Fisheries and Oceans Canada | Pêches et Océans Canada

2019-20

Departmental Results Report

Canada

Departmental Results Report 2019-20
Cat. No. Fs1-84E-PDF
ISSN 2561-0236

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Minister's Message

I am pleased to present the 2019-20 Departmental Results Report for Fisheries and Oceans Canada (DFO) and the Canadian Coast Guard (Coast Guard). This report summarizes actions taken by DFO to manage Canada's vast fisheries and protect the marine environment, while delivering Coast Guard programs and services to keep our waterways safe, secure, and accessible.

OUR RESPONSIBILITY

Surrounded by three oceans, Canada is a proud maritime nation with the world's longest coastline, and an offshore Exclusive Economic Zone equal to 37 per cent of its total landmass. We are home to the Great Lakes, an immense sea of Arctic ice and an abundance of freshwater resources. DFO employs more than 12,000 dedicated public servants, 85 per cent of whom are located outside the National Capital Region in 400 offices, operational detachments, and field sites across the country. The Coast Guard maintains a visible federal presence in all Canadian waters and delivers a range of services including search and rescue, icebreaking operations, maritime security, and environmental response.

As Minister of Fisheries, Oceans, and the Canadian Coast Guard, I am proud to lead a Department steeped in history while very much at the forefront in shaping Canada's domestic and global responses to very modern challenges.

OUR PRIORITIES

Service excellence and science-based policy are foundational to the Department's operations and resource management decisions. In 2019-20, DFO and Coast Guard focused on six organizational priorities, which helped us fulfill our mission to provide Canadians with economically prosperous maritime and fisheries sectors, more sustainable aquatic ecosystems, and safe, secure, and navigable waters. These priorities included:

- Oceans Protection Plan;
- Integrity Investments;
- Marine Conservation Targets;
- *Fisheries Act* Modernization;
- Fleet Renewal; and
- Reconciliation with Indigenous peoples.

OUR KEY ACCOMPLISHMENTS

In line with these priorities, some of our accomplishments in 2019-20 included:

- Creation of a new Arctic Region to deliver on key priorities in the North including reconciliation with Indigenous peoples and the Oceans Protection Plan;
- Adding to the success of the Atlantic Fisheries Fund, two new programs were launched, the Quebec Fisheries Fund (QFF), and the British Columbia Salmon Restoration Innovation Fund (BCSRIF); release of the first annual report on progress for the Wild Salmon Policy 2018-2022;

identification of priority actions under DFO's Integrated Fisheries Management Plans in response to the Commissioner of the Environment and Sustainable Development's 2016 Report;
- Signing of historic Coastal First Nations Fisheries Resources Reconciliation Agreement with seven B.C. First Nations, the Fraser Salmon Collaborative Management Agreement with 76 B.C. First Nations, the Fisheries Resources Agreement with the Maliseet of Viger First Nation in Quebec, and a 10-year Interim Fisheries Implementation Agreement with Elsipogtog and Esgenoôpetitj in New Brunswick;
- Amendments to the *Oceans Act* to provide the Minister with a new Ministerial Order power to establish interim marine protected areas (MPAs), taking a precautionary approach, while additional science and collaboration continue for up to five more years in order to establish the MPA for the long-term. Other amendments include modernized enforcement powers and the option to establish a long-term MPA to protect the ecological integrity of an area.
- Amendments to the *Fisheries Act* to restore lost protections and include modern safeguards, including other measures such as a ban on the practice of shark finning and the import and export of shark fins not attached to the carcass; amendments to marine mammal regulations to clarify new minimum vessel approach distances for the North Atlantic right whale, Southern Resident Killer Whale, and St. Lawrence Estuary beluga whale;
- The new fish and fish habitat protection and pollution prevention provisions of the *Fisheries Act* came into force on August 28, 2019. The provisions include new tools for the management of works, undertakings, or activities that may result in harm to fish habitat, such as authorities to create designated projects regulations, to establish ecologically significant areas, to set standards and codes of practice, and new factors to be considered for decision-making;
- Strengthening of Canada's commitment to the Global Ghost Gear Initiative[i] with domestic investments in retrieval and responsible disposal actions, and in Global Fishing Watch[ii] to support open-source mapping, tracking, and analysis of the global fishing activity;
- Ratification of the Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing; and the Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean;
- Acceleration of upgrades and repairs at fishing harbours, improvements to real property, replacement of aging infrastructure, acceleration of action on federal contaminated sites; and construction of physical barriers to prevent the spread of alien species;
- Investments in technology, partnerships, and scientific knowledge related to Canada's oceans, lakes, and rivers, and launch of regulatory processes and tools for aquatic invasive species;
- Implementation of partnerships to protect aquatic species at risk through the new Canada Nature Fund for Aquatic Species at Risk; and continued work with Transport Canada, Environment and Climate Change Canada, and Parks Canada Agency to enhance protection measures to support the recovery of the Southern Resident Killer Whale.

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

OUR COMMITMENT TO YOU

The Government's commitments represent the basis of a very ambitious agenda which will leave a lasting legacy in the Department. Going forward, we will continue to protect our oceans and aquatic species at risk and to better co-manage our fisheries in partnership with provinces, territories, Indigenous peoples, and 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 and Operating Context

What Funds Were Used?

The Department's total actual spending for 2019-20 was $3,136,070,484.

Who Was Involved?

The Department's total workforce (full-time equivalents) for 2019-20 was 12,701.

Key Results Achieved:

Reconciliation with Indigenous Peoples: We created a new Arctic Region and opened a new Area office in Labrador to deliver on key priorities in the North, including Indigenous Reconciliation. We also signed the historic Coastal First Nations Fisheries Resources Reconciliation Agreement with seven B.C. First Nations, as well as the Fraser Salmon Collaborative Management Agreement with 76 B.C. First Nations, a Fisheries Resources Agreement with the Maliseet of Viger First Nation in Quebec, and a 10-year Interim Fisheries Implementation Agreement with Elsipogtog and Esgenoôpetitj in New Brunswick.

Marine Conservation Targets: We protected almost 14 per cent of Canada's marine and coastal areas, surpassing the target of 10 per cent by 2020. This included the establishment of 59 marine refuges, 13 *Oceans Act* Marine Protected Areas (MPA), one MPA in the High Arctic (i.e., Tuvaijuittuq) established by Ministerial Order, working in collaboration with Indigenous organizations and northern communities, and protected areas established by Parks Canada Agency, Environment and Climate Change Canada, and provincial governments. We continue work to effectively manage existing sites and are further committed to conserving 25 per cent of marine and coastal areas by 2025, working toward 30 per cent by 2030.

***Fisheries Act* Modernization:** The new fish and fish habitat protection and pollution prevention provisions of the *Fisheries Act* came into force on August 28, 2019. The provisions include new tools for the management of works, undertakings, or activities that may result in harm to fish habitat, such as authorities to create designated projects regulations, to establish ecologically significant areas, to set standards and codes of practice, and new factors to be considered for decision-making. We amended the *Marine Mammal Regulations* to clarify new minimum approach distances for vessels for whales, dolphins, and porpoises, including the North Atlantic right whale, Southern Resident Killer Whale, and St. Lawrence Estuary beluga whale. Our amendments to the *Fisheries Act* also included a ban on the practice of shark finning and the import and export of shark fins not attached to the carcass.

Canadian Fisheries Funds: We expanded the Atlantic Fisheries Fund (AFF) with the approval of its first seven projects under its national pillar, the Canadian Fish and Seafood Opportunities Fund (CFSOF). We also built upon the success of the AFF by launching the Quebec Fisheries Fund and British Columbia Salmon Restoration and Innovation Fund with the governments of Quebec and British Columbia, respectively. We also released the first annual report on Progress for the Wild Salmon Policy 2018-2022, and identified priority actions under DFO's Integrated Fisheries Management Plans in response to the Commissioner of the Environment and Sustainable Development's 2016 Report.

Fleet Renewal: We made significant advancements in support of fleet renewal to ensure that the Canadian Coast Guard can continue its essential operations. In May 2019, the government announced a $15.7 billion investment to support the procurement of up to 18 new large vessels to be built in Canadian shipyards and funding for a comprehensive vessel life extension program to ensure that the existing fleet can continue to serve until new ships are delivered. In August 2019, it was announced that the Coast Guard would procure six new program icebreakers to replace its current aging fleet under the National Shipbuilding Strategy with the addition of a third Canadian shipyard. In 2019-20, the Coast Guard received delivery of two Offshore Fisheries Science Vessels and two new Search and Rescue vessels.

Relationships with Indigenous peoples are fundamental to meeting our departmental priorities, the priorities of the Government of Canada, and to improving outcomes for Indigenous groups. The Department has undertaken significant work to ensure that this relationship is productive, and we undertook significant work in 2019-20, which has been indicated throughout the report with this icon  .

For more information on Fisheries and Oceans Canada'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 18.

Results

DFO works to support a healthy and sustainable fishing sector. Programs in the Fisheries Core Responsibility ensured that work moved forward on reconciliation, on aquaculture and fisheries management, on the General Aquaculture Regulations, and on harbour management. More on these and other achievements can be found below.

In support of DFO's commitment to establishing a coordinated approach for effective **management and consultation with Indigenous groups** at the national and regional levels, the Department continued the work of its National Indigenous Relations and Partnerships Coordination Network including staffing six positions to support it, ensured strategic policy advice was available for high-level decision-makers working with Indigenous partners, and developed new tools for DFO officials working with Indigenous peoples including Question and Answer documents and a Compendium of Leading Practices. Finally, DFO established a **new Labrador Area Office**, supporting DFO's commitment to advancing reconciliation and pursuing a renewed relationship with Indigenous peoples. The Area Office will enable DFO to work more

The icon identifies work undertaken with Indigenous groups.

closely with Inuit and Innu leaders, Indigenous organizations, stakeholders, and all residents of Labrador on innovative approaches to program and service delivery.

DFO is committed to Canada's reconciliation with Indigenous peoples. DFO implemented the departmental **reconciliation strategy** and, as part of the strategy, increased its focus on reconciliation throughout the Department's governance and programs by working with regional management committees to launch the development of **Regional Reconciliation Action Plans**. As part of this work in 2019-20, a series of presentations was delivered to employees across Canada to help raise awareness and knowledge of reconciliation, and the Department's reconciliation co-champions developed their workplan for going forward.

DFO initiated ongoing reporting on **Departmental targets and results specific to reconciliation, aiming to incorporate reconciliation** as a monitored component of every program and internal service throughout the Department. New Departmental Results Framework targets were developed and incorporated ahead of the 2020-21 reporting year. Also, following the completion of the **Indigenous Program Review**, which was undertaken in partnership with the National Indigenous Fisheries Institute, DFO released the Action Plan for the Renewal and Expansion of DFO's Indigenous Programs. This plan outlines a multi-year approach for growing and improving the Indigenous commercial and collaborative programs through ongoing co-development, co-design and co-delivery with Indigenous partners. Key commitments already met include the launch of the **Northern Integrated Commercial Fisheries Initiative** and, as part of the Aboriginal Aquatic Resource and Oceans Management (AAROM) program, the roll-out of $2 million per year in ongoing funding enhancement to help grow the capacity of Indigenous watershed organizations. Through the co-designed and co-delivered Annual National AAROM meeting, DFO also worked with AAROM-funded organizations to further develop tools and strategies to promote these organizations and map out their technical and organizational capacity.

The Canadian Arctic is a stunning, vibrant region, rich in Indigenous and northern cultures, teaming with iconic species, diverse coastal marine and inland ecosystems and economic opportunities.

Working closely Inuit Tapiriit Kanatami (ITK), the national organization representing Inuit in Canada, territorial governments and Indigenous organizations, Fisheries and Oceans Canada (DFO) created a stand-alone Arctic Region to ensure that Indigenous peoples and other residents of the North are at the center of decision-making about programs and projects that impact them.

The new region exemplifies the Department's commitment to advancing reconciliation and pursuing a renewed relationship with Indigenous peoples, which is based on recognition of rights, respect, co-operation, and partnership. It will enable DFO and Coast Guard to work more closely with Inuit and Indigenous Leaders, Indigenous organizations, stakeholders and residents of the Arctic on innovative approaches to program and service delivery.

The icon identifies work undertaken with Indigenous groups.

DFO is a member of the Government of Canada's **Strategic Partnerships Initiative**, a horizontal federal program delivered across 20 Departments and Agencies that strategically targets complex economic development opportunities and bridges gaps in existing federal funding. The program supports reconciliation and helps Indigenous communities build their economic readiness to participate in large, complex opportunities. DFO successfully implemented four initiatives targeting the Indigenous commercial fisheries programs. DFO was implementing year two of five of the Indigenous Marine Servicing Initiative, which fills a gap in programming by assisting Indigenous communities to expand and diversify Indigenous marine-related industries to create more opportunities and accompanying benefits in terms of employment, wealth creation, and community impact.

Since its establishment in June 2019, the new Reconciliation Agreement/Treaty Related Measures transfer payment program has administered 14 funding agreements and provided a total of $120.5 million to support the fisheries work of 12 Nations or aggregates. This was achieved while developing the foundational framework for the management, operations, and performance of this newly established program which aims to build capacity and economic growth of Indigenous-led fisheries and support a greater say in fisheries management decisions towards long-term stability and predictability for all harvesters.

The Department continues to conduct research and monitoring activities in support of **peer-reviewed science advice**. This work is essential for evidence-based decision-making and for the development of policy and regulations, particularly when making decisions affecting fish stocks and ecosystems management. As a result, science advice was produced to support guidelines for the development of rebuilding plans for Canadian fish stocks, and Precautionary Approach Harvest Strategies under the Fish Stocks Provisions of the *Fisheries Act*. In 2019-20, DFO invested $55 million, initiating five new multi-year Science at-Sea surveys to monitor lobster, capelin, herring, whitefish, scallop, and other invertebrate stocks in Canada’s oceans. The Science at-Sea program brings DFO scientists on the water to study the oceans and the creatures that call them home. Data about Canada’s fish stocks are collected by DFO and then analyzed to identify changes in abundance, distribution, and biological characteristics of fish populations. Repeated surveys provide a time series of data, separate from actual fisheries, that can show how stocks change over time.

DFO continued to increase the production of **Integrated Fisheries Management Plans** for major fish stocks. While in some instances deliverables were delayed, including due to COVID-19, work is ongoing for completion in 2020-21. DFO also ensured that lessons learned and observations were reviewed and applied to the work plan to maintain the effectiveness of the process, which contributes to work in response to audit recommendations from the October 2016 audit by the Commissioner of the Environment and Sustainable Development on Sustaining Canada’s Major Fish Stocks.

DFO has made substantial progress to advance implementation of the **fish stock provisions** under the amended *Fisheries Act*. When the provisions come into effect, they will strengthen DFO's fishery management framework by introducing binding commitments to maintain major fish stocks at sustainable levels and further enabling the Department to develop and implement plans to rebuild depleted major stocks and promote long-term sustainability. DFO worked on a proposed regulation that, when finalized, will trigger the provisions. The regulation will prescribe the first batch of major stocks to be subject to the provisions and it will set out the required contents of rebuilding plans for depleted stocks. DFO also drafted policy guidance to implement the fish stocks provisions and completed rebuilding plans for a number of the stocks that are proposed to be prescribed by regulation in the first batch. This work supports achieving the Minister's mandate commitment to implement the recently modernized *Fisheries Act*.

DFO committed to $11.6 million in investments to combat **illegal, unreported, and unregulated fishing** (IUU) throughout the world, and contributed to the development of a regional fisheries intelligence sharing network for Western and Central Pacific countries, which is expected to be fully established by the end of 2020-21. DFO also partnered with Global Fishing Watch, a leading Non-Governmental Organization, in its mission to help developing countries improve awareness of IUU and transparency in their fisheries. As part of this funding, DFO has committed to a satellite-based platform capable of remotely identifying and tracking suspected IUU vessels. This platform will be deployed to developing countries in 2021. As this platform is developed, Canada will provide satellite data to combat IUU and has provided this data through partnership to Costa Rica, Ecuador, the Bahamas, and regions of western Africa and South East Asia. This will lead to improved maritime awareness and support operations in combatting IUU fishing. This work supports DFO's progress on the Minister's mandate commitment to implement the G7 Charlevoix Blueprint for Healthy Oceans, Seas and Resilient Coastal Communities.

Canada also ratified the *Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean* in May 2019, and has since been providing leadership and support towards the successful implementation of that Agreement, including hosting the first meeting of the signatories and providing support to the chair of the preparatory process. As of July 2020, nine of the ten signatories to the Agreement have ratified, and DFO will continue to provide leadership towards its implementation in anticipation of its entry into force in the near future. Canada ratified the *Agreement on Port State Measures to Prevent, Deter and Eliminate IUU Fishing* in June 2019. This Agreement works to prevent vessels engaged in IUU fishing from using ports and landing their catches. Canada was active in the development of this Agreement as an integral tool in tackling IUU fishing globally, and will continue to support and advocate for effective implementation of the Agreement around the world.

Over the course of 2019-20, DFO worked in collaboration with Indigenous partners and the Province of British Columbia on the emergency response at the **Big Bar Landslide** site. During the fall and winter seasons, work included blasting rock, widening the channel, and removing in-river rock to help reduce the effects of the slide at the site and to improve passage for Pacific salmon and steelhead stocks during the May through November migration season. Additionally, planning for other fish transport methods was initiated, including methods to assist the passage of salmon above the slide site. Emergency conservation enhancement planning was also launched. In spring 2020, work included building a “nature-like” fishway on the west side of the landslide, construction of a concrete fish ladder, and installation of a pneumatic fish pump system to move salmon past the barrier. Work continues toward re-establishing sustainable fish passage for the longer term.

DFO provides significant support to the fish and seafood industry through several contribution programs. As of 2019-20, the **Atlantic Fisheries Fund** (AFF) has approved 471 projects with total AFF contributions of $111,865,433 including seven projects approved under the AFF national pillar, the Canadian Fish and Seafood Opportunities Fund (CFSOF). In 2019-20, DFO also expanded on the success of the AFF into the Quebec and Pacific regions with the **Quebec Fisheries Fund** (QFF) and the **British Columbia Salmon Restoration and Innovation Fund** (BCSRIF). The QFF signed six contribution agreements and is making good progress toward meeting the targets it set for 2021.

The **BCSRIF**, a joint federal-provincial investment of $142.85 million, was successfully launched and 192 expressions of interest from potential applications for projects facilitated by Indigenous groups and non-commercial organizations were received. Contribution agreements were ratified for 27 projects, for a total of $55 million, with projects focusing on activities to support the restoration of wild Pacific salmon and other priority stocks, and promoting sustainability in B.C.'s fish and seafood sector. A key goal of BCSRIF is to introduce innovation into the fish and seafood sector through research and data collection to support the analysis of existing approaches and to identify potential options for improving the sustainability of wild Pacific salmon and B.C. fisheries. For example, in 2019-20, funding was awarded to the University of British Columbia to conduct research on improving the sustainability of capture-and-release marine recreational Pacific salmon fisheries using new tools and technology. Following the extremely high level of interest in BCSRIF in this first round of funding, DFO and B.C. have provided additional clarification and guidance on the expected scope of projects to ensure applicants can self-assess the effectiveness of their proposals, and to attract applications that are more explicitly aligned with the goals of the fund.

The 2018-19 Annual Report of the **Wild Salmon Policy 2018-2022**[iii] **Implementation Plan** was published on April 30, 2019, demonstrating DFO's continued commitment to public accountability and transparency, and the conservation of Pacific salmon in collaboration with First Nations, provincial and territorial governments, and stakeholders. In the 2018-19 Annual Report, all of the overarching approaches listed were on track, and 81 per cent of the activities are either completed or on track. Over 2019-20, the Department continued to advance key activities in the Implementation Plan and worked towards the development of the second Annual Report. In May 2019, DFO also released the **Implementation Plan 2019 to 2021 for Wild Atlantic Salmon**[iv]. As part of this plan, the Department has engaged the Province of New Brunswick and Mi'gmawe'l Tplu'taqnn Incorporated (MTI) to develop a collaborative management plan for the Miramichi River watershed, building on the government's commitment to reconciliation with Indigenous peoples. This work will also respond to the federal Standing Committee on Fisheries and Oceans' 2017 recommendation to adopt a "river-by-river and management areas approach."

In 2019-20, DFO conducted an **evaluation**[v] **of its Certification and Market Access Program for Seals**, which was launched in 2015 to mitigate the impacts of the seal products importation ban imposed by the European Union. The evaluation found that the program has made progress on meeting its objectives despite the complexity of the seal products market. DFO is continuing to review the results of the evaluation and will spend time in 2020-21 to develop possible adjustments to the program to respond to the findings.

As outlined in the Minister's mandate letter, DFO is working to advance the development of Canada's first-ever federal **Aquaculture Act**. From March to August 2019, DFO held

23 engagement sessions across Canada to identify priority issues. In addition, an online consultation took place from June to December 2019, inviting the public to provide initial input on the proposed Aquaculture Act. A "What We Heard" report was completed, summarizing engagement to date. DFO will continue to engage on the proposed Aquaculture Act but, in light of COVID-19, this will be done virtually.

As announced in the 2018 Fall Economic Statement, DFO continues its efforts on developing the proposed **General Aquaculture Regulations**, which will consolidate DFO's diverse regulatory provisions pertaining to aquaculture into one comprehensive set of regulations. Amendments that are in progress include exempting cultured shellfish from the *Atlantic Fishery Regulations* and the *Maritime Provinces Fishery Regulations*; proposed amendments to the *Marine Mammal Regulations* and *Pacific Aquaculture Regulations* to remove the Minister's authority to authorize the lethal removal of nuisance seals; and regulatory amendments required to meet the U.S. *Marine Mammal Protection Act* Import Provisions Rule and maintain U.S. market access for Canadian-farmed and wild fish and fish products. Progress has also been made towards the development of a post-deposit monitoring program for drugs and pesticides under the *Aquaculture Activities Regulations* to ensure sustainable management of aquaculture activities and to address the regulatory conflict with the *Canadian Environmental Protection Act* – Disposal at Sea provisions.

DFO conducted public consultations to develop a **Framework for Aquaculture Risk Management**, with an aim to clearly outline and explain how decisions on aquaculture are made, including how the precautionary approach is used for aquaculture decision making. DFO is making progress on incorporating all of the input received from provinces, the public, industry, Indigenous organizations, and other stakeholders.

Additionally, the **Indigenous and Multi-stakeholder Advisory Body (IMAB)** on aquaculture in British Columbia was launched in August 2019, supported by three Technical Working Groups comprised of representatives from the federal and provincial governments, Indigenous organizations and communities, environmental non-governmental organizations, and the aquaculture industry. The process culminated in each of the working groups providing a final report and recommendations to the IMAB.

DFO is committed to effectively managing salmon stocks in Canada. As recommended in the final report of the Cohen Commission of Inquiry into the Decline of Sockeye Salmon in the Fraser River, DFO completed nine planned risk assessments aimed at better understanding the potential threats to **Fraser River Sockeye salmon due** to pathogen transfer from Atlantic salmon farms in the Discovery Islands.

The target for implementing the response to the **2016 Spring Report of the Commissioner of the Environment and Sustainable Development on Salmon Farming** recommendation regarding emerging aquatic diseases has been postponed to 2021, due to legal challenges relating to the Fishery (General) Regulations, which has resulted in delays to the emerging disease policy.

DFO's **Conservation and Protection** (C&P) program enables the Department to better address large-scale fisheries offences, resulting in increased protection of Canada's fisheries and aquatic ecosystems. As of 2020, C&P has completed the expansion of its National Fisheries Intelligence Service (NFIS), resulting in a fully staffed, trained, and equipped operational service within C&P. The Department has also continued to bolster its complement of Fishery Officers as it expands its capacity in aerial surveillance over the next five years. DFO also completed the establishment of two regional Operational Communications Centres in the Maritimes and Gulf regions, and continues to investigate options for providing dispatch services to other regions as part of the ongoing radio modernization project.

DFO continued its work to engage with stakeholders and improve awareness of the support offered to those working in the fishing and aquaculture industries by the **Fisheries and Aquaculture Clean Technology Adoption Program** (FACTAP) through meetings, conferences, fora, trade shows, and networking events. DFO also established 51 new collaborative agreements, 26 of which were for the fisheries sector, exceeding its overall target one year ahead of schedule.

During 2019-20, DFO launched six **genomics** projects that were funded by the Genomics Research and Development Initiative (GRDI). Four of these projects were based on **environmental DNA** (eDNA) research to develop a novel, nationally standardized eDNA-based tool for monitoring biodiversity and Marine Protected Areas, to use eDNA to detect endemic and invasive salmon community shifts in Labrador, to conduct fundamental experimental research on the dispersion and persistence of eDNA in aquatic environments, and to develop eDNA techniques to dovetail with traditional stock assessment approaches. In addition, to further explore the ability of eDNA technologies to provide fast, non-destructive identification of species in the field, DFO ran a national workshop and training course in November 2019.

DFO has been collaborating with the University of Victoria to map and sequence the **genomes** of Chinook, Pink, Chum, and Sockeye salmon, which will provide the foundation for research to improve monitoring and understanding of the effects of stressors to better conserve and manage these species. The Chinook Salmon sequence has been completed and published, while the other species genomes are close to complete or awaiting publication. DFO is also working with the

Genome BC EPIC4[vi] project to generate genetic resources for Coho salmon that can be used to improve hatchery operations, evaluate the interaction between wild and hatchery fish, and increase the productivity of land-based aquaculture. All sequences are available in the GenBank[vii] as soon as they are complete, ensuring open access. These new genomics resources are already facilitating further studies by the science community to measure the genetic changes and effects of climate change or pathogen exposure. This work will permanently enhance the management and assessment work for these important and iconic species in the future.

DFO received three notifications for **fish products of biotechnology** under the *Canadian Environmental Protection Act* (CEPA), completed risk assessments for all three, and provided Science Advisory Reports to clients at Environment and Climate Change Canada and Health Canada. DFO's Centre for Aquatic Biotechnology Regulatory Research exceeded its expectation of 10 publications on the effects of genetically-modified fish, publishing 14 peer-reviewed and open-source articles. These publications provide evidence and support to the environmental risk assessments that DFO conducts on genetically-modified fish to inform decisions regarding these products under CEPA.

In response to the **2018-19 evaluation of the Canadian Science Advisory Secretariat**[viii] (CSAS), three major deliverables were achieved in 2019-20. CSAS drafted internal communication guidelines to keep clients informed at every step of the process in order to fulfill their requests for science advice. In addition, a policy on conflict of interest was developed to communicate how CSAS defines, identifies, and manages real, perceivable, or potential conflicts of interest of all participants (DFO employees and external participants), throughout all stages of the CSAS peer review process. Finally, a policy was developed on participation at CSAS meetings to provide guidance to CSAS peer review Steering Committees on developing a list of appropriate participants, following the Inclusiveness Principle set out in the Government of Canada's Science Advice for Government Effectiveness. These will be implemented in the coming year and work continues to respond to the remaining recommendations.

DFO has updated its key benchmark **study of Canada's marine economy**[ix]. This update provides estimates of the economic contribution of marine economic activities to Canada's national and provincial economies. Furthermore, the estimates include the direct economic contribution of marine activities, as well as the economic activity generated in other sectors and industries along the ocean economy value chain. Overall, the contribution of marine activities to Canada's economy has remained stable in terms of both gross domestic product and employment, while the fish and seafood sector has posted the largest increase in its contribution. In addition, the

Minister was mandated to lead the development of a comprehensive Blue Economy Strategy with the support of other departments. The strategy will help guide future government action and investments that enable Canada to grow its oceans economy to create good middle class jobs and opportunities for coastal communities while advancing DFO's conservation objectives.

In 2019-20, DFO conducted an **evaluation**[x] **of its new economic analysis programs** (Fisheries Economics and Statistics Program, Aquatic Ecosystems Economics Program, and Marine Operations Economics Program) and generally found that the first two have met their targets, and the third program has yet to define the needs of the sector. The evaluation recommended work on multi-year workplans and meaningful performance indicators.

92% of core harbours are in fair or better condition

Budget 2018 invested $250 million over two years to accelerate **repair and maintenance work at core harbours** across Canada, with the result that in 2019-20, 92 per cent of the harbours were in fair or better condition. A proportionate small amount of funding ($12 million) was approved to continue large scale and complex projects in to 2020-21, and these are ongoing. In addition, DFO has repaired non-core harbours to a condition that is suitable for divestiture (for transferring to partners like municipalities) or has made investments so as to remove surplus harbours from the Department's inventory (i.e. demolition) in order to reduce its liabilities. These include harbours that do not support the program's key mandate of providing safe and accessible harbours for the commercial fishing industry. In total, 127 projects using Budget 2018 funding have been completed. This work supports DFO's dedication to delivering on its mandate commitment to increase investments in small craft harbours and work with communities to develop local economic development plans so that harbours better serve the needs of the fishing industry and local residents.

DFO also removed 61 **vessels that had been abandoned** in Canada's harbours, which cause environmental, safety, and economic hazards. Though the target of 50 vessels by March 2022 was exceeded, DFO will continue this valuable work to ensure safe harbours.

Gender-based Analysis Plus[3]

To better understand the diversity of Canadians served by its programs, DFO collects **disaggregated data** (data broken down by identify factors such as gender and ethnicity). For example, DFO's analysis of data on the gender of clients of its Indigenous commercial programs indicates that approximately 10 per cent of fish harvesters are women, but management positions within Indigenous commercial fishing enterprises can be as

[3] GBA+ is an analytical approach used to assess how diverse groups of women, men, and gender-diverse people may experience policies, programs and initiatives. The "plus" in GBA+ acknowledges that the gender-based analysis goes beyond biological (sex) and socio-cultural (gender) differences. For more information, consult the Women and Gender Equity Canada website[xi].

high as 50 per cent women. Collecting information on gender that is broken down at these levels helps with understanding the community, identifying gaps, and decision-making.

Experimentation

Salmonid Enhancement

The Salmonid Enhancement Program (SEP) regularly conducts and partners with other sectors and external facilities on research related to enhancement and salmon life history, including rearing and release strategies, genetic tools, and broodstock protocols, among others. SEP has developed enhancement protocols and practices to maximize the survival rates of salmon released, and to ensure that it minimizes the risks of enhanced fish to wild populations of salmon. SEP continues to monitor and experiment with these strategies. A number of guidance documents have been developed over recent years, including a Production Planning Framework, a Biological Risk Management Framework, Genetic Guidelines, Operational Guidelines, and Fish Health Management Plans for each SEP facility. These documents are regularly reviewed and updated using the best science to support SEP goals.

Genetic Testing

DFO has supplemented the abundance of Pacific salmon through hatchery production for many years with two principal objectives, including increasing ocean harvest for selected species and enhancing production from specific populations of conservation concern. DFO launched a pilot project to test the effectiveness of parentage-based tagging combined with genetic stock identification and mass marking of hatchery production of Chinook salmon to improve fishery and hatchery management. This work may provide an alternative to the current coded-wire tag-based management strategies for Chinook salmon and support the sustainable management of fisheries, hatcheries, and production of increased Chinook salmon supplies for the conservation of wild marine animals such as the Southern Resident Killer Whale. The project, which received strong support from Indigenous peoples in the area, exceeded its early milestones and sampled over 13,000 fish. Results indicated that the genetic identification of fish to population and age group was highly accurate, showing over 99 per cent agreement with DFO's existing Coded Wire Tag[xii] monitoring system. The project supports the Department's commitment to develop major stock rebuilding plans in response to the 2016 Commissioner of the Environment and Sustainable Development audit on Sustaining Canada's Major Fish Stocks.

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 50% by March 31, 2022	2017-18: 43% 2018-19: 40% 2019-20: 46%[4]
	Percentage of decisions for major fisheries where harvest control rules were followed	100% by March 31, 2020	2017-18: 100% 2018-19: 100% 2019-20: 100%
	Percentage of major stocks in the cautious and healthy zone	Greater than or equal to 52% by March 31, 2020	2017-18: 63% 2018-19: 49% 2019-20: 48%[5]
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, 2020	2017-18: 83%[6] 2018-19: 99% 2019-20: 99%
	Level of Canadian aquaculture production	Greater than 170,000 tonnes by December 31, 2019	2017-18: 200,565 tonnes 2018-19: 191,416 tonnes 2019-20: 191,259 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 85% by March 31, 2021	2017-18: 89% 2018-19: 89% 2019-20: 92%
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, 2020	2017-18: 96% 2018-19: 94% 2019-20: 95%
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, 2020	2017-18: 92% 2018-19: 100% 2019-20: 75%[7]
	Percentage of sustainable aquaculture research projects which provide information and/or advice to policy and decision-makers	Greater than or equal to 90% by March 31, 2020	2017-18: 100% 2018-19: 100% 2019-20: 96%

[4] Despite a large number of stocks being added and having a default status of "uncertain," DFO's performance has improved, indicating an upward trend in the development of Limit Reference Points and Harvest Control Rules, and a stabilization in the number of major stocks.
[5] Due to a large number of stocks being added and having a default status of "uncertain," the percentage of stocks in the cautious and healthy zone has declined. DFO continues the work needed to identify reference points for all the stocks in the survey.
[6] The decline in 2017-18 is due primarily to expanded inspection in the shellfish sector in the Pacific region.
[7] Some of the planned advisory processes were deferred due to COVID-19 challenges and restrictions, science capacity issues, and, in some cases, at the request of the client.

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[8] by March 31, 2020	2017-18: 97% 2018-19: 97% 2019-20: 97%
		Greater than or equal to 85% for PICFI[9] by March 31, 2020	2017-18: 85% 2018-19: 85% 2019-20: 85%
	Number of Indigenous people employed in commercial and collaborative management activities	Greater than or equal to 4,610 by March 31, 2020	2017-18: 4,529 2018-19: 4,535 2019-20: 5,023

Budgetary Financial Resources (dollars)

2019-20 Main Estimates	2019-20 Planned Spending	2019-20 Total Authorities Available For Use	2019-20 Actual Spending (Authorities Used)	2019-20 Difference (Actual minus Planned)
882,808,991	882,808,991	995,122,115	870,305,003	-12,503,988

Human Resources (full-time equivalents)

2019-20 Planned	2019-20 Actual	2019-20 Difference (Actual minus Planned)
3,070	3,072	2

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

[8] AICFI is the Atlantic Integrated Commercial Fisheries Initiative.
[9] PICFI is the Pacific Integrated Commercial Fisheries Initiative.

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 30.

Results

DFO has a significant responsibility to protect the health of Canada's oceans and aquatic ecosystems. The Department exceeded its ten per cent marine conservation target for 2020, conserving almost fourteen per cent of Canada's marine and coastal areas by creating marine protected areas (MPAs) and marine refuges (recognized as other effective area-based conservation measures (OECMs)). The Department also contributes to the protection and recovery of Canada's at-risk aquatic species, such as the endangered Southern Resident Killer Whale, and undertakes measures to prevent the spread of aquatic invasive species (AIS) like Asian carp, as well as preventing illegal, unreported and unregulated fishing. More information on these and other initiatives can be found below.

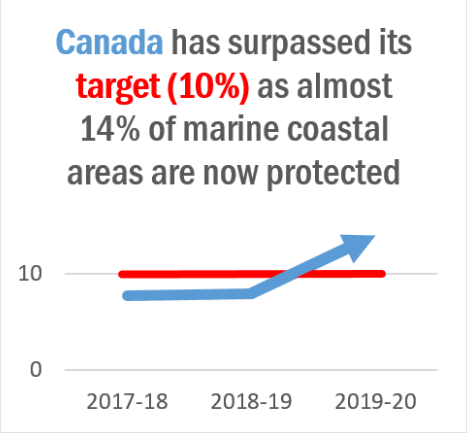
The **Fish and Fish Habitat Protection Program** (FFHPP) was revitalized in 2019 to focus on developing key policy, program, and regulatory changes and requirements needed to support the implementation of new fish and fish habitat protection provisions of the modernized *Fisheries Act* that came into force on August 28, 2019, and to provide for enhanced protection and establish modern safeguards for fish and fish habitat in Canada. The FFHPP undertakes regulatory reviews of development projects taking place in or near water to assess project proposals for their potential to negatively affect fish and fish habitat. Following this work, DFO identifies appropriate avoidance and mitigation measures, assists in developing offsetting plans, and may issue authorizations, when appropriate. DFO achieves this by applying the relevant provisions of the *Fisheries Act* and the *Species at Risk Act*, and has published standards and codes of practice to help proponents with compliance on the Projects Near Water[xiv] website. Training on the **modernized *Fisheries Act*** was developed and delivered to staff across all regions in multiple stages and on such topics as the revised Regulatory Review process.

Towards transparency, access, and accountability, and to meet new legislative requirements, DFO has taken the first steps in the development of an **online public registry** to provide information concerning permit and authorization decisions, codes of practice, and more related

to the fish and fish habitat protection provisions of the *Fisheries Act*. A dataset of 177 records was published on the Open Government Portal[xv] and will be followed by monthly updates and continuous improvements to ensure that information is open by default.

The FFHPP has implemented an integrated aquatic ecosystems planning function to develop expertise and capacity to identify fish and fish habitat status and conservation objectives, and to lead, participate in, and influence **aquatic resources planning** activities. Leading up to, and following, the coming into force of the modernized Act, the FFHPP has also undertaken continuous national engagement activities with targeted partners, stakeholders, and Indigenous groups, to share information and perspectives on the implementation of key elements of the Act.

DFO launched the **Indigenous Habitat Participation Program** in June 2019 to help build the capacity of Indigenous peoples and facilitate their participation in the development of key policy, program, and regulatory initiatives. The program helps expand the participation of Indigenous peoples in fish and fish habitat conservation and protection, and in consultations related to project decisions, including in the consideration of potential impacts on their Aboriginal and Treaty rights. More than 80 applications were approved in this first year of funding, though some were deferred until 2020-21 by the applicants.



In August 2019, the Government of Canada announced that it had **protected almost 14 per cent of its marine and coastal areas**, surpassing the goal of 10 per cent by 2020. This work included the establishment of 59 marine refuges, 13 *Oceans Act* Marine Protected Areas (MPAs), one Ministerial Order MPA in the High Arctic (Tuvaijuittuq MPA), working in collaboration with Indigenous organizations and northern communities, and protected areas established by Parks Canada Agency, Environment and Climate Change Canada, and provincial governments. The protection work is aligned with the Aichi Biodiversity Target 11 under the **Convention on Biological Diversity** (CBD). In collaboration with Environment and Climate Change Canada, the Department is also engaged through the CBD to establish new biodiversity targets which are expected to be adopted at the 15th Conference of Parties in Kunming, China in 2021. The Department has advocated for other states to set a goal of 30 per cent conservation by 2030 through the CBD process as well as through a variety of international processes and forums.

DFO also responded to the final **recommendations of the National Advisory Panel on MPA Standards** by adopting two new protection standards (for federal MPAs and for federal marine OECMs) to better conserve sensitive and important parts of our oceans. The new protection standards for MPAs prohibit four key industrial activities: oil and gas activities, mining, dumping, and bottom trawling. This new standard provides enhanced clarity and certainty for fish harvesters and other industry stakeholders. The new protection standard for OECMs takes a flexible approach and allows for human activities to be assessed on a case-by-case basis to

The icon identifies work undertaken with Indigenous groups.

ensure that the Minister of Fisheries, Oceans and the Canadian Coast Guard is satisfied that the risks to the OECM's conservation objectives are avoided or mitigated effectively.

Work continues to update the Department's 2016 science-based guidance on marine OECMS in order to apply the 2019 OECM protection standard and more fully align with international voluntary guidance developed under the **Convention on Biological Diversity**. Work also continues to advance network development in priority bioregions, and establish MPAs faster and more effectively through new provisions under the *Oceans Act*, including the establishment of Tuvaijuittuq MPA in August 2019, the first MPA by Ministerial Order under Canada's newly amended *Oceans Act*. The MPA provides interim protection to this unique area in the High Arctic while the Qikiqtani Inuit Association, the Government of Nunavut, and the Government of Canada work with Inuit and northern partners to explore the feasibility and desirability of longer-term protection for this area.

In January 2020, the Minister attended the Eastern Fisheries and Aquaculture Ministers (EFAM) meeting to propose **Marine Spatial Planning** (MSP) as the ocean planning process that advances marine conservation objectives while fostering economic growth. Marine Spatial Planning builds on work already underway, including advancing conservation networks that consist of MPAs and OECMs that may contribute to Canada's domestic conservation targets of 25 per cent by 2025 and 30 per cent by 2030. For example, in British Columbia, significant progress in the Northern Shelf Bioregion has been made through the advancement of the Marine Protected Area Network Action Plan.

A key element to MSP is **co-management of our three oceans** with provinces, territories and Indigenous peoples. To that end, engagement with federal, provincial, and Indigenous partners continue at both national and regional levels to advance MSP. DFO worked with the National Indigenous Fisheries Institute to initiate conversations with Indigenous groups about their involvement in the technical aspects of MSP, resulting in a report, Marine Spatial Planning Technical Assessment[xvi], in July 2019. Based on advice in that report, targeted investments were made to organizations that directly support Indigenous peoples' effective and sustained engagement in MSP. Building on the momentum gained during the EFAM meeting, provinces were formally invited as partners and have demonstrated a willingness to identify and implement governance structures to advance the MSP initiative in their regions.

DFO made good progress on implementing the ***Aquatic Invasive Species Regulations*** and responding to recommendations from the Commissioner of the Environment and Sustainable Development's 2019 audit on Aquatic Invasive Species[xvii]. In 2019-20, DFO scheduled training sessions on the regulations with provinces and territories, and worked on clarifying roles and responsibilities to ensure efficient implementation. It also convened a working group to address importation and other human-mediated movements of AIS and to provide leadership and facilitate strategic collaboration with federal and provincial/territorial governments and stakeholders.

DFO also developed and maintained **partnerships** with other federal departments, provinces, territories, and stakeholders, in support of work on AIS. Examples of this work include jurisdictional comparisons of species presence, management tactics, response plans, and roles and responsibilities, as well as completion of "Don't Let it Loose" education and outreach logos and guidelines. This work fosters nationally consistent approaches to the management of AIS.

DFO continued work to protect the **Great Lakes, the St. Lawrence River Basin, and the Lake Winnipeg Basin** through collaboration with Canada Border Services Agency on roles and responsibilities, both nationally and regionally. In concert with U.S. federal, state, and tribal agencies and the Province of Ontario, DFO worked to protect the five Great Lakes from **Sea Lamprey** expansion, resulting in the population being at or below the target and unlikely to cause significant damage to host species in all five lakes. Work is also ongoing on a comprehensive binational program with the Great Lakes Fishery Commission and the U.S. Fish and Wildlife Service to continue to suppress Sea Lamprey populations in the Great Lakes, as well as consultations with the provinces, states, and U.S. tribes and federal agencies. Planning has also been undertaken for a border pilot project for Ontario and the Prairies. Finally, DFO completed all projects under the **Federal Infrastructure Initiative**, and the Nicolston Dam refurbishment to maintain barriers to Sea Lamprey migration to Lake Huron is in the final stages.

DFO worked with Indigenous communities to foster **partnership opportunities for early detection surveillance** in their waters. For instance, DFO provided an identification training workshop on Asian carp, attended a Pow-Wow in Sarnia to discuss Grass Carp identification, gave a presentation in several First Nations and to Chiefs of Ontario staff, and presented on early detection of Zebra Mussels to the Chief and Council of Shoal Lake 39 First Nation. Mississauga First Nation also actively participated on the water with DFO crews for early detection surveillance of Asian carps. In addition, DFO continued consultations with First Nations to enable the control of **Sea Lamprey** in streams within First Nation territorial waters. DFO also completed a gap analysis on **Asian carp** outreach, highlighting priority areas of work to be addressed, and is working on developing and implementing initiatives to address the identified gaps.

DFO is collaborating with Inuit and the governments of Greenland and Denmark towards a bilateral arrangement for the **Northwater Polynya** to support future cooperation on ecosystem-based management and monitoring of the transboundary marine ecosystem. DFO, under the Nature Legacy for Canada, is working to transform the way that aquatic species at risk are protected and recovered using the mechanisms available under the *Species at Risk Act*, the *Fisheries Act,* and the *Oceans Act*. This work is done in partnership with Indigenous peoples, provinces, territories, environmental non-governmental organizations, industry, private landowners, and other stakeholders. The Nature Legacy is shifting the federal government's

focus from a single-species/ad hoc management approach to a multi-species, ecosystem-based approach, with efforts and investments focused in priority places, addressing priority threats and priority species.

DFO is supporting the stewardship and recovery actions of partners from across the country under the **Canada Nature Fund for Aquatic Species at Risk** (CNFASAR). This program, funded as the aquatic arm of the Canada Nature Fund under the Nature Legacy initiative, provides $55 million over five years to support recovery actions in priority places and mitigate priority threats to aquatic species at risk. The CNFASAR is funding 57 projects over five years, which target over 70 aquatic at-risk species in seven priority freshwater places and over 50 aquatic at-risk species affected by two marine threats. The year 2019-20 saw a significant ramping up of initiated projects. The objectives of the Nature Legacy are compatible with the conclusions of the 2018 Environment and Climate Change Canada Report on the Horizontal Evaluation of the Species at Risk Program[xviii], which found that protecting species and spaces were important activities for the federal government.

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 (SKRW), the North Atlantic right whale (NARW), and the St. Lawrence Estuary beluga (SLEB)**. This funding is supporting various research and monitoring activities focused on addressing these whales' main threats, which include lack of prey, disturbance from vessels, and pollution from land-based sources. An example of this work has been the significant aerial survey efforts to better locate and map NARW in the Gulf of St. Lawrence. In 2019-20, the Department conducted a total of 793 hours of aerial scientific surveys, which far surpassed its target of 525 hours. This past year, a peer-reviewed science advisory process on the distribution of NARW in Canadian waters was conducted and one SRKW critical habitat was validated using two years of acoustic data. The number of publications and peer-reviewed science advisory processes related to SRKW, NARW and SLEB is expected to increase incrementally each year as we continue to collect and analyze data. These will help grow the body of knowledge about these three species and their key threats, and will support decision making by DFO and Transport Canada in the coming year. DFO also awarded five contracts of varying lengths to support the response to incidents of **marine mammals in distress**, particularly in the case of whale entanglement.

To support the **recovery of SRKW**, DFO established a conservation agreement with Transport Canada and seven other signatories from the marine transportation industry to reduce acoustic and physical disturbances to SRKW from commercial ships along the coast of British Columbia. Signatories will continue existing voluntary efforts and develop new voluntary threat reduction measures as a part of the Vancouver Fraser Port Authority-led Enhancing Cetacean Habitat and Observation (ECHO) Program.

DFO committed to addressing a backlog of **recovery document**[11] **publications** for critical habitats, and successfully increased the number of critical habitat orders from 27 to 44 in 2019-20. Under the federal *Species at Risk Act* (SARA), for species in more serious risk categories, responsible departments must prepare documentation that identifies threats to the species, human activities that create those threats, and the actions to address those threats. They also identify critical habitat, the habitat that is necessary for the survival or recovery of listed species, which is protected when a ministerial order triggers a SARA prohibition against destruction. The percentage of completed recovery strategies and management plans reached 81 per cent, surpassing the target of 75 per cent. DFO continues to **implement measures identified in recovery documents** to achieve population and distribution objectives for at-risk species. Progress toward implementation is reported in progress reports, required five years after the publication of a finalized recovery document. Although no progress reports were published in 2019-20, DFO continued to focus efforts on finalizing eight progress reports for posting on the Species at Risk Public Registry. DFO also continued to address **capacity challenges related to species at risk publishing** and to clarify and communicate to stakeholders the role of non-regulatory tools in supporting conservation outcomes. In 2019-20, the Department published 12 action plans and joint recovery strategy action plans on the Species at Risk Public Registry, each of which includes non-regulatory tools such as promotion of best practices, education and outreach initiatives, and collaborative planning and management measures.

DFO's commitment to partner with Environment and Climate Change Canada and Parks Canada towards meeting international commitments under the Convention on Biological Diversity and national conservation target initiatives under the Federal Sustainable Development Strategy continues through supporting the recovery of aquatic species at risk and their habitats. This work includes engaging Canadians through the Habitat Stewardship Program; identifying priority areas, threats, and species; and adopting multi-species, threat- and place-based approaches to guide ***Species at Risk Act*** **implementation** efforts, with funding to support this work under the Canada Nature Fund for Aquatic Species at Risk. In 2019-20, consistent with evidence-based scientific advice, the Governor in Council added or reclassified 31 aquatic animals under the *Species at Risk Act (*SARA). These species include 23 freshwater fish and eight molluscs.

[11] Recovery documents are recovery strategies, action plans, and management plans developed and published to the Species at Risk Public Registry to identify necessary measures for the recovery of species at risk listed as extirpated (extinct), endangered, or threatened as a result of human activity; and to manage species of special concern, under the *Species at Risk Act*.

Following a reinvigoration of resources through the Oceans Protection Plan (OPP) in 2017-18, DFO, through its **Marine Environmental Quality (**MEQ) program, has been working to better understand and address priority marine environmental stressors, such as underwater ocean noise. In 2019, a scientific review of the Statement of Canadian Practice with respect to the Mitigation of Seismic Sound in the Marine Environment was undertaken and recommendations provided in the Science Advisory Report[xix] published in 2020. DFO is working with federal colleagues as well as partners and stakeholders to develop a plan to update the Statement. The MEQ program also examines existing strategies to ensure effective management responses based on the most up-to-date advice and evidence. For example, in 2019, a new notice to mariners was established to reduce noise and risk of collision in areas of high marine mammal density in the Western Arctic. The MEQ program maintains ongoing coordination and collaboration on underwater noise issues through several interdepartmental committees and working groups, including on the development of a discussion paper with a framework for an Ocean Noise Strategy for Canada, an OPP commitment. This Strategy will be used to help identify gaps in knowledge, inform planning, and make recommendations for future research and management actions related to underwater noise. In addition, DFO science research teams are in year three of implementing five-year research programs examining the impact of shipping-related noise on SKRW, NARW, and SLEB. DFO researchers are currently conducting a wide variety of studies, including the installation of underwater hydrophone stations to establish ambient noise baselines and record whale calls, and perform behavioural work to determine what the whales are doing, how much time they are spending in each area, and how successful their feeding efforts are.

Under the Oceans Protection Plan's **Reducing the Threat of Vessel Traffic on Whales and Other Marine Mammals through Detection and Avoidance Initiative**, DFO has been working with partners to develop and test technologies capable of detecting the presence of whales in near-real time. The focus of the program has been on detecting NARW on the Atlantic coast and SRKW on the Pacific coast. In 2019-20, three new contribution agreements were established with academia and non-governmental organizations to develop a vessel-based infra-red camera whale detection system for ship-strike mitigation, a SRKW real-time alert system, and a SRKW real-time forecasting system. In 2019-20, DFO began testing a new acoustic technology in the Gulf of St. Lawrence capable of detecting the presence of NARW 24/7 in near-real time. This new technology consisted of incorporating hydrophones, sensors, and NARW acoustic detection software on DFO's existing oceanographic monitoring buoys and having whale detections transmitted in near-real time to a team of marine mammal acoustic experts for validation. The testing proved very successful and the intent is to implement the system again during the 2020-21 NARW season.

Canada has advanced initiatives stemming from its G7 presidency; in 2018, Canada signed a two-year, one million dollar contribution agreement with the World Economic Forum to support the Friends of Ocean Action, and the United Nations Secretary General's Special Envoy for the Oceans. In 2019-20, this agreement supported a variety of activities targeted at increasing

delivery of voluntary commitments under Sustainable Development Goal 14, including tackling **illegal, unreported, and unregulated (IUU) fishing**, addressing harmful fisheries subsidies and promoting Sustainable Development.

In 2019-20, DFO prepared for the **United Nations Decade of Ocean Science** (2021-2030) by donating $50,000 and loaning one female science personnel to the Intergovernmental Oceanographic Commission to support planning ideas, as well as to promote gender equity in the marine and oceanographic community. DFO also co-hosted the North Atlantic regional workshop to identify priorities and actions for the Decade implementation plan and financially supported an ocean literacy event hosted by Dalhousie University's Ocean School to raise awareness of ocean literacy in the UN Decade.

Canada announced the strengthening of our domestic and international commitment to addressing marine litter, at the 2018 G7 summit with the introduction of the Oceans Plastics Charter, and became a signatory country to the **Global Ghost Gear Initiative**. Ghost Gear is a term for abandoned, lost, or otherwise discarded fishing gear. To date, this program has focused on numerous activities, including:

- The cornerstone of Canada's ghost gear program is the $8.3 million Sustainable Fisheries Solutions and Retrieval Support Contributions Program, a two-year program that assists mariners in finding, retrieving, and responsibly disposing of ghost gear, as well as funding projects that are piloting technologies to prevent, mitigate, and dispose of ghost gear, responsible disposal of derelict gear and international support for areas of high risk.
- Reviews and updates of regulatory tools to ensure balance and new requirements for sustainable commercial fish harvesting over the short and long term.
- DFO hosted the 2020 Gear Innovation Summit in Halifax on February 11-12, 2020, providing an opportunity for harvesters, technical experts, and non-government and government agencies to share information
- In July 2019, DFO and the Canadian Coast Guard conducted a three-day ghost gear retrieval operation called Operation Ghost in the Gulf of St. Lawrence.

DFO developed the **Ocean Plastic and Ghost Gear Management Framework**, which outlines the guiding principles and key elements of a departmental program to reduce plastics in Canada's oceans and waterways. This Framework reflects the international, domestic, and departmental context of actions to reduce plastic waste. At its core, the Framework supports Canada's commitment to implement the Ocean Plastics Charter and the Canada-wide Strategy on Zero Plastic Waste, as well as other important drivers. The horizontal program proposed in this Framework will help reduce plastics and ghost fishing gear in Canada's oceans and waterways through an approach centered on three primary program pillars:

- Prevention - fostering ocean-to-plate, plastic-safe fisheries and aquaculture and preventing plastic waste from the fisheries and aquaculture sectors;
- Mitigation - recovering and managing ghost fishing gear and other marine debris; and
- Leadership - Demonstrating federal leadership though program innovation to reduce plastic waste.

In 2019-20, DFO conducted an evaluation of the **Aquatic Climate Change Adaptation Services Program** (ACCASP), which funds research on the impacts of climate change on fisheries, ecosystems, and coastal infrastructure. The evaluation found that the ACCASP produces research of high scientific value and has supported the development of adaptation tools to inform decision making. Although the ACCASP is performing well under its current mandate, it will continue to face challenges while it supports Departmental climate change deliverables that are beyond its science mandate. ACCASP is part of a horizontal initiative, led by Environment and Climate Change Canada.

DFO continued to study the **fate, behaviour, and effects of oil in the marine environment** while simultaneously improving research capacity thanks to new investments under the Oceans Protection Plan. In 2019-20, the Centre for Offshore Oil, Gas and Energy Research produced 18 publications on this topic. In addition, the Department supported external research partners, through the OPP Multi-partner Research Initiative and through these efforts, an additional 29 publications that focus on the biological effects of oil and oil spill clean-up in marine systems have been generated. DFO also continued work to **improve drift prediction and nearshore modelling**, releasing new coastal ice-ocean prediction systems for the East Coast of Canada as well as an improved regional model. This work helps to produce knowledge that will lead to improved safety and management of our marine ecosystems.

DFO continued to review and refine its competitive science research funding programs, based on the results of the departmental evaluation[xxi] which was completed in March 2019. The science funding is available to internal researchers within the Department to conduct research on a variety of topics that support the Department's objectives and priorities, and exists alongside other Ecosystems and Oceans Science core research programs. A Science Funding Secretariat was established to review and respond to the recommendations of the evaluation and to explore opportunities to streamline the current processes for competitive research funding within the Department. Regional consultations with departmental science and program client staff were conducted in fall 2019. Based on feedback received, work commenced to restructure the research funding programs into a single, centralized funding model, including the design of a new governance structure. A formal priority-setting exercise was also initiated with program clients to gather their priorities for research and support the development of strategic science research plans.

Gender-based Analysis Plus

DFO began a partnership with the World Maritime University, through **Empowering Women for the United Nations Decade on Ocean Science for Sustainable Development**, a three-year contribution agreement. PhD and postdoctoral fellows were hired and have begun research to inform the development of a strategy and action plan for gender empowerment in the sustainable governance of ocean spaces and maritime activities. DFO also held an information session to raise awareness and provide an overview of why GBA+ is important to science. In addition, science employees and managers were encouraged to access GBA+ resources and training online.

Experimentation

DFO launched an experimental project called RedTanks to catch and test the shrimp consumption of **redfish** (*Sebastes spp.*) in the Gulf of St. Lawrence. These fish have had an unusual and unexplained upsurge in population in recent years. They are challenging to research because of the difficulty in safely trapping and maintaining them, so DFO undertook several experiments to overcome these difficulties. DFO is the first organization that is able to keep redfish in tanks and monitor their food consumption, thereby allowing researchers to learn important information about their impacts on the ecosystem they inhabit, as well as their responses to environmental changes. The capture phase, which aimed to test up to four different strategies for trapping live and healthy fish in 2019-20, successfully resulted in more fish being trapped than originally predicted.

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 and coastal areas that are protected	Greater than or equal to 10% by December 31, 2020	2017-18: 7.75% 2018-19: 7.92% 2019-20: 14%
	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	2017-18: N/A 2018-19: 94% 2019-20: 93%[12]
	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	2017-18: 88% 2018-19: 93% 2019-20: 81%
	Percentage of approved requests for science advice on aquatic invasive species that are completed	Greater than or equal to 90% by March 31, 2020	2017-18: 0%[13] 2018-19: 100% 2019-20: 67%[14]
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, 2020	2017-18: 60 2018-19: 60 2019-20: 60
	Percentage of scheduled science advisory processes on aquatic ecosystems that were completed	Greater than or equal to 90% by March 31, 2020	2017-18: 93% 2018-19: 100% 2019-20: 77%[15]
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, 2020	2017-18: 78% 2018-19: 78% 2019-20: 78%
		Greater than or equal to 90% for Aboriginal Fisheries Strategy (AFS) by March 31, 2020	2017-18: 90% 2018-19: 90% 2019-20: 90%
	Number of Indigenous people employed in aquatic ecosystems and oceans science	Greater than or equal to 1,610 for AFS and AAROM by March 31, 2020	2017-18: 1,590 2018-19: 1,590 2019-20: 1,610

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

[12] A total of 69 site visits identified a compliance or effectiveness issue that was unresolved as of March 31, 2020, though this does not necessarily indicate a permanent or irreversible impact to, or loss of, fish or fish habitat. Corrective actions may be ongoing and DFO provides guidance where needed.

[13] 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.

[14] Performance declined due to delays related to COVID-19 mitigation measures late in the fiscal year, and the work was completed shortly after the target date.

[15] Seven scheduled science advisory processes were delayed. Processes were deferred due to changing client sector requirements and issues related to Science capacity and data availability. Steps are in place to improve the prioritization and definition of requirements.

Budgetary Financial Resources (dollars)

2019-20 Main Estimates	2019-20 Planned Spending	2019-20 Total Authorities Available For Use	2019-20 Actual Spending (Authorities Used)	2019-20 Difference (Actual minus Planned)
259,872,522	259,872,522	338,712,342	311,606,616	51,734,094

Human Resources (full-time equivalents)

2019-20 Planned	2019-20 Actual	2019-20 Difference (Actual minus Planned)
1,612	1,490	-122

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[xxii].

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 34.

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 on important areas such as the Low Impact Shipping Corridors in the Arctic, continued the provision of 24/7 Marine Communications and Traffic Services (MCTS), and obtained new vessels to provide additional services such as ice-breaking in Canada including in the Arctic. More information on these and other achievements can be found below.

In 2019-20, DFO continued its work on new methods for meeting **International Hydrographic Organization standards** on high-definition bathymetry trials, data delivery to ships, and, in partnership with Environment and Climate Change Canada, spatial representation of water currents. DFO also released the Integrated Water Levels System, a modern web management application to centralize, standardize, and disseminate real-time water level information.

DFO has also completed the **bathymetric surveys** (including data collection and chart creation) for 10 of the 23 ports that were identified as part of the Oceans Protection Plan, and surveys were completed for 11 of the remaining ports. In total, 33 charts have been completed for the 10 ports. The completion of the work, targeted for 2022, will provide improved navigational information to Canadians and mariners in Canadian waters. The surveys for these 21 ports, as well as high-priority near-shore areas in the Pacific, Great Lakes, Quebec, and Atlantic regions, were done using modern **LiDAR** (Light Detection and Ranging) and multibeam (sonar) technology. While older methods were only providing partial coverage, meaning there was a high probability that multiple shoals were left uncharted, LiDAR and multibeam provide complete bottom coverage, meaning that all obstructions are detected

with a high level of confidence. DFO also performed survey work on the Arctic's primary and secondary **Low Impact Shipping Corridors,** using Coast Guard vessels and contracts with private sector organizations. By the end of 2019-20, DFO had surveyed 32.8 per cent of the ocean floor in this area providing modern hydrography and charting for enhanced electronic navigation coverage and safer navigation.

The Coast Guard maintains an **e-navigation portal** to ensure that mariners have information on marine weather, tides, currents, hazards, notices, ice conditions, charts and sailing directions. Work to upgrade the portal with the integration of regional systems was delayed in 2019-20 due to server availability, but a new project is in place to complete this work.

The Coast Guard has completed the implementation of the **National Quality Management System**, which will assess MCTS performance to continually improve processes, services, and products. In 2019-20, all 12 MCTS centres were audited and all responses to the recommendations of the 2017 evaluation of the Marine Communications and Traffic Services program were completed.

The Department took delivery of three **medium icebreakers** in the summer of 2018.The first vessel, the CCGS *Molly Kool,* entered service in 2018-19, when it completed 54 icebreaking taskings. The necessary conversion/refit work, such as overhauls and regulatory compliance work, on the remaining two vessels was underway throughout 2019-20. In the 2019-20 icebreaking season, Icebreaking Services achieved 98.6 per cent success in meeting its levels of service. The strong performance can be partially attributed to light ice conditions compared to past seasons, translating to fewer icebreaking requests. For instance, the CCGS *Molly Kool* executed 14 icebreaking taskings in 2019-20, representing a 74 per cent decrease from the previous season.

DFO has consistently surpassed its **target** of "number of official navigational products created and/or updated from incorporation of new and/or archived modern hydrography per year in key areas." This was largely due to work that has been done under the Oceans Protection Plan, and to new technologies such as LiDAR.

Gender-based Analysis Plus

In the summer of 2019, the Coast Guard adjusted its work on diversity and inclusion, moving to a **Champions** model of governance instead of a Diversity Officer. The Coast Guard now has three co-champions who will oversee the development and implementation of diversity and inclusion initiatives in support of the departmental Employment Equity, Diversity and Inclusion Action Plan. The Commissioner of the Coast Guard, as Champion for Persons with Disabilities, also reinitiated the DFO/Coast Guard Persons with Disabilities Network, selected a volunteer chairperson, and entered into discussions with Women in Governance, a not-for-profit organization committed to helping institutions achieve gender parity. In addition, the Coast Guard's Wellness team supported the Positive Space initiative by providing training sessions for new and existing employees. Finally, to ensure that all crew members feel supported and represented, the Coast Guard awarded a contract for the design of new uniforms that respect gender.

Experimentation

The Coast Guard deployed four prototypes of small **four-season lighted navigational buoys** to test their ability to withstand adverse environmental conditions (i.e., high current speed, harsh ice conditions, various water depth, etc.) that prevail in the St. Lawrence River and the Great Lakes. These prototypes are used in otherwise inaccessible and under-served areas to improve safety and enhance navigational support to mariners. They will complement the existing four-season lighted buoy project which is in place along the St. Lawrence River between Montreal and Quebec City. Of note, one of the prototypes was fitted with measurement devices to assess buoy performance in adverse environmental conditions. If the prototypes prove to be successful, the Coast Guard intends to expand elements of the four-season lighted buoy project to other areas in Canada where similar conditions and challenges exist. The experimental project is funded by the Department's Results Fund[16].

Results Achieved

Expected Departmental Result	Departmental Result Indicator	Target	Actual Results
Mariners safely navigate Canada's waters	Rate of marine incidents as a percentage of vessel movements	Less than 1% by March 31, 2020	2017-18: 0.01% 2018-19: 0.03% 2019-20: 0.02%
	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, 2020	2017-18: 550[17] 2018-19: 824 2019-20: 669

[16] The Results Fund is a competitive process that provides departmental reserve funding to internal projects that are expected to enhance the achievement of results through experimental and/or innovative pilot projects to improve program delivery and internal support activities.

[17] 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.

Expected Departmental Result	Departmental Result Indicator	Target	Actual Results
A Canadian maritime economy that is supported by navigable waters	Rate of maritime incidents versus vessel movements	Less than 1% by March 31, 2020	2017-18: 0.01% 2018-19: 0.03% 2019-20: 0.02%
	Percentage of ship ice escort requests that are delayed beyond level of service (response time) south of the 60th parallel north	Less than or equal to 0% by March 31, 2020	2017-18: N/A 2018-19: 8.2% 2019-20: 1.4 %[18]
	Average time (in hours) beyond level of service (response time) for ice escort requests south of the 60th parallel north	0 by March 31, 2020	2017-18: N/A 2018-19: 22 2019-20: 6.23[19]

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

Budgetary Financial Resources (dollars)

2019-20 Main Estimates	2019-20 Planned Spending	2019-20 Total Authorities Available For Use	2019-20 Actual Spending (Authorities Used)	2019-20 Difference (Actual minus Planned)
353,094,537	353,094,537	392,194,830	332,887,078	-20,207,459

Human Resources (full-time equivalents)

2019-20 Planned	2019-20 Actual	2019-20 Difference (Actual minus Planned)
1,838	1,940	102

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

[18] Four escort missions were delayed due to operational requirements, icebreaker redeployed for search and rescue, and environmental factors including ice severity and movement of ice.
[19] The icebreaking program experienced four delays out of 284 requests. Coast Guard achieved a high rate of success this year, given the challenging operational environment, and in comparison to previous years.

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:

- 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.

Results

The Coast Guard's Marine Operations and Response teams are responsible for ensuring safety on Canadian waters by maintaining 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 CCG stations where they are most needed, and that it has the equipment required to perform emergency response activities, such as functioning vessels and emergency 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 into the future. More information on these and other initiatives can be found below.

The Coast Guard has transitioned from a standard work week schedule in its regional operational centres to a **24/7 emergency response** capacity, which now focuses not only on fleet management, but also provides the capability and capacity to support Coast Guard programs and incident management. The centres are fully operational and have also improved capabilities through enhanced training and experience for staff.

The Coast Guard made progress and is on track to complete its **Environmental Response** services enhancement and extensive procurement initiatives, including oil containment and recovery equipment and mobile incident command posts, by 2021-22. This procurement work is intended to maintain the levels of preparedness and response capacity required to meet mandated responsibilities for marine pollution incidents across all regions. A number of requests for proposals have been posted online for bidding, and contracts have been awarded for work. This work will help the Department better respond to substance spills on the water.

To ensure the effective implementation of Bill C-64 (***An Act respecting wrecks, abandoned, dilapidated or hazardous vessels and salvage operations***) in partnership with Transport Canada, the Coast Guard completed a national inventory and risk assessment methodology regarding derelict vessels. Work is underway to ensure that the new system is fully integrated across Canada for the use of all of the Coast Guard's regional officers.

The National Strategy on **vessels of concern** includes two short-term vessel removal programs to help support coastal communities and other eligible recipients in removing and disposing of vessels of concern, led by Transport Canada and DFO. The Coast Guard continued to work closely with Transport Canada on the 2022 goal to create an owner-financed, long-term remediation fund that aims to transfer the financial burden from taxpayers to ship owners.

In June 2019, Bill C-48 was enacted as the ***Oil Tanker Moratorium Act***. The new Act will protect habitats and Indigenous and coastal communities, formalizing a crude oil tanker moratorium on the north coast of British Columbia. The Act prohibits oil tankers carrying crude and persistent oils as cargo from stopping, loading, or unloading at ports or marine installations through Dixon Entrance, Hecate Strait and Queen Charlotte Sound, and protects habitats and Indigenous and coastal communities. The Coast Guard supported this important Government priority by supporting Transport Canada and participating during the House and Senate's Study of Bill C-48.

The Coast Guard made significant progress on its Innovative Solutions Canada project related to **greening its operations** and seeking a proof of concept for new technology that could harness kinetic energy from the movement of vessels in the water caused by waves. All four qualified companies have received contracts and have started the six month timeline to develop the proof of concept which will demonstrate the feasibility of this technology. If an option proves promising, the Coast Guard will award up to $1 million for an approved project.

The Coast Guard took the first steps in its ambitious work to develop a **seafarers-focused recruitment and retention strategy**. The strategy will enable mandatory and career-based learning, allow for more flexible leave options and reduction of leave liability, and better support families. Work began on developing a portal to support career opportunities, collecting data for an analysis of the crewing needs for vessels, and initiating a hiring process for a consultant to analyze the data and provide advice. This initiative will have an end goal of updating the crewing factor to more accurately represent current family-related leave needs in the coming years. In support of recruitment specifically, the Coast Guard updated its strategies by continuing to support the Canadian Marine Industry Foundation and the development of their Imagine Marine campaign, which promotes maritime workforce recruitment and retention. In addition, as part of the Coast Guard's Force Generation team's Youth Engagement Strategy, the Department solidified its relationship with the Tall Ships Youth Council. The team also worked with the Royal Canadian Geographic Society to develop a "Careers in the Marine Industry" lesson plan, which will be posted to the Society's teachers' network in the fall of 2020 when the school year resumes. The Coast Guard also drafted proposals for new professional development and apprenticeship programs for difficult-to-recruit positions in emergency

response and marine and civil infrastructure disciplines. Much of this work will support the Coast Guard's response to the recommendations in the 2018-19 Evaluation to Support Canadian Coast Guard Force Generation[xxiv].

The Coast Guard partnered with other departments like Public Services and Procurement Canada to advance multi-year procurement processes to replace **aging vessels** and ensure it has the proper assets in place to operate effectively. In June 2019, the Department took delivery of the first Offshore Fisheries Science Vessel (OFSV), *CCGS Sir John Franklin*, marking the first large vessel delivered under the National Shipbuilding Strategy, and in November, the second OFSV, *CCGS Capt. Jacques Cartier*, was delivered. The third is anticipated in 2020. The Coast Guard also advanced its work on the design phase of the procurement process for a **Near Shore Fisheries Research Vessel,** and work on the definition phase of the **Offshore Oceanographic Science Vessel** continued to progress, with the project on track to commence construction by the end of 2020.

The Coast Guard's **Search and Rescue Lifeboat project** aims to acquire 20 lifeboats by 2024 to ensure the safety and security of Canadian waters. Two of the three lifeboats expected for delivery in 2019-20 were received, and the third was postponed until 2020-21, due to delays related to COVID-19.

The Coast Guard obtained a **Full Flight Simulator** in February 2020 and it will be officially delivered and put to use in 2021. It will be used to safely and efficiently train pilots on light and medium-lift helicopters, which share common cockpit and system features. CCG helicopter pilots take part in a wide variety of operations such as monitoring oil spills and ice conditions, telecommunication, and aids to navigation construction and maintenance, as well as transferring personnel and cargo.

The Coast Guard is committed to developing the **next generation of vessels**, and in May 2019, the Prime Minister announced the renewal of the Coast Guard fleet, including:

- up to 16 Multi-Purpose Vessels to be built at Vancouver Shipyards;
- two Arctic Offshore Patrol Vessels to be built at Irving Shipbuilding; and
- the design of a new class of small vessels (Mid-shore Multi-mission).

Work has begun for all three new vessel procurement projects, with the **Arctic Offshore Patrol Vessels** project progressing rapidly. Canada signed two contracts with Irving Shipbuilding for the Arctic Offshore Patrol Vessels. The Material Procurement Contract was awarded in September 2019 and the Engineering Design Contract was signed in November 2019.

In August 2019, Canada launched a competitive process to enhance the **National Shipbuilding Strategy** (NSS) with a third Canadian shipyard to build up to six new icebreakers. The Invitation to Qualify, the first phase of the process, was completed that fall and in December 2019, it was announced that Chantier Davie Canada Inc. had pre-qualified to become the third NSS shipyard. Looking forward to 2020-21, it is expected that both the Request for Proposal process and the Umbrella Agreement negotiations will be concluded. The official announcement for the third shipyard is planned for early 2021. These enhancements to the Coast Guard fleet support the Department's progress on its mandate commitment to work with the Minister of Public Services and Procurement on the full renewal of the Canadian Coast Guard fleet, continuing the revitalization of the shipbuilding industry, creating middle class jobs and ensuring Canada's marine services have the modern ships that they need.

Work also progressed on the two remaining medium icebreakers that are being refitted and converted by Chantier Davie Canada Inc. to ensure they continue to meet Canadian regulatory requirements, sustain the legacy equipment and systems, and enhance the vessels' capabilities to effectively deliver CCG programs, in this case namely icebreaking. The Coast Guard also has a $360.35 million **vessel life extension** program in place to manage its assets while new vessels are built and ensure consistent delivery of its services, which is scheduled to end in 2023, and its work is more than halfway completed. In 2019, Canada invested a further $2 billion into a comprehensive program of vessel life extension work to ensure that the existing fleet can continue to perform its important work until new vessels come into service.

The Coast Guard has surpassed its goal to procure more than 40 emergency **tow kits** for use in strategic locations in all regions along the coasts. In 2019-20, four additional kits were purchased, for an overall total of 51 kits. The Coast Guard will move forward with training on the use of the tow kits in 2021.

The Coast Guard participated in the **NTI Inuit Marine Monitoring Program** pilot project to explore these alternative service delivery models for increasing the capacity of Inuit and Northerners to have an active role in vessel monitoring. In 2019-20, the Coast Guard co-hosted an Inuit Knowledge Transfer Workshop on Marine Domaine Awareness and a two-day training session for marine monitors.

The Coast Guard also participated in the successful creation of an **Arctic Auxiliary chapter**. Coast Guard Auxiliary chapters bolster Canada's response capacity and marine safety in the north by

The icon identifies work undertaken with Indigenous groups.

combining Coast Guard training and equipment with the generous work of hard-working and dedicated volunteers.

Coast Guard regions across the country participated in or hosted more than 120 **engagement sessions, workshops, and presentations to and with Indigenous partners**. For example, the Atlantic region held 48 engagement sessions and the Central region held four workshops to explore avenues for collaboration. It also facilitated three training sessions on environmental response and two search and rescue training exercises. The Canadian Coast Guard College engaged regularly with local Indigenous communities in support of cultural awareness training, as well as career and other economic development opportunities in Atlantic Canada.

In support of the Government of Canada's commitment to reconciliation and renewed nation-to-nation relationships with Indigenous peoples, the OPP facilitated **Indigenous Partnerships in the Marine Safety System**. Through 20 contribution agreements in the west and 29 agreements in Ontario, Quebec, and the Atlantic Provinces negotiated through the initiative entitled Building Meaningful Partnerships with Indigenous Groups in Marine Safety, the Department worked to create formal partnerships and meaningful roles for Indigenous groups in Canada's marine safety system, as well as generating interest and solidifying trust through stakeholder engagement. The Coast Guard, DFO, and Transport Canada also finalized the Reconciliation Framework Agreement with north and central First Nations to build capacity and facilitate training. Funding was also allocated through the Naut'sa-mawt Tribal Council to facilitate training. Lastly, the OPP Commit to Action and Results framework agreement was signed between First Nations, the Fisheries Council of B.C. (on behalf of its affiliated organizations), DFO and the Coast Guard, Transport Canada, and Environment and Climate Change Canada.

Regarding the **target** "percentage of responses to marine incidents by Indigenous Auxiliary units," the target date is in 2022 and the Coast Guard continues to work on developing a system for tracking this activity and reporting on the result by the deadline.

Gender-based Analysis Plus

The Coast Guard has continued to recognize the need to improve the use of GBA+ principles in **recruitment, talent management, and succession planning** for crew, staff, and in the college, as well as participating in Pride Parades and forums such as Girls Fly Too and Techsploration, which are targeted at recruitment.

Experimentation

The Coast Guard embarked on experimental **three-dimensional imaging** of three of its vessels with the goal of making maintenance management more efficient. Three-dimensional models enable highly -refined repair specifications that quickly identify access restrictions for the work. The Coast Guard's fleet is aging and new vessels are in production but the old ones must be maintained until they are replaced. Modern lifecycle management techniques will help with this and with future maintenance work, and could prevent loss of on-water days for vessels due to unplanned maintenance. After the first year of this program, the Coast Guard has developed corrosion prediction models that will help to focus on monitoring the most likely areas in need of repair and will help with budgeting for

The icon identifies work undertaken with Indigenous groups.

upcoming repairs. The Coast Guard also hopes to apply these techniques to the assessment of structural fatigue and, if the work is successful, hopes to expand the scanning practice to all classes of ships in the fleet.

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, 2020	2017-18: 100% 2018-19: 100% 2019-20: 100%
	Percentage of search and rescue responses that meet established standards	Greater than or equal to 99% by March 31, 2020	2017-18: 97% 2018-19: 98% 2019-20: 98%[22]
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, 2020	2017-18: 90% 2018-19: 87% 2019-20: 97%
	Percentage of operational days lost due to crewing and other logistic issues	Less than or equal to 3% by March 31, 2020	2017-18: N/A 2018-19: 0.7% 2019-20: 0.6%
	Percentage of operational days lost due to unplanned maintenance	Less than or equal to 3% by March 31, 2020	2017-18: 6.5% 2018-19: 3.4% 2019-20: 4.35%[23]
Increased Indigenous participation in Canada's marine response system	Percentage of responses to marine incidents by Indigenous Auxiliary units	Greater than 3% by March 31, 2022	2017-18: N/A 2018-19: N/A 2019-20: N/A[24]

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

[22] Search and rescue responses were impacted by various factors, such as environmental conditions (including ice conditions, etc.).
[23] Until newer vessels come into service and older vessels can be retired, exceeding this target is expected to continue for the immediate future.
[24] Coast Guard continues to work on establishing a database to reliably track the number of active Indigenous Auxiliary units.

Budgetary Financial Resources (dollars)

2019-20 Main Estimates	2019-20 Planned Spending	2019-20 Total Authorities Available For Use	2019-20 Actual Spending (Authorities Used)	2019-20 Difference (Actual minus Planned)
1,071,604,997	1,071,604,997	1,423,496,990	1,074,073,985	2,468,988

Human Resources (full-time equivalents)

2019-20 Planned	2019-20 Actual	2019-20 Difference (Actual minus Planned)
3,973	4,119	146

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

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 refer 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 of DFO and 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, whose diversity is celebrated, and who have the tools needed to work effectively. The Department is also committed to lowering its environmental impact in the course of performing its duties. More information on these and other Internal Services achievements for 2019-20 is below.

The Government of Canada committed to diverting at least 75 per cent of the **plastic waste from government operations** by 2030, and DFO is actively working to support this commitment. DFO's Office of Environmental Coordination (OEC) initiated a two-year pilot of zero-waste boxes in its labs and initiated a rollout of reusable dishware across several facilities to support the elimination of single-use plastics. DFO also conducted operational waste audits at the Coast Guard College and the St. Andrews Biological Station, observing the volume of waste that is diverted, which concluded that DFO is on track to meet the Federal Sustainable Development Strategy goal.

The OEC also conducted assessment activities at 136 **contaminated sites**[25] and performed remediation/risk management work at 185 sites, resulting in a closure of 104 sites. This work ensured a reduction of risks to human and ecological health. Also, in keeping with the renewal of the Federal Contaminated Sites Action Plan (FCSAP) until 2034-35[xxvi], the OEC renewed the Departmental Contaminated Sites Environmental Management Plan to enable DFO to meet the federal goal to effectively close 95 per cent of existing contaminated sites by 2035. The FCSAP was established in 2005 with the primary objective of reducing environmental and human health risks from known federal contaminated sites and to reduce the associated federal financial labilities. Through this action plan, DFO also provides expertise and advice to Environment and Climate Change Canada and other custodial organizations on the management

[25] A contaminated site is one at which substances occur at concentrations: (1) above background levels and pose or are likely to pose an immediate or long-term hazard to human health or the environment, or (2) exceed levels specified in policies and regulations.

of their sites in relation to the risks and impacts to fish and fish habitat. DFO does this by promoting efficiency in program delivery through greater flexibility to bundle geographically co-located sites, improved information sharing and engagement, and strengthened collaboration with Indigenous communities throughout all stages.

DFO maintained its commitment to manage its operations and assets in an environmentally responsible manner. In 2019, the ***Impact Assessment Act***[xxvii] (IAA) replaced the *Canadian Environmental Assessment Act* and the OEC developed the interim departmental procedure for the Implementation of Federal Lands provisions of the new Act, including tools, forms, and guidance to ensure compliance.

The Federal lands provisions of the IAA outline a process for assessing the impacts of major projects. Before taking action or making a decision that would enable a project to proceed, authorities must determine whether the project is likely to cause significant adverse environmental effects. The OEC has continued to work on an ongoing pilot project, which looked at DFO and Coast Guard worksites, to define needs for operational controls for local species at risk and their habitats, which will inform the development of a national strategy to ensure the protection of wildlife and habitat in these locations. The OEC also supported departmental initiatives to reduce greenhouse gas emissions associated with the Department's operations, leading to a 33.5 per cent reduction in emissions below 2005-06 levels, representing a 35.9 per cent reduction from buildings, and 24.7 per cent reduction from vehicle fleets.

DFO completed **Asbestos and Designated Substance assessments** on approximately 95 per cent of its staffed sites. Further, DFO developed and implemented a risk-based approach for groups of real property assets with similar operational characteristic or functions (i.e. laboratories, search and rescue stations, crew quarters, etc.) ensuring that a sample of the remaining assets will be assessed. As a result of this risk-based, asset class[26] approach, assessment coverage was expanded to include equipment structures and small buildings. Moving forward, DFO will conduct targeted assessments and remediation work on a case-by-case basis.

DFO was identified as a first-wave adopter of the efficient **Business Number** digital identity to simplify organizations' interactions with the federal government. In 2019-20, DFO reviewed its completed pilot project with the Catch Certification Program, establishing the technical capabilities needed for other DFO programs to onboard to using the business number.

[26] Asset class means a grouping of real property assets with similar operational characteristics or functions (i.e. laboratories, search and rescue stations, crew quarters, etc.

DFO had planned a Modernization of Ocean Data Integration Process (MODIP) but as it was found that the project's milestones could not be met by the deadline, a decision was made to migrate the physical servers to a virtualized environment instead. The migration of the physical servers to a virtualized environment is on schedule and will be completed by the end of September 2020. DFO used this as an opportunity to learn from the process and seek opportunities for improvements in future activities of this nature. DFO works in partnership with Environment and Climate Change Canada and Shared Services Canada to collect, analyze, and archive **marine environmental data** that is then shared with the public and with organizations such as the Canadian Meteorological Centre, the International Lake Ontario-St. Lawrence River Board of the International Joint Commission, and the Global Telecommunication System (GTS) of the World Meteorological Organization. This work ensures openness and opportunities for other organizations, researchers, and all Canadians to benefit from the science information collected by DFO. The Canadian Meteorological Centre (Dorval, Québec) of Environment and Climate Change Canada is assimilating GTS data in operational mode into their forecast model for better predictions.

DFO has made progress with rationalizing approximately 60 departmental **software and computer programs** (reviewing and assessing its portfolio of software and computer programs for redundancy and relevance) and has revised the approach going forward, in response to third-party review recommendations. The new approach will have an overarching goal of application rationalization while also addressing business process standardization. It will focus on adapting project machinery to ensure delivery, leveraging data as a building block, and organizing the business function portfolio and priorities. Project machinery describes the Project Management Framework (including processes, documentation, best practices) the Department is using to ensure that projects are tracked and budget, timelines, and quality are respected. Application rationalization streamlines the digital tools an organization uses and ensures greater efficiency.

In 2019-20, DFO continued to make **High Performance Computing** available to the Department's scientists to support marine environmental quality analysis, the Canadian Hydrographic Service, and other teams working on DFO commitments under the Oceans Protection Plan. This computing resource is used to process highly complex scientific models, which are often used to forecast the future state of our oceans. An example of High Performance Computing modelling to deliver innovative service is the generation of static information on surface currents using the International Hydrographic Organization's S-111 standard to support safe navigation during high water levels and flows, specifically in the St. Lawrence Seaway.

In 2018, Public Services and Procurement Canada (PSPC) and DFO piloted a shared-cost **Wi-Fi** implementation in selected PSPC-owned buildings in the Eastern provinces. In 2018-19, Shared Services Canada started to expand to six additional locations across the country including the Atlantic Science Enterprise Centre, Pacific Science Enterprise Centre, and a Coast Guard site in Newfoundland. In 2019, the major departmental office in Ottawa was outfitted with a complete

Wi-Fi solution; however, due to the COVID-19 pandemic, testing and activation were delayed until the summer of 2020.

The primary aim of the **GCDocs** project is to enable the digital transformation of information management at DFO and the Coast Guard by implementing and maintaining the Treasury Board Secretariat-mandated GCDocs system to meet the Department's requirements for an electronic document and records management solution. The system will provide DFO and the Coast Guard with the capacity to manage information as a strategic resource, digitally store and life-cycle manage corporate information to support effective decision-making, facilitate ongoing operations, and support the effective delivery of programs and services. In 2019-20, DFO achieved several milestones related to the GCDocs project, which included redesigning the implementation process and development of a standardized departmental information architecture, and a permissions model to ensure a consistent onboarding approach for the programs, as well as the development of a training strategy and modules that target specific audiences.

The Government of Canada has a **Cloud First policy** that mandates all departments and agencies to consider Cloud-based software, platforms, and infrastructure before resorting to on-premises or Shared Services Canada-based solutions. Cloud computing represents a new model for acquiring software, storage, and computational resources. Rather than buying software licenses and infrastructure outright, DFO pays a monthly fee for Cloud Services which can be enabled, expanded, and contracted at will, ensuring we get and pay for exactly what we need exactly when we need it. DFO has been using the Cloud via an Azure Cloud tenancy that was established through Shared Services Canada in 2018-19. DFO has established a Cloud program that consists of a Cloud Centre of Expertise and a Cloud Steering Committee which operate under an approved Cloud Strategy. DFO has applications at the Unclassified level running in production, and is preparing a secure Cloud environment for applications operating above the unclassified level. The Department also offers cloud storage and computing services to scientists so they can efficiently do their work on large scientific datasets in the cloud.

In light of the recent approval of the DFO **Digital and Data strategy**, the Department is applying additional safeguards to secure our infrastructure. This new cloud-based software, "McAfee MVision," will help secure and strengthen the protection of DFO data by tracking and stopping possible attacks across the entire network. Additionally, this tool will monitor network and data usage between the DFO network and various external cloud vendors to support IT Security and Information Management policies.

The Department worked to transform its **financial and materiel management business processes** by implementing SAP S/4HANA. This is an initiative designed to support the Government of Canada's Financial Management Transformation, and whose purpose is to provide a more modern approach to controllership and to strengthen the clarity and consistency of financial reporting. The solution being developed is focused on providing a solid platform to

support the departmental financial operations in the future, enable employees to focus on higher-value services, and empower decision making with financial and non-financial information.

In 2019-20, DFO evaluated Phase 1[xxviii] of the **Oceans Protection Plan**, focusing on the technical support for the work. The evaluation found that some mitigation measures that had been applied were effective, and also recommended a new focus on data management risks and improved planning processes.

The Treasury Board Secretariat (TBS) Policy on Government Security requires that departments have a departmental security plan that details decisions for managing security risks and outlines strategies, goals, objectives, priorities, and timelines for improving departmental security. DFO has completed 83 per cent of its action items from the 2018-20 **Departmental Safety, Security and Emergency Management Plan** (DSSEMP). DFO is committed to completing the remaining action items and has included them in the 2020-23 DSSEMP. The approval for the new DSSEMP has been delayed due to COVID-19 but will be approved and implemented in 2020-21.

DFO successfully completed its remaining real property initiatives under the **Federal Infrastructure Initiative** (FII) program, as well as several significant upgrades and investments through its major capital program, resulting in the construction of critical new infrastructure and real property assets with extended life, modernized facility functionality, and demonstrated improved operating conditions. All $200 million of FII funding was used in successfully completing and commissioning 320 out of 330 projects. The remaining projects were substantially completed at the end of the year with full completion dates shortly thereafter. An example of the tremendous amount of work completed bringing facilities up to a new standard was the $17 million real property initiative at the Maurice Lamontagne Institute in Quebec. The large-scale renovation and reconstruction included the repairs of the walls and roof, updating and renovating laboratory space including the addition of a new ventilation system, the addition of a state-of-the-art lighting system, replacement of an outdated seawater filtering station, and modernization of fire safety standards. In addition, the Department successfully converted the power generation systems of four lightstations in the Coast Guard's Western Region (Entrance, Merry, Cape Scott, and Boat Bluff) to a hybrid renewable energy system. This system incorporated wind turbines, solar arrays, and an energy storage system that produces enough power to reduce diesel fuel consumption by 75 per cent on average with instances of 100 per cent reduction during times of ample renewable energy production. Environmental data is collected, managed, and analyzed using a real-time reporting and analytics platform.

Under the **major capital Real Property investment program**, a number of significant upgrades and investments were finalized. In a $45.5 million reconstruction initiative, the Southside Base in St. John's, Newfoundland was replaced with a new construction facility as the Atlantic regional headquarters for the Coast Guard, along with refurbishments to the buoy maintenance facility. Energy efficiency and greenhouse gas reduction were two main goals in the design of the new building to comply with and contribute to the Federal Sustainable Development Strategy goal of a Low Carbon Government. As such, the new building is primarily heated and cooled through an energy efficient open loop seawater geoexchange system. In addition, the new building does not use any fuel as a heating source; thereby further reducing emissions and carbon footprint. The Freshwater Institute in Winnipeg, Manitoba received various building upgrades to lab space and building systems to remove asbestos and optimize building space. In an example of demonstrable condition improvement, the Bedford Institute of Oceanography (BIO) in Nova Scotia had a significantly improved Facility Condition Index score with a resulting estimated $53 million reduction in replacement value cost. The BIO also benefitted from various upgrades, such as pedestrian access improvements between buildings and the construction of retaining walls on steep slopes to prevent erosion. Beyond meeting DFO client needs, these projects are also expected to stimulate the creation of jobs and work in smaller communities, providing a benefit to the overall region.

Also, to improve the management of real property, DFO updated the Building Management Plans (BMPs) for its Tier 1 Priority Sites and developed BMPs for 52 additional sites, resulting in nearly two thirds of the DFO portfolio now being assessed. Six major data validation exercises were initiated and are ongoing. A new National Portfolio Strategy was introduced covering the entire DFO portfolio administered by all three DFO custodians and setting the vision and strategic direction towards an optimized national portfolio.

To further improve the management of real property, DFO began testing a new activity-based management software and has actively sought opportunities, defined requirements, and collaborated internally on the next stage of the Government of Canada's new **financial management system** (SAP S/4 HANA) that DFO is a federal leader in implementing. DFO also worked to enhance the capabilities of its real property information management system to greatly strengthen evidence-based approaches to problem-solving and measuring the effectiveness of planning. DFO consulted widely with its affected teams, began data validation of buildings in its custody, and identified priorities for improvements and customizations to the product. DFO also implemented quarterly reviews of its Directory of Federal Real Property[xxix].

The Department continues to fully implement the **Policy on Results** and foster results-based management and innovation. A new electronic system to aid in the planning and reporting of results information was implemented by DFO in 2019-20. This system is a "one-stop shop" of planning and performance measurement information accessible to all Program Officials and planners.

The Department also continued its **Results Fund**, a reserve fund that supports projects that foster innovation and experimentation. In 2019-20, 27 projects were approved for funding, each focused on trying new ways to achieve program results or improve our internal services.

DFO undertook a large, multi-year **classification renewal** process and has already made substantial progress. In total, 78 per cent of the organization has started or completed the first phase of the initiative, which aims at validating and correcting reporting relationships in the people management software. An organizational design team has also been put in place to assist with organizational design and redesign.

DFO supported the ongoing career development of all employees through the **Your Professional Network (YPN)**, including targeted work on DFO's commitment to diversity and inclusion, such as leading Black History Month and advancing the Positive Space Initiative supporting LGBTQ employees. The YPN provided career development opportunities to DFO employees through frequent educational sessions, mentoring experiences, and networking opportunities. In 2019-20, the network significantly increased its membership and engagement and also adjusted to the changing work environment introduced by COVID-19 mitigation activities to ensure that it can continue to offer support on diversity and inclusion, mental health and wellness, student and employee onboarding, and online learning opportunities. The YPN also solidified its role as a support system for the Departmental Champions in obtaining their priorities and commitments. This includes delivering results for National Public Service Week, the Government of Canada Workplace Charitable Campaign, Beyond2020, Public Service Renewal, mental health and wellness, and respectful and healthy workplace initiatives. The YPN continues to promote DFO as a top employer with the achievement of two Canada’s Top 100 Employers 2020 awards in the categories of Top 100 Employers for Young People and Canada’s Top 100 Employers.

Following the launch of **Phoenix** in 2016, which resulted in pay issues most disproportionally affecting our employees, DFO and the Coast Guard were quick to react and establish a dedicated HR-to-Pay team to help address and resolve pay issues. Over the past year, the Department, in collaboration with the Pay Centre, has developed a backlog reduction strategy to more quickly resolve outstanding pay cases. This, along with many ongoing initiatives such as training, communications, and development of user-friendly tools for employees and managers, are part of the Department’s sustained efforts to stabilize pay for all our employees.

In support of increased awareness of **diversity and inclusion** and of addressing gaps and underrepresentation, DFO completed its Annual Employment Equity, Diversity and Inclusion Action Plan, reporting on the Department’s activities and achievements on several initiatives.

DFO implemented its new **Indigenous Recruitment, Retention, and Development Strategy and Action Plan.** This National Strategy and Action Plan serves as a high-level roadmap guiding each region and sector in developing their own tailored strategies around the four pillars of outreach, recruitment, learning, and awareness and retention, to increase the representation of Indigenous peoples in the Department.

Gender-based Analysis Plus

In support of its commitment to supporting GBA+, DFO started work on an **annotated bibliography** that references relevant sources to ensure that data and expert viewpoints are easily accessible for analysts doing GBA+ assessments.

DFO is committed to applying GBA+ to its real property management to ensure **accessibility** regardless of age, size, ability, or disability. In the case of the Bedford Institute of Oceanography, DFO took advice from Public Services and Procurement Canada and is focusing on incorporating universal design into construction and renovation projects, such as the in-progress design phase of the Fish Lab renovation.

Experimentation

In support of the Government's commitment to experimentation, DFO piloted a new, proactive approach to **staffing** positions, with the goal of maintaining an inventory of talent "at the ready" and providing an efficient and timely staffing option for hiring managers. DFO conducted a large appointment process that assessed over 6,000 candidates through standard testing and pre-recorded video interviews. To date, over 2,000 of these candidates have been hired, all within much shorter timelines than standard hiring processes.

Budgetary Financial Resources (dollars)

2019-20 Main Estimates	2019-20 Planned Spending	2019-20 Total Authorities Available For Use	2019-20 Actual Spending (Authorities Used)	2019-20 Difference (Actual minus Planned)
410,210,342	410,210,342	553,747,260	547,197,802	136,987,460

Human Resources (full-time equivalents)

2019-20 Planned	2019-20 Actual	2019-20 Difference (Actual minus Planned)
2,194	2,081	-113

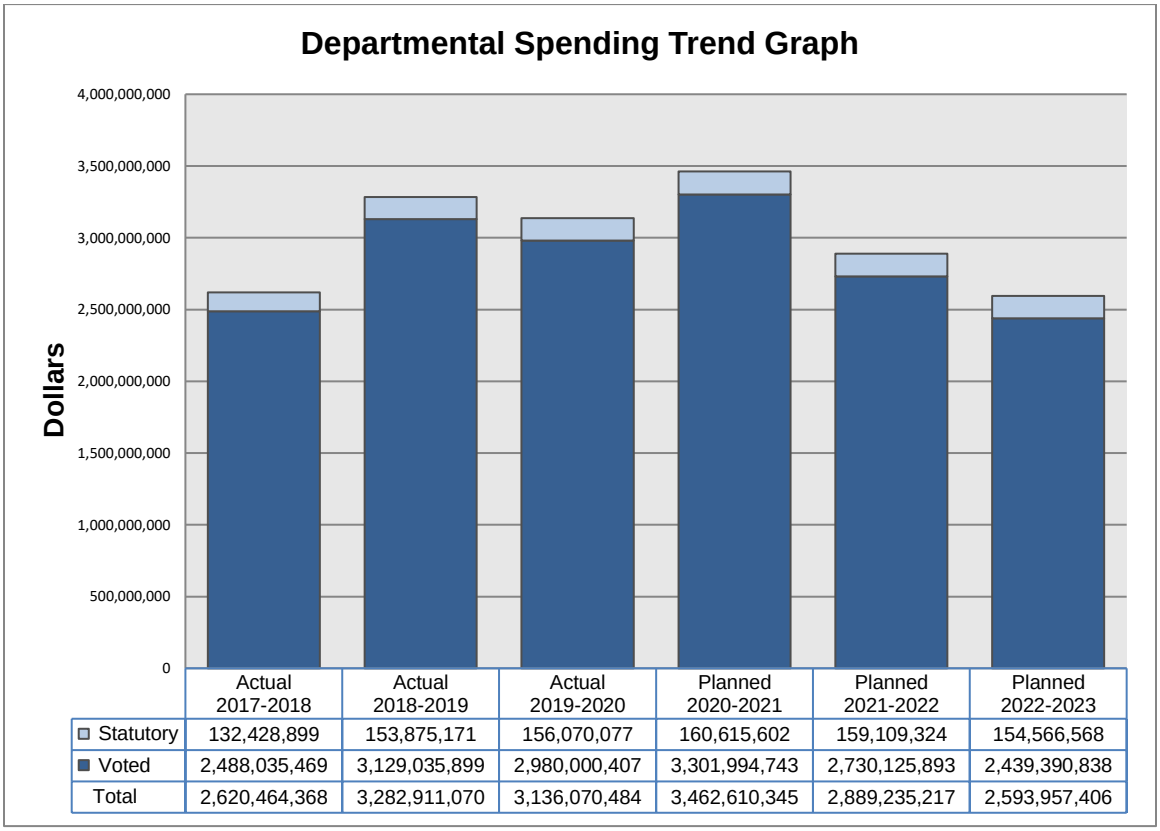
The icon identifies work undertaken with Indigenous groups.

Analysis of Trends in Spending and Human Resources

Actual Expenditures

Departmental Spending Trend Graph

The following graph presents planned spending (voted and statutory) over time.



	Actual 2017-2018	Actual 2018-2019	Actual 2019-2020	Planned 2020-2021	Planned 2021-2022	Planned 2022-2023
Statutory	132,428,899	153,875,171	156,070,077	160,615,602	159,109,324	154,566,568
Voted	2,488,035,469	3,129,035,899	2,980,000,407	3,301,994,743	2,730,125,893	2,439,390,838
Total	2,620,464,368	3,282,911,070	3,136,070,484	3,462,610,345	2,889,235,217	2,593,957,406

The Department's total actual spending for 2019-20 was $3,136.1 million. This represents a decrease of 4.5 per cent compared to the total actual spending for 2018-19 ($3,282.9 million).

This decrease is mainly attributed to a decrease in total authorities approved by Parliament and allocated by Treasury Board. The decrease in funding relates to items such as the Canadian Coast Guard icebreakers acquired in 2018.

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

Core Responsibilities and Internal Services	2019-20 Main Estimates	2019-20 Planned Spending	2020-21 Planned Spending	2021-22 Planned Spending	2019-20 Total Authorities Available for Use	2019-20 Actual Spending (Authorities Used)	2018-19 Actual Spending (Authorities Used)	2017-18 Actual Spending (Authorities Used)
Fisheries	882,808,991	882,808,991	1,133,485,845	862,147,780	995,122,115	870,305,003	681,775,648	693,291,563
Aquatic Ecosystems	259,872,522	259,872,522	331,009,945	292,919,416	338,712,342	311,606,616	239,288,497	206,486,345
Marine Navigation	353,094,537	353,094,537	324,692,710	321,213,606	392,194,830	332,887,078	345,802,442[28]	308,053,064
Marine Operations and Response	1,071,604,997	1,071,604,997	1,195,835,743	922,621,216	1,423,496,990	1,074,073,985	1,540,252,005[28]	925,024,349
Budget Implementation vote – unallocated authorities	0	0	0	0	2,366,871	0	0	0
Subtotal	**2,567,381,047**	**2,567,381,047**	**2,985,024,243**	**2,398,902,018**	**3,151,893,148**	**2,588,872,682**	**2,807,118,592**	**2,132,855,321**
Internal Services	410,210,342	410,210,342	477,586,102	490,333,199	553,747,260	547,197,802	475,792,478	487,609,047
Total	**2,977,591,389**	**2,977,591,389**	**3,462,610,345**	**2,889,235,217**	**3,705,640,408**	**3,136,070,484**	**3,282,911,070**	**2,620,464,368**

At the outset of 2019-20, Fisheries and Oceans Canada's planned spending was $2,977.6 million. Incremental funding from Supplementary Estimates, Budget 2019, carry forwards and other sources brought the total authorities to $3,705.6 million, which is $569.6 million higher than the $3,136.1 million in expenditures.

The $728.0 million increase from planned spending to total authorities is mainly attributed to Supplementary Estimates funding for: advancing reconciliation on Indigenous and treaty rights issues; the Canadian Coast Guard's fleet recapitalization projects; strengthening environmental protections and addressing concerns raised by Indigenous groups regarding the Trans Mountain Expansion Project; and operating and capital budget carry forwards from the previous year.

The difference of $569.6 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.

[28] 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.

2019-20 Budgetary Actual Gross Spending Summary (dollars)

Core Responsibilities and Internal Services	2019-20 Actual Gross Spending	2019-20 Actual Gross Spending for Specified Purpose Accounts	2019-20 Actual Revenues Netted Against Expenditures	2019-20 Actual Net Spending (authorities used)
Fisheries	870,305,003	0	0	870,305,003
Aquatic Ecosystems	311,606,616	0	0	311,606,616
Marine Navigation	359,613,945	0	-26,726,867	332,887,078
Marine Operations and Response	1,091,997,993	0	-17,924,008	1,074,073,985
Subtotal	**2,633,523,557**	**0**	**-44,650,875**	**2,588,872,682**
Internal Services	547,197,802	0	0	547,197,802
Total	**3,180,721,359**	**0**	**-44,650,875**	**3,136,070,484**

Actual Human Resources

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

Core Responsibilities and Internal Services	2017-18 Actual	2018-19 Actual	2019-20 Planned	2019-20 Actual	2020-21 Planned	2021-22 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.	2,871	3,070	3,072	3,030	3,021
Aquatic Ecosystems		1,289	1,612	1,490	1,613	1,626
Marine Navigation		1,761	1,838	1,940	1,820	1,823
Marine Operations and Response		4,104	3,973	4,119	3,976	3,976
Subtotal	**9,233**	**10,026**	**10,493**	**10,621**	**10,439**	**10,446**
Internal Services	1,877	1,968	2,194	2,081	2,190	2,165
Total	**11,110**	**11,994**	**12,687**	**12,701**	**12,629**	**12,611**

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 2019-2020[xxx].

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[xxxi].

Financial Statements and Financial Statements Highlights

Financial Statements

Fisheries and Oceans Canada's financial statements (unaudited) for the year ended March 31, 2020, are available on the Fisheries and Oceans Canada[xxxii] website.

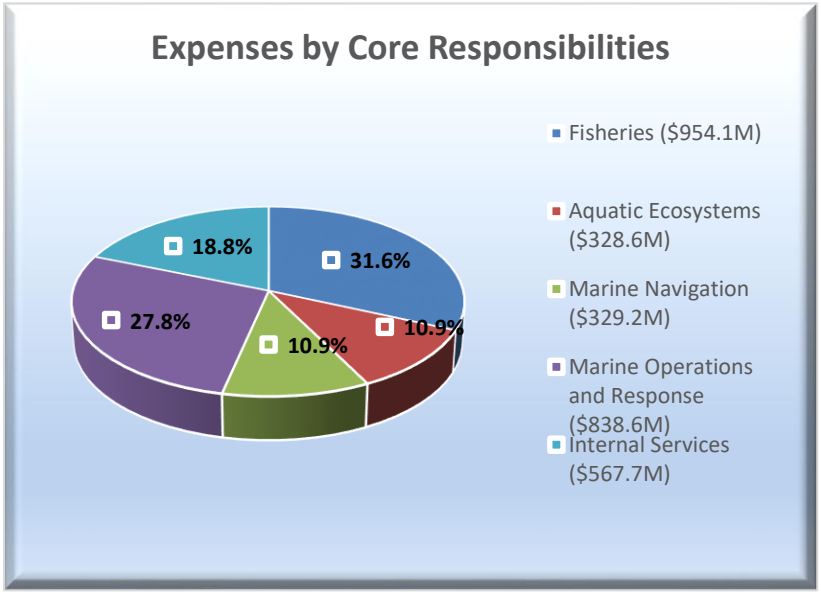
Financial Statements Highlights

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[xxxiii] website.

Condensed Statement of Operations (unaudited) for the Year Ended March 31, 2020 (dollars)

Financial Information	2019-20 Planned Results	2019-20 Actual Results	2018-19 Actual Results*	Difference (2019-20 actual minus 2019-20 planned)	Difference (2019-20 actual minus 2018-19 actual)
Total expenses	2,589,762,000	3,018,218,624	2,742,492,591	428,456,624	275,726,033
Total revenues	40,011,000	47,177,312	43,819,402	7,166,312	3,357,910
Net cost of operations before government funding and transfers	2,549,751,000	2,971,041,312	2,698,673,189	421,290,312	272,368,123

EXPENSES

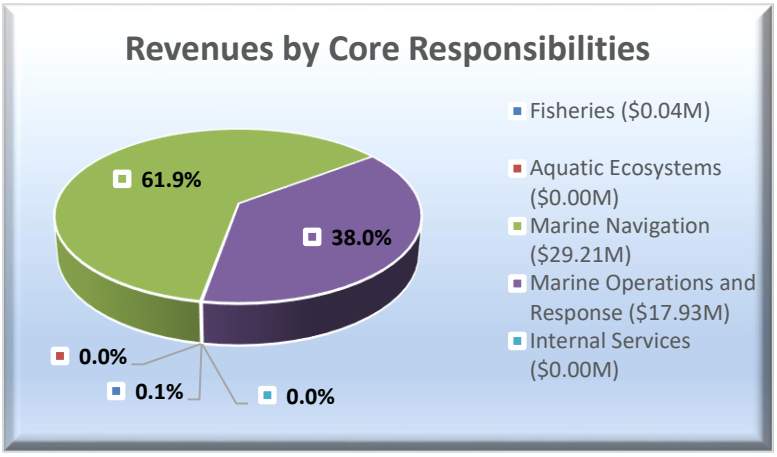


Total expenses were $275.7 million higher than planned results because of the additional authorities received by Fisheries and Oceans Canada during the year, but not included in the planned results at the time of preparation of the Departmental Plan.

Total expenses in support of Fisheries and Oceans Canada's programs and services were $3,018.2 million in 2019-20, an increase of $275.7 million or 10.1 per cent when compared to the previous year's total expenses of $2,742.5 million.

This increase is mainly attributed to an increase in salary and benefits of $102.0 million, an increase in transfer payments of $90.8 million, an increase in professional services of $67.4 million, an increase in repair and maintenance of $53.2 million, an increase in machinery and equipment for $20.4 million. These increases are offset by a decrease in remediation expense related to contaminated sites of $55.1 million.

REVENUES



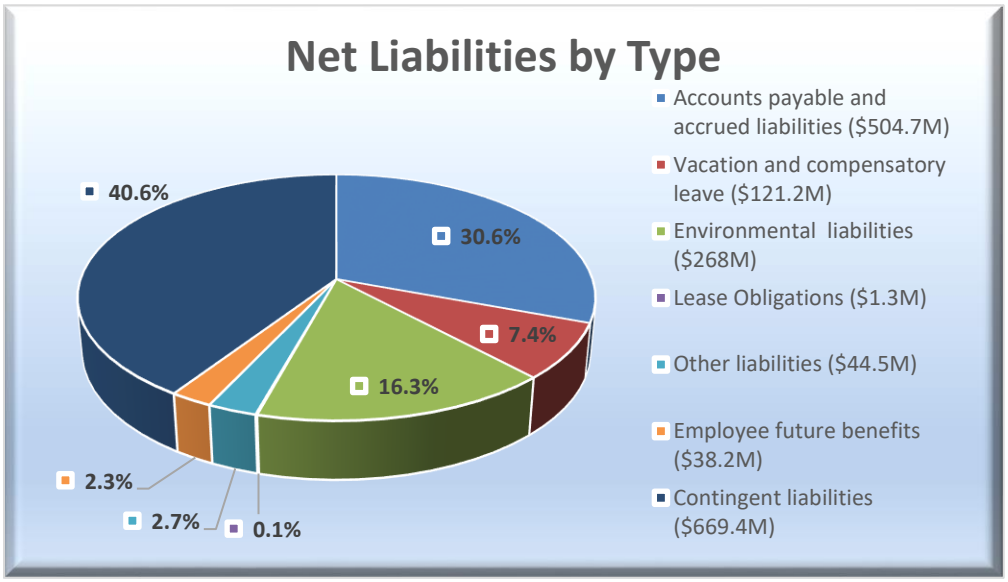
The total actual revenues for 2019-20 were higher than the planned results by $7.2 million mainly because of an increase in revenues for marine navigation services fees, icebreaking services fees, and maintenance dredging services fees.

Total actual revenues were $47.2 million in 2019-20, a slight increase of $3.4 million or 7.7 per cent when compared to the previous year's total actual revenues of $43.8 million.

Condensed Statement of Financial Position (unaudited) as of March 31, 2020 (dollars)

Financial Information	2019-20	2018-19	Difference (2019-20 minus 2018-19)
Total net liabilities	1,647,416,676	1,440,458,468	206,958,208
Total net financial assets	534,804,492	525,052,764	9,751,728
Departmental net debt	1,112,612,184	915,405,704	197,206,480
Total non-financial assets	5,918,849,430	5,447,006,958	471,842,472
Departmental net financial position	4,806,237,246	4,531,601,254	274,635,992

NET LIABILITIES



Total net liabilities were $1,647.4 million as at March 31, 2020, an increase of $206.9 million or 14.4 per cent when compared to the previous year's balance of $1,440.5 million. The increase is mainly attributed to an increase in accounts payable and accrued liabilities of $11.3 million, an increase in the allowance for contingent liabilities of $119.9 million, an increase in allowance for environmental liabilities related to contaminated sites of $41.7 million and increase in vacation pay and compensatory leave of $17.5 million.

NET FINANCIAL ASSETS

Total net financial assets were $534.8 million as at March 31, 2020, an increase of $9.7 million or 1.9 per cent when compared to the previous year's balance of $525.1 million. This is mainly attributed to an increase in external accounts receivable of $7.2 million.

DEPARTMENTAL NET DEBT

The increase in net debt of $197.2 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 $5,918.8 million as at March 31, 2020, an increase of $471.8 million or 8.7 per cent when compared to the previous year's balance of $5,447.0 million. The increase is mainly due to a net increase in tangible capital assets of $459.1 million.

Additional Information

Organizational Profile

Appropriate Minister:

The Honourable Bernadette Jordan

Institutional Head:

Tim Sargent, Deputy Minister

Ministerial Portfolio:

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

Enabling Instruments:

- *Oceans Act*[xxxiv];
- *Fisheries Act*[xxxv];
- *Species at Risk Act*[xxxvi];
- *Coastal Fisheries Protection Act*[xxxvii];
- *Canada Shipping Act, 2001*[xxxviii] (Transport Canada-led);
- *Fishing and Recreational Harbours Act*[xxxix]; and
- *Department of Fisheries and Oceans Act*[xl]

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[xli] website.

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

Reporting Framework

The Departmental Results Framework and Program Inventory for 2019-20 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
- Rate 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
- Rate of maritime incidents versus 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 (in hours) 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 responses to marine incidents by Indigenous Auxiliary units

Legend:

CORE RESPONSIBILITY

Departmental Result
- Departmental Result Indicator

Program Inventory

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

Supplementary Information Tables

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

- Departmental Sustainable Development Strategy
- Details on Transfer Payment Programs of $5 Million or More
- Gender-based Analysis Plus
- Horizontal Initiatives
- 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[xlv]. 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.

Organizational Contact Information

Fisheries and Oceans Canada
Communications Branch
200 Kent Street
13th Floor, Station 13E228
Ottawa, Ontario K1A 0E6

Telephone: 613-993-0999
Facsimile: 613-990-1866
TTY: 1-800-465-7735
Email: info@dfo-mpo.gc.ca
Web Address: http://dfo-mpo.gc.ca/

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 3-year period. Departmental Plans are usually tabled in Parliament each spring.

departmental priority (priorité)
A plan or project that a department 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 departmental results.

departmental result (résultat ministériel)
A consequence or outcome that a department seeks to achieve. 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 quantitative measure of progress on a departmental result.

departmental results framework (cadre ministériel des résultats)
A framework that connects the department's core responsibilities to its departmental results and departmental result indicators.

Departmental Results Report (rapport sur les résultats ministériels)
A report on a department's actual accomplishments against the plans, priorities and expected results set out in the corresponding Departmental Plan.

experimentation (expérimentation)
The conducting of activities that seek to first explore, then test and compare the effects and impacts of policies and interventions in order to inform evidence-based decision-making, and improve outcomes for Canadians, by learning what works, for whom and in what circumstances. Experimentation is related to, but distinct from innovation (the trying of new things), because it involves a rigorous comparison of results. For example, using a new website to communicate with Canadians can be an innovation; systematically testing the new website against existing outreach tools or an old website to see which one leads to more engagement, is experimentation.

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. For a particular position, the full-time equivalent figure is the ratio of number of hours the person actually works divided by the standard number of hours set out in the person's collective agreement.

gender-based analysis plus (GBA+) (analyse comparative entre les sexes plus [ACS+])
An analytical process used to assess how diverse groups of women, men and gender-diverse people experience policies, programs and services based on multiple factors including race ethnicity, religion, age, and mental or physical disability.

government-wide priorities (priorités pangouvernementales)
For the purpose of the 2019–20 Departmental Results Report, those high-level themes outlining the government's agenda in the 2019 Speech from the Throne, namely: Fighting climate change; Strengthening the Middle Class; Walking the road of reconciliation; Keeping Canadians safe and healthy; and Positioning Canada for success in an uncertain world.

horizontal initiative (initiative horizontale)
An initiative where two or more federal organizations 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 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.

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 the department's programs and describes how resources are organized to contribute to the department's core responsibilities and results.

result (résultat)
A 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.

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.

Endnotes

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