

# 2020-21

## Departmental Results Report

© Her Majesty the Queen in Right of Canada,  
as represented by the Minister of Fisheries, Oceans, and the Canadian Coast Guard, 2021  
Departmental Results Report 2020-21  
Cat. No. Fs1-84E-PDF  
ISSN 2561-0236



---

## Table of Contents

<b>From the Minister .....</b>	<b>1</b>
<b>Results at a Glance.....</b>	<b>3</b>
<b>Results: What We Achieved .....</b>	<b>5</b>
Fisheries .....	5
Aquatic Ecosystems.....	20
Marine Navigation.....	30
Marine Operations and Response.....	35
Internal Services.....	45
<b>Analysis of Trends in Spending and Human Resources .....</b>	<b>54</b>
Actual Expenditures .....	54
Actual Human Resources .....	56
Expenditures by Vote .....	56
Government of Canada Spending and Activities.....	56
Financial Statements and Financial Statements Highlights .....	57
<b>Corporate Information .....</b>	<b>61</b>
Organizational Profile.....	61
Raison d’être, Mandate and Role: Who We Are and What We Do .....	61
Operating Context.....	61
Reporting Framework .....	62
<b>Supporting Information on the Program Inventory .....</b>	<b>63</b>
<b>Supplementary Information Tables .....</b>	<b>63</b>
<b>Federal Tax Expenditures .....</b>	<b>63</b>
<b>Organizational Contact Information .....</b>	<b>63</b>
<b>Appendix: Definitions .....</b>	<b>65</b>
<b>Endnotes .....</b>	<b>69</b>

---



## From the Minister

I am pleased to present the 2020-21 Departmental Results Report for Fisheries and Oceans Canada (DFO) and the Canadian Coast Guard (Coast Guard). This report summarizes actions taken by the Department to manage Canada's vast fisheries and protect the marine environment and regenerate the ecosystems and lifeforms it sustains, while delivering Coast Guard programs and services to keep our waterways safe, secure, and accessible.

### Our Responsibility

For thousands of years, the Arctic, Atlantic, and Pacific oceans have shaped Canada. As we emerge from the COVID-19 pandemic, they will continue to shape our future. Despite the challenges associated with the pandemic over the past two years, thousands of Canadians continue to make their living on—or from—the sea, with one in five living in coastal communities whose economies are dependent on the health of our oceans. In over 400 locations across Canada and on more than 100 vessels, our Department must ensure that Canadian fisheries are sustainably managed, that our oceans and other aquatic ecosystems are protected and restored, that our maritime economy and all mariners are supported with safe and navigable waters, and that Canada's civilian fleet has the capability to respond to on-water incidents.

As Minister of Fisheries, Oceans, and the Canadian Coast Guard, it is my honour to lead a department that is as old as Canada itself, with such dedicated and highly-skilled public servants.

### Our Priorities

In 2020-21, DFO and Coast Guard continued to ensure that our oceans are healthy, while protecting our fisheries and habitat, and continuing to regenerate fish stocks and the ecosystems that sustain them, conducting vital search and rescue missions, and keeping our waterways safe. The Department focused on four core responsibilities, 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 responsibilities included:

1. Managing Canada's fisheries, Indigenous fisheries programs, and aquaculture activities; delivering support throughout the pandemic through the Canadian Seafood Stabilization Fund and the Fish Harvester Benefit and Grant program;
2. Protecting Canada's oceans and other aquatic ecosystems and species from human impacts and invasive species;
3. Providing information and services to facilitate navigation in Canadian waters; and
4. Providing marine response services and operating Canada's civilian maritime fleet.



