033.4 million.

Supplementary Information

Corporate Information

Organizational Profile

Appropriate Minister:

The Honourable Jonathan Wilkinson

Institutional Head:

Tim Sargent, Deputy Minister

Ministerial Portfolio:

Fisheries and Oceans Canada (DFO) and the Canadian Coast Guard (Coast Guard)

Enabling Instruments:

- *Oceans Act*[cxv];
- *Fisheries Act*[cxvi];
- *Species at Risk Act*[cxvii];
- *Coastal Fisheries Protection Act*[cxviii];
- *Canada Shipping Act, 2001*[cxix] (Transport Canada-led); and
- *Fishing and Recreational Harbours Act*[cxx]

Year of Incorporation / Commencement:

1979

Raison d'être, Mandate and Role: Who We Are and What We Do

"Raison d'être, mandate and role: who we are and what we do" is available on the Fisheries and Oceans Canada[cxxi] website.

For more information on the Department's organizational mandate letter commitments, see the Minister's mandate letter[cxxii].

Operating Context and Key Risks

Information on operating context and key risks is available on the Fisheries and Oceans Canada[cxxiii] website.

Operating Context

The overarching goal of Fisheries and Oceans Canada and the Canadian Coast Guard (Fisheries and Oceans/Coast Guard) is to conserve and protect Canada's three oceans, coasts, waterways and fisheries and ensure that they remain healthy for future generations. With over 400 locations across Canada and a fleet of more than 100 vessels, Fisheries and Oceans/Coast Guard carries out a broad mandate to work towards ensuring that: Canadian fisheries and

aquaculture are sustainably managed; Canada's oceans and other aquatic ecosystems are protected from negative impacts; the Canadian maritime economy and all mariners are supported with safe and navigable waters; and Canada's civilian fleet has the capability to respond to on-water incidents, including the search-and-rescue of vessels and individuals in distress. It is through science-based decision-making, forward-looking policy, advancing reconciliation through engagement and partnerships with Indigenous peoples, and reliance on the Canadian Coast Guard fleet as a platform for on-water activities that the Department carries out these core responsibilities.

In 2018-19, Fisheries and Oceans/Coast Guard operated in a dynamic environment that was affected by a number of factors, including:

- the melting of ice in the Arctic, opening up the Northwest Passage to commercial shipping vessels;
- climate change including rising sea temperature and water levels and acidification which impact Canada's coastlines and river systems contribute to decreases in marine species abundance and changes in their distribution;
- steady growth in global demand for seafood products that needs to be balanced with the sustainable management of fisheries resources;
- contamination of Canada's three oceans from plastics, other waste debris and pollutants;
- an increased number of aquatic species at risk and invasive species in Canada;
- increased vessel cargo tonnage handled in major ports;
- importance of commercial fishing to the regional economies of Indigenous communities; and
- vulnerability of domestic and global fish stocks due to human activity, ecological conditions, and climate change.

Key Risks

With a view of operational and service excellence, Fisheries and Oceans/Coast Guard continually assesses how it conducts business, provides services and delivers programs to clients and stakeholders while helping to meet Canada's responsibility to the world to steward our resources with care. Risk awareness is integral to this assessment.

The following risk was identified in the 2018-19 Departmental Plan:

INDIGENOUS RELATIONSHIP

There is a risk that the Department will not be able to develop and maintain productive relationships with Indigenous groups, communities, organizations and governments at an adequate pace, impacting its ability to meet priorities both at the departmental level and within the broader priorities of the Government of Canada.

The external factors influencing the Indigenous Relationship Risk include effectively fulfilling complex relationships, such as meeting Canada's obligations under treaty and through reconciliation agreements, as well as through legislation and regulations. Factors also include potential litigation regarding Aboriginal rights; implementing the United Nations Declaration on the Rights of Indigenous peoples and other Crown-Indigenous reconciliation commitments; need for whole-of-government coordination on consultations and capacity to engage in consultations both within the Department and among Indigenous groups; as well as a requirement to better understand the needs, interests, and aspirations of Indigenous peoples relative to the Department's mandate.

The Government of Canada committed to a nation-to-nation relationship with Indigenous peoples, based on recognition of rights, respect, cooperation, and partnership. Given that Indigenous peoples' rights and interests are intertwined in the Fisheries and Oceans/Coast Guard mandate, improved relations with Indigenous peoples are key to delivering on the Fisheries and Oceans/Coast Guard core responsibilities – from managing the fisheries to including an Indigenous Traditional Knowledge System perspective in research, to working with Indigenous coastal partners to support marine safety and early response.

This risk directly affects coastal Indigenous peoples, and Indigenous peoples who fish in federally-regulated fisheries, as well as other federal government departments working to deliver on a renewed nation-to-nation approach to resource management. It affects Fisheries and Oceans/Coast Guard's partners in the provinces, particularly coastal provinces, and territories. It also affects industry stakeholders and recreational fishers who must adapt to any changes in Fisheries and Oceans/Coast Guard's relationships with Indigenous peoples.

RISK RESPONSE STRATEGY AND EFFECTIVENESS

1. ENHANCE INTERNAL ORGANIZATIONAL CAPACITY TO DELIVER ON RECONCILIATION IN ALIGNMENT WITH FEDERAL HORIZONTAL INITIATIVES

   The Department developed a Reconciliation Results Framework to support coordination across DFO sectors and the Coast Guard to deliver on Reconciliation commitments; established Indigenous Relations and Partnership (IRP) Hubs as well as a National IRP Coordination Network to enhance and coordinate engagement efforts across the Department; developed and delivered training on Building Relationships and Partnerships with Indigenous Communities; and, enhanced and expanded its Indigenous employee recruitment and retention strategy as well as organizational Indigenous awareness through its inclusion in National Onboarding initiatives and in Departmental Corporate Learning Priorities.

2. ENHANCE INDIGENOUS ENGAGEMENT, COLLABORATION AND CO-MANAGEMENT

   The Department provided support to the negotiation and finalization of agreements with Indigenous groups and communities, including Reconciliation Framework Agreements, Memoranda of Understanding and contribution agreements. This work included the finalization of the Reconciliation Framework Agreement for Bioregional Oceans Management and Protection, which was signed by 14 Pacific North Coast First Nations. The Department also leveraged its programming to enhance Indigenous co-management and economic capacity including through the co-design and co-development of the Northern Integrated Commercial Fisheries Initiative with Indigenous partners to address the unique realities of the North and interior regions.

3. DELIVER OCEANS PROTECTION PLAN COMMITMENTS WITH INDIGENOUS COMMUNITIES

The Oceans Protection Plan continued to adapt to engagement approaches based on feedback and priorities of its partners and lessons learned from previous engagement activities.

Link to Department's Core Responsibilities

- Fisheries
- Aquatic Ecosystems
- Marine Operations and Response

Link to Mandate Letter Commitments and any Government-wide or Departmental Priorities

- Work with the provinces, territories, Indigenous peoples, and other stakeholders to better co-manage our three oceans.

Reporting Framework

The Departmental Results Framework and Program Inventory for 2018-19 for Fisheries and Oceans Canada are shown below:

Departmental Results Framework

FISHERIES

Canadian fisheries are sustainably managed
- Percentage of major fisheries that have limit reference points and harvest control rules
- Percentage of decisions for major fisheries where harvest control rules were followed
- Percentage of major stocks in the cautious and healthy zone

Canadian aquaculture is sustainably managed
- Percentage of aquaculture farms that are compliant with *Fisheries Act* regulations
- Level of Canadian aquaculture production

The commercial fishing industry has access to safe harbours
- Percentage of core harbours that are in fair or better condition

Fisheries, oceans and other aquatic ecosystems are protected from unlawful exploitation and interference
- Percentage of compliance per inspection activity within the DFO regulated community

Scientific information on fisheries resources is available to inform management decisions
- Percentage of scheduled fisheries science advisory processes that were completed
- Percentage of sustainable aquaculture research projects which provide information and/or advice to policy and decision-makers

Improved relationships with and outcomes for Indigenous people
- Percentage of eligible Indigenous groups represented in agreements
- Number of Indigenous people employed in commercial and collaborative management activities

AQUATIC ECOSYSTEMS

Negative impacts on Canada's oceans and other aquatic ecosystems are minimized or avoided
- Percentage of marine and coastal areas that are protected
- Percentage of development projects occurring in or near water that effectively avoid, mitigate or offset impacts to fish and fish habitat
- Percentage of aquatic species/populations at risk listed under the *Species at Risk Act* for which a recovery strategy/management plan is completed.
- Percentage of approved requests for science advice on aquatic invasive species that are completed

Scientific information on Canada's oceans and other aquatic ecosystems is available to inform management decisions
- Number of science products related to aquatic ecosystems that are available
- Percentage of scheduled science advisory processes on aquatic ecosystems that were completed

Improved relationships with and outcomes for Indigenous people
- Percentage of eligible Indigenous groups represented by collaborative management agreements and aggregate-level management bodies in support of aquatic ecosystems
- Number of Indigenous people employed in aquatic ecosystems and oceans science

MARINE NAVIGATION

Mariners safely navigate Canada's waters
- Number of maritime incidents as a percentage of vessel movements
- Number of official navigational products created and/or updated from incorporation of new and/or archived modern hydrography per year in key areas

A Canadian maritime economy that is supported by navigable waters
- Number of maritime incidents as a percentage of vessel movements
- Percentage of ship ice escort requests that are delayed beyond level of service (response time) south of the 60th parallel north
- Average time beyond levels of service (response time) for ice escort requests south of the 60th parallel north

MARINE OPERATIONS AND RESPONSE

Canadian Coast Guard has the capability to respond to on-water incidents
- Percentage of responses to environmental incidents that meet established standards
- Percentage of search and rescue responses that meet established standards

Canada's Civilian fleet has the capability to meet established service standards for clients
- Operational days delivered versus planned
- Percentage of operational days lost due to crewing and other logistic issues
- Percentage of operational days lost due to unplanned maintenance

Increased Indigenous participation in Canada's marine response system
- Percentage of times Indigenous community vessels or assets responded to marine incidents

Legend:
CORE RESPONSIBILITY
Departmental Result
- Departmental Result Indicator

Program Inventory

Fisheries Management	Conservation and Protection	Fisheries Protection	Icebreaking Services	Search and Rescue
Aboriginal Programs and Treaties	Aquatic Animal Health	Aquatic Invasive Species	Aids to Navigation	Environmental Response
Aquaculture Management	Biotechnology and Genomics	Species at Risk	Waterways Management	Maritime Security
Salmonid Enhancement	Aquaculture Science	Oceans Management	Marine Communications and Traffic Services	Fleet Operational Capability
International Engagement	Fisheries Science	Aquatic Ecosystem Science	Shore-based Asset Readiness	Fleet Maintenance
Small Craft Harbours	Fisheries Economics and Statistics	Oceans and Climate Change Science	Hydrographic Services, Data and Science	Fleet Procurement
		Aquatic Ecosystems Economics		Canadian Coast Guard College
				Marine Operations Economics

Internal Services

Supporting Information on the Program Inventory

Financial, human resources and performance information for Fisheries and Oceans Canada's Program Inventory is available in the GC InfoBase[cxxiv].

Supplementary Information Tables

The following supplementary information tables are available on Fisheries and Oceans Canada's website[cxxv].

- Departmental Sustainable Development Strategy
- Details on Transfer Payment Programs of $5 Million or More
- Gender-based Analysis Plus
- Horizontal Initiatives
- Response to Parliamentary Committees and External Audits
- Status Report on Projects Operating with Specific Treasury Board Approval
- Status Report on Transformational and Major Crown Projects
- Up-front Multi-year Funding

Federal Tax Expenditures

The tax system can be used to achieve public policy objectives through the application of special measures such as low tax rates, exemptions, deductions, deferrals and credits. The Department of Finance Canada publishes cost estimates and projections for these measures annually in the Report on Federal Tax Expenditures[cxxvi]. This report also provides detailed background information on tax expenditures, including descriptions, objectives, historical information and references to related federal spending programs. The tax measures presented in this report are the responsibility of the Minister of Finance.

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Appendix: Definitions

appropriation (crédit)

Any authority of Parliament to pay money out of the Consolidated Revenue Fund.

budgetary expenditures (dépenses budgétaires)

Operating and capital expenditures; transfer payments to other levels of government, organizations or individuals; and payments to Crown corporations.

Core Responsibility (responsabilité essentielle)

An enduring function or role performed by a department. The intentions of the department with respect to a Core Responsibility are reflected in one or more related Departmental Results that the department seeks to contribute to or influence.

Departmental Plan (plan ministériel)

A report on the plans and expected performance of an appropriated department over a three-year period. Departmental Plans are tabled in Parliament each spring.

Departmental Result (résultat ministériel)

A Departmental Result represents the change or changes that the department seeks to influence. A Departmental Result is often outside departments' immediate control, but it should be influenced by program-level outcomes.

Departmental Result Indicator (indicateur de résultat ministériel)

A factor or variable that provides a valid and reliable means to measure or describe progress on a Departmental Result.

Departmental Results Framework (cadre ministériel des résultats)

Consists of the department's Core Responsibilities, Departmental Results and Departmental Result Indicators.

Departmental Results Report (rapport sur les résultats ministériels)

A report on an appropriated department's actual accomplishments against the plans, priorities and expected results set out in the corresponding Departmental Plan.

experimentation (expérimentation)

Activities that seek to explore, test and compare the effects and impacts of policies, interventions and approaches, to inform evidence-based decision-making, by learning what works and what does not.

full-time equivalent (équivalent temps plein)

A measure of the extent to which an employee represents a full person-year charge against a departmental budget. Full-time equivalents are calculated as a ratio of assigned hours of work to scheduled hours of work. Scheduled hours of work are set out in collective agreements.

gender-based analysis plus (GBA+) (analyse comparative entre les sexes plus [ACS+])

An analytical process used to help identify the potential impacts of policies, Programs and services on diverse groups of women, men and gender-diverse people. The “plus” acknowledges that GBA goes beyond sex and gender differences. We all have multiple identity factors that intersect to make us who we are; GBA+ considers many other identity factors, such as race, ethnicity, religion, age, and mental or physical disability.

government-wide priorities (priorités pangouvernementales)

For the purpose of the 2018–19 Departmental Results Report, those high-level themes outlining the government’s agenda in the 2015 Speech from the Throne, namely: Growth for the Middle Class; Open and Transparent Government; A Clean Environment and a Strong Economy; Diversity is Canada’s Strength; and Security and Opportunity.

horizontal initiative (initiative horizontale)

An initiative where two or more departments are given funding to pursue a shared outcome, often linked to a government priority.

non-budgetary expenditures (dépenses non budgétaires)

Net outlays and receipts related to loans, investments and advances, which change the composition of the financial assets of the Government of Canada.

performance (rendement)

What an organization did with its resources to achieve its results, how well those results compare to what the organization intended to achieve, and how well lessons learned have been identified.

performance indicator (indicateur de rendement)

A qualitative or quantitative means of measuring an output or outcome, with the intention of gauging the performance of an organization, program, policy or initiative respecting expected results.

performance reporting (production de rapports sur le rendement)

The process of communicating evidence-based performance information. Performance reporting supports decision making, accountability and transparency.

plan (plan)

The articulation of strategic choices, which provides information on how an organization intends to achieve its priorities and associated results. Generally a plan will explain the logic behind the strategies chosen and tend to focus on actions that lead up to the expected result.

planned spending (dépenses prévues)

For Departmental Plans and Departmental Results Reports, planned spending refers to those amounts presented in Main Estimates.

A department is expected to be aware of the authorities that it has sought and received. The determination of planned spending is a departmental responsibility, and departments must be

able to defend the expenditure and accrual numbers presented in their Departmental Plans and Departmental Results Reports.

priority (priorité)

A plan or project that an organization has chosen to focus and report on during the planning period. Priorities represent the things that are most important or what must be done first to support the achievement of the desired Strategic Outcome(s) or Departmental Results.

Program (programme)

Individual or groups of services, activities or combinations thereof that are managed together within the department and focus on a specific set of outputs, outcomes or service levels.

Program Inventory (répertoire des programmes)

Identifies all of the department's programs and describes how resources are organized to contribute to the department's Core Responsibilities and Results.

result (résultat)

An external consequence attributed, in part, to an organization, policy, program or initiative. Results are not within the control of a single organization, policy, program or initiative; instead they are within the area of the organization's influence.

statutory expenditures (dépenses législatives)

Expenditures that Parliament has approved through legislation other than appropriation acts. The legislation sets out the purpose of the expenditures and the terms and conditions under which they may be made.

Strategic Outcome (résultat stratégique)

A long-term and enduring benefit to Canadians that is linked to the organization's mandate, vision and core functions.

target (cible)

A measurable performance or success level that an organization, program or initiative plans to achieve within a specified time period. Targets can be either quantitative or qualitative.

voted expenditures (dépenses votées)

Expenditures that Parliament approves annually through an Appropriation Act. The Vote wording becomes the governing conditions under which these expenditures may be made.

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