## **Our Key Accomplishments**

In line with these core responsibilities, some of our accomplishments in 2020-21 included:

- Engaging with Canadians, Indigenous peoples, and stakeholder groups to begin developing a comprehensive Blue Economy Strategy that will help guide future government actions and investments and enable Canada to grow its oceans economy and create reliable, middle-class jobs and opportunities for Indigenous and coastal communities while enhancing our conservation objectives;
- Launched a Pacific Salmon Strategy Initiative to protect and restore Pacific wild salmon populations on Canada's west coast;
- Engaging on the development of a new Aquaculture Act and beginning work with the province of British Columbia and Indigenous communities to create a responsible plan to phase-out open net-pen salmon farming in coastal British Columbia waters by 2025;
- Supporting the implementation of the United Nations Declaration on the Rights of Indigenous Peoples;
- Strengthening the sustainability, transparency, and prosperity of Canada's fish and by creating more opportunities to deliver products to new markets;
- Continuing the revitalization of the shipbuilding industry with the renewal of Canada's Coast Guard fleet and ensuring our marine services have the modern ships they need;
- Continuing to work with federal, provincial, and Indigenous partners, as well as key stakeholder and resource user groups, to implement the Government of Canada's historic investment in a Nature Legacy for Canada; and
- Increasing investments in small craft harbours and working with communities to develop local economic development plans so that harbours better serve the needs of the fishing industry and local residents.

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

## **Our Commitment to You**

I am honoured to serve as the Minister and proud of the work our department continues to do in the service of all Canadians and our marine environment. As we continue to explore opportunities to grow a strong, sustainable blue economy, I want to assure Canadians that every decision I make will be underpinned by conservation. We will continue to protect and regenerate our ocean ecosystems and lifeforms, for the long term health of our oceans, their carbon absorption capacities and the many industries they sustain.

---

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

## Results at a Glance

### What Funds Were Used?

The Department's total actual spending for 2020-21 was \$3,346,987,381.

### Who Was Involved?

The Department's total workforce (full-time equivalents) for 2020-21 was 13,257.

### Key Results Achieved

**Advance Reconciliation with Indigenous Peoples:** The Reconciliation Agreements Program continued its important work in 2020-21. Beyond existing ongoing multi-year funding agreements providing over \$5.8 million to First Nations in 2020-21, an additional agreement was signed that provided over \$1.9 million that year. The \$7.7 million supports advancements in addressing Indigenous rights issues and interests that are critical to working towards reconciliation. DFO and our partners also made progress in response to the Indigenous Program Review of 2019 by strengthening our commercial and collaborative program offerings, actively pursuing and building on the principles of co-design, co-development, and co-delivery in fish stocks and ecosystem management. This includes the ongoing work of the Aboriginal Aquatic Resource and Oceans Management (AAROM) National Steering Committee, a joint Indigenous-DFO advisory committee to guide program renewal and delivery and ensure that they better reflect Indigenous definitions of success. Other Indigenous programs have similarly strengthened the expertise and offerings of the Business Development team and training coordinators to meet the demand for an expanded Commercial Fishing Enterprises training suite through ongoing implementation of the cross-cutting Fisheries Enterprise Management Training curriculum.

**Protect and Conserve Fish Stocks and Marine and Coastal Areas:** To support sustainable fisheries and rebuild depleted stocks, we made considerable progress to prepare for and to launch the new Fish Stocks provisions in the *Fisheries Act*. We advanced the development of a regulation to prescribe the first group of major stocks that will be subject to the provisions and to set out the required contents and timelines to develop rebuilding plans. In addition, we drafted policy guidelines to apply the provisions and regulations when they come into effect. We developed more stock reference points to apply the Precautionary Approach Policy to more key stocks, completed more rebuilding plans, and started work on others. We continued work to effectively manage existing marine protected areas and other effective area-based conservation measures and to conserve 25 per cent of Canada's marine and coastal areas by 2025, working toward 30 per cent conserved by 2030. We also launched the Sustainable Fisheries Solutions and Retrieval Support Contribution Program in 2020 to help remove ghost gear from our waters. DFO funded 22 projects in Canada and four internationally. The program had a successful inaugural year, with over 230 retrieval trips taking place, resulting in more than 312 metric tons of gear removed from Canadian waters and more than 100 units of gear returned to owners.

**Grow the Economy:** We engaged with Canadians, Indigenous peoples, and stakeholder groups to begin developing a comprehensive Blue Economy Strategy. This Strategy will help guide future government actions and investments across departments. The Strategy's goal is to enable Canada to grow its oceans economy and create reliable, middle-class jobs and opportunities for



Indigenous and coastal communities while enhancing our conservation objectives. Approximately 300 jobs were also created through the funding of 22 Canadian-based projects, as a result of the Sustainable Fisheries Solutions and Retrieval Support Contribution Program.

**Create Canada's First-Ever National Aquaculture Act:** We continued work on a proposed Aquaculture Act, which will provide a nationally consistent and adaptable legislative framework that fosters investment, growth, and innovation while upholding and enhancing environmental protections. We developed a new approach to engaging key partners and stakeholders on the proposed Aquaculture Act through virtual engagement sessions across Canada. In fall and winter 2020, we led 27 targeted, virtual engagement sessions with 360 key partners, including provinces/territories, industry, environmental non-governmental organizations, and other partners and stakeholders. The latest round of engagement on the Aquaculture Act closed in February 2021, anchored by a discussion paper and a "What We Heard" report summarizing engagement to date. A separate process to engage Indigenous partners will continue throughout 2021-22.

**Support the Food Security and Fishing Sector through COVID-19:** In August 2020, we implemented the one-time Fish Harvester Benefit and Grant Program to support Canada's self-employed fish harvesters and sharepersons who have been economically impacted by the COVID-19 pandemic, but who were not eligible for other existing federal measures. The benefit covers up to 75 per cent of income losses for the year to a maximum amount of \$10,164. The grant assisted vessel operators/owners with business expenses during the 2020 fishing year. This work helped provide income support for harvesters and their businesses during the COVID-19 pandemic, which is critical for sustaining the sector past the pandemic.

**Renew the Coast Guard Fleet:** In August 2020, we began exploring options to advance the design for the Multi-Purpose Vessels. These vessels will enable the Canadian Coast Guard to carry out multiple missions, including icebreaking, search and rescue, emergency response, and aids to navigation. We also received the third and final Offshore Fisheries Science Vessel in October 2020, marking the successful completion of the first large shipbuilding project under the National Shipbuilding Strategy. The second of three interim icebreakers, CCGS *Jean Goodwill*, was delivered in November 2020 to support icebreaking services in



Photo credit: Fisheries and Oceans Canada (J. Corbin)

Canadian waters. Furthermore, two additional Search and Rescue Lifeboats (bringing the total to eight) were delivered in October 2020. An important milestone was also achieved within the Offshore Oceanographic Science Vessel project, with vessel construction formally beginning on March 25, 2021. Design refresh work for the Polar Icebreaker project was also completed in March 2021. Work is ongoing to acquire new, modernized vessels under this Strategy to allow the Coast Guard to continue its important work.

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

### Fisheries

#### Description

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



#### 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
- Enhanced relationships with, involvement of, and outcomes for Indigenous people.

The indicators used to measure progress towards these results appear in the [Results Achieved](#) table beginning on page 18.

Fisheries and Oceans Canada works to maintain a healthy and sustainable fishing sector. Programs in the Fisheries Core Responsibility ensure that Indigenous rights and interests are supported, that safe commercial harbours assist the industry, and that fish are harvested in a sustainable manner. Though Canadian fish harvesters and the Department faced significant challenges due to the COVID-19 pandemic, we also achieved many of our goals, including the implementation of the Action Plan for the Renewal and Expansion of Fisheries and Oceans Canada's Indigenous Programs, the launch of construction of two new harbours in the high Arctic, and we expanded on past successes with the regional fisheries funds. More information on these and other initiatives can be found below.



Photo credit: Fisheries and Oceans Canada (N. Girard)

#### COVID-19 and the Fishing Sector

In August 2020, DFO implemented the one-time Fish Harvester Benefit and Grant Program to support Canada's self-employed fish harvesters who have been economically impacted by the COVID-19 pandemic, but who were not eligible for other federal COVID-19 support measures. The Fish Harvester Benefit offers income support to self-employed fish harvesters and

sharepersons (non-wage-earning crew who receive a share of landed value) and covered up to 75 per cent of income losses (to a maximum amount of \$10,164) beyond a 25 per cent threshold for the 2020 tax year. The Fish Harvester Grant also assisted vessel operators/owners with business expenses during the 2020 fishing year. This work helped to ensure Canada's food security and fishing sector sustainability by providing income support for harvesters and helping to maintain their business through the COVID-19 pandemic.

The impacts of **COVID-19** created demand for new or flexible work practices like increased use of virtual platforms, which created challenges but also led to new opportunities to host an increased number of virtual events with partners, such as the Aboriginal Aquatic Resource And Oceans Management (AAROM) program's Virtual Meeting Series and the Virtual Youth Gathering.

With respect to the aquaculture sector, DFO developed a webpage of COVID-19 response measures available to the Canadian aquaculture sector and assisted Agriculture and Agri-Food Canada to deliver surplus aquaculture products in the Surplus Food Rescue Program.

## DID YOU KNOW?



DFO released [COVID-19 measures, updates, and guidance](#)<sup>ix</sup> related to fisheries, aquaculture, Indigenous food, social, and ceremonial fisheries, and projects near water in response to the evolving novel Coronavirus pandemic (COVID-19).

### Blue Economy Strategy

In 2020-21, the Minister of Fisheries, Oceans, and the Canadian Coast Guard was mandated to lead the development of a comprehensive, whole-of-government **blue economy strategy** with the support of a number of her Cabinet colleagues, and in consultation with provinces and territories, Indigenous peoples, and business stakeholders. The strategy will be aligned with Canada's economic recovery and focused on growing Canada's oceans economy to create good middle class jobs and opportunity for ocean sectors and coastal communities, while advancing reconciliation and conservation objectives. Despite delays due to impacts of the COVID-19 pandemic, work has progressed and the public engagement process was launched in February 2021 whereby the then Minister hosted a series of roundtables and offered Canadians an opportunity to provide their input and perspectives online through a dedicated [website](#)<sup>i</sup>. A public engagement paper was released along with the launch of a website to offer opportunities for Canadians to submit views and input on what should be included in the strategy. The engagement activities yielded significant input that will inform the strategy.

### Fisheries and Stocks

In support of sustainable fisheries and rebuilding depleted stocks, DFO made considerable progress in meeting its commitments to implement the **modernized Fisheries Act**<sup>ii</sup> and prepare for the implementation of the Act's Fish Stocks provisions, as recommended in the [Commissioner of the Environment and Sustainable Development \(CESD\)'s October 2016 Sustaining Canada's Major Fish Stocks report](#)<sup>iii</sup>. First, DFO finalized the development of two catch monitoring assessment tools (a risk screening tool and a data quality assessment tool) which will help to implement the national 2019 Fishery Monitoring Policy. DFO also applied the data quality assessment tool to 10 fish stocks across DFO regions. Robust catch monitoring programs are essential for sustainable fisheries. Conducting the catch monitoring assessments will help DFO to identify catch monitoring programs in fisheries that may need to be improved. Second, DFO drafted and published the proposed [amendments to the Fishery \(General\) Regulations](#)<sup>iv</sup> and conducted analysis of the feedback received. Third, DFO drafted two sets of guidelines to

implement the fish stock provisions and the proposed regulations. When the proposed regulations come into effect, they will launch the Act's fish stocks provisions, which will strengthen DFO's fishery management framework by introducing binding commitments to maintain prescribed fish stocks at sustainable levels and implement plans to rebuild prescribed stocks that have declined below their limit reference point. The provisions and proposed regulations elevate aspects of the Department's policies on the precautionary approach and rebuilding plans to the level of legislative obligation that will have to be met for stocks prescribed by regulation.

DFO continued to increase the production of **integrated fisheries management plans (IFMPs)**, precautionary approach reference points, and harvest control rules for major fish stocks in spite of challenges and delays introduced by COVID-19.

In 2020-21, DFO supported the sustaining and rebuilding fish stock provisions of the new *Fisheries Act* by successfully launching or completing a variety of science activities, such as surveys, science partnerships, and the provision of science advice, to increase the development of **reference points** for Canada's major fish stocks. In addition, a dedicated Sustainable Fisheries Science Fund grants and contributions program was launched, with 12 projects funded to support enhanced fisheries science partnerships with external collaborators.

In 2019, DFO began supporting the Canadian Food Inspection Agency (CFIA) and Agriculture and Agri-Food Canada (AAFC), in the development of a **boat-to-plate traceability program** to help Canadian fishers to better market their high-quality products. Since then, DFO has continued to work with CFIA and AAFC to hear from a broad range of stakeholders, such as industry and industry associations, non-government organizations, academia, and federal-provincial-territorial partners, to gather perspectives on boat-to-plate traceability.

During 2020-21, DFO continued several multi-year **genomics**<sup>1</sup> projects funded by the **Genomics Research and Development Initiative (GRDI)**. Projects used genomic techniques to advance Canada's knowledge on Northern shrimp and Atlantic lobster and their responses to climate change. Researchers also used **environmental DNA**<sup>2</sup> (eDNA) to detect endemic (i.e. native) and invasive (i.e. non-native) changes in salmon populations in Labrador. Methods were also developed to use eDNA techniques as a complement to traditional approaches to understand fish stocks.

DFO completed one risk assessment for a **biotechnology fish product** under the *Canadian Environmental Protection Act* and provided a Science Advisory Report to Environment and Climate Change Canada and Health Canada. DFO also published seven peer-reviewed and open-source articles which provide critical evidence and support to the environmental risk assessments that DFO conducts on genetically-modified fish.

---

<sup>1</sup> Genomics refers to the study of genes and how they work.

<sup>2</sup> Environmental DNA (eDNA) refers to molecules of DNA shed from organisms that are found in the environment and can be detected in a simple water or sediment sample. By analyzing eDNA, species present can be identified using only trace amounts of DNA in the sample, even from incomplete DNA.

### Reconciliation with Indigenous Peoples

DFO remains committed to working with other federal departments and Indigenous peoples to implement the **United Nations Declaration on the Rights of Indigenous Peoples** and to continue efforts to include Indigenous knowledge in the management of fish stocks and ecosystems. The Department expanded on existing processes, partnerships, and collaborative arrangements with Indigenous peoples to look for ways in which we can work together on key fisheries and aquatic resource issues in a manner that gives a voice to the Declaration.

DFO continues to monitor the evolution of the incorporation of Indigenous knowledge in decision-making across federal departments. The Department has worked collaboratively with the Assembly of First Nations (AFN) with the goal of developing interim guidance on Indigenous knowledge to support its use in decision-making under the *Fisheries Act*. In 2020-21, the AFN was provided funding to undertake engagements with an Indigenous Knowledge Advisory Group composed of Elders, knowledge holders, and experts, as well as regional technical workshops with a variety of Indigenous representatives.

In 2020-21, DFO continued to work with First Nations, Inuit, and Métis peoples to implement **Aboriginal and treaty rights** related to fisheries, oceans, aquatic habitat, and marine waterways.



This included negotiating and implementing modern treaties and reconciliation and other agreements with Indigenous communities across the country to advance their right to self-determination and support decision-making in communities. For example, in Atlantic Canada, DFO worked closely with the Mi'kmaq and Wolastoqey First Nations in New Brunswick, Prince Edward Island, Nova Scotia, and the Gaspé region of Québec and the Peskotomuhkati in New Brunswick to advance the implementation of their right to fish in pursuit of a moderate livelihood through the Rights Reconciliation/Implementation Agreement process. A new, more flexible pathway toward the implementation of this treaty right was introduced in March 2021 to allow for the collaborative development of in-season **moderate livelihood fishing plans**, which enable the exercise of the right in the short-term, while also prioritizing the conservation and sustainability of fish stocks and transparent and stable fisheries management.

DFO continued important work with its partners through the Reconciliation Agreements Program and Treaty Related Measures Program, which provide funding to First Nations to build capacity and economic growth in fisheries and support strong and stable First Nations governance regimes that enable a greater say in fisheries management decisions. In 2020-21, \$8.8 million in funding was provided to First Nations to support the development and implementation of reconciliation agreements, and \$3.3 million was provided to support the establishment and implementation of fisheries governance structures.

Following the **Indigenous Program Review (IPR)**, DFO continues to enhance the co-delivery of its programs. This supports Indigenous communities across the country to: manage fisheries for food, social, and ceremonial purposes; participate in advisory and decision-making processes related to aquatic resources and oceans management; and build self-sustaining, Indigenous-owned commercial fishing enterprises with pathways for economic diversification. In response to the IPR, DFO launched the implementation of the [Action Plan for the Renewal and Expansion of Fisheries and Oceans Canada's Indigenous Programs](#)<sup>v</sup>. Progress made in 2020-21 included: investing \$9M in equipment and assets that support Indigenous-led fisheries management and technical activities; co-launching the AAROM Hub [website](#)<sup>vi</sup>, which promotes Indigenous technical and scientific services (funded by the AAROM program); commencing the Indigenous Training and Skills Development Project, which identifies career and training pathways for Indigenous employment in commercial fisheries and aquatic resource management; continuing contributions to build capacity and enhance economic returns from over 30 aquaculture projects under the Indigenous commercial programs; and completing the third year of the innovative [Indigenous Marine Servicing Initiative](#)<sup>vii</sup>, which enhances Indigenous participation in the broader marine industry supply chain. In addition, DFO advanced a co-design approach to the AAROM Innovation and Collaboration Fund, which in 2020-21 contributed \$1.2 million to projects focused on Indigenous Knowledge management, and also made progress in the co-development of a renewed Aboriginal Fishery Guardian (AFG) platform that supports collaboration between community-based designated guardians and DFO's Conservation and Protection teams.

In 2019, DFO published the **Evaluation of the Aboriginal Fisheries Strategy (AFS) and AAROM** programs. In 2020-21, in response to the evaluation's recommendations, the Department convened a working group comprised of both DFO and Indigenous technical experts involved in AFS and AAROM program delivery.

In 2019-20, DFO conducted the **Evaluation of the Certification and Market Access Program for Seals**. In 2021, the Department supported a co-developed environmental scan by Ulnooweg Development Group, a designated Indigenous financial institution based in Atlantic Canada, with one additional year of funding for 2021-22. This will allow the findings of the environmental scan to be implemented and the program to be adjusted to suit the current needs of the sealing industry.

In 2020-21, as part of the implementation of the [DFO-Coast Guard Reconciliation Strategy](#)<sup>viii</sup>, DFO enhanced its monitoring and reporting of results related to Indigenous reconciliation by including a new result to support Indigenous reconciliation across all Core Responsibilities. For more details, see the [Results Achieved table](#) below. In addition, a number of regions have developed regional reconciliation action plans to highlight the main regional priorities and activities related to reconciliation, support work planning, strengthen internal coordination, build on lessons learned, and promote both internal and external relationships. These are inspired by, and consistent with, the DFO/Coast Guard National Reconciliation Strategy.

## DID YOU KNOW?



There are over 100 designated fishery guardians who are employed by Indigenous communities on all coasts. DFO's **Aboriginal Fishery Guardian (AFG)** program supports the training, employment, equipping, and designation (under the *Fisheries Act*) of these guardians who undertake compliance and conservation activities, often in collaboration with DFO's Conservation and Protection program. The program creates jobs in Indigenous communities and helps protect the environment.

Since the announcement of the Arctic Region in 2018, DFO and the Canadian Coast Guard continued to work with Inuit, First Nation, and Métis organizations and governments to advance reconciliation through relationship building, partnerships, and re-alignment of departmental resources to advance service and program delivery priorities identified by our partners in the Arctic Region.

The Department continues to address the operational challenges for building and maintaining relationships with Indigenous peoples. This work is led in our [regions](#)<sup>ix</sup> by **Indigenous Relations and Partnership Hubs**. For example, in the DFO Gulf and Maritimes Regions, the Hubs have advanced reconciliation with Indigenous peoples by hiring and mentoring Indigenous trainees, by inviting Indigenous Knowledge Keepers and Elders to participate in both internal and external discussions, and by adapting to new ways of connecting during the COVID-19 pandemic.

Over the course of two years, the Department collaborated with the National Indigenous Fisheries Institute (NIFI) to showcase leading practices related to Indigenous partnerships in the fisheries and oceans sectors, and to showcase innovative and joint ventures. In March 2021, NIFI published the project report outlining the inspiring partnerships between Indigenous communities, industry, and government in its [Compendium of Indigenous Socio-economic Best Practices in Fisheries and Oceans Sectors](#)<sup>x</sup>.

DFO also collaborated with the NIFI in an Indigenous procurement policy dialogue workshop series. The workshops explored the Indigenous procurement opportunities and challenges in the DFO portfolio with the goal of developing a recommended approach to achieve increased Indigenous procurement. This initiative supported the Public Services and Procurement Canada mandate directive to increase participation of Indigenous groups in government contracts to at least 5 per cent. The results of the workshop sessions and a final report on the project, including recommendations, are available at NIFI's website.

In 2020-21, DFO completed four harbour feasibility assessments in Nunavut and committed to an investment of \$80 million toward the construction of two new harbours in the Nunavut communities of Clyde River and Arctic Bay. This work complemented an **Inuit Impact and Benefit Agreement** the Government of Canada signed in Nunavut in 2019 with the Qikiqtani Inuit Association to support Inuit stewardship of Tuvaijuittuq Marine Protected Area and Tallurutup Imanga National Marine Conservation Area and to ensure Inuit have the opportunity and the means to realize the benefits from conserved areas.

#### **Ghost Gear and Plastic waste**

In 2020-21, DFO undertook the final steps to implement the Ocean Plastic and Ghost Gear Management Framework and complete the associated Action Plan. The Framework outlines the guiding principles needed to reduce plastic waste and minimize plastics in Canada's oceans and waterways through three program pillars: prevention, mitigation, and leadership. This work supports the Government's plan to reduce 75 per cent of plastic waste from its own operations by 2030.

**DID YOU  
KNOW?**



Ghost gear refers to any fishing equipment or fishing-related litter that has been abandoned, lost, or otherwise discarded and is some of the most harmful and deadly debris found in oceans.

Despite facing some delays and impacts on in-person activities due to COVID-19, DFO launched the **Sustainable Fisheries Solutions and Retrieval Support Contribution Program** in 2020 and received a high level of interest and positive feedback. DFO funded 22 projects in Canada with over 230 retrieval trips taking place, resulting in more than 312 metric tons of gear removed from Canadian waters and more than 100 units of gear returned to owners. The program also funded several projects aimed at improving technology to both prevent gear loss and assist in identifying areas of significant gear loss to better focus retrieval activities. Also, approximately 300 jobs were created through the funding of the 22 Canadian-based projects as a result of the program. Four international projects were funded in Nigeria, Vanuatu, and Belize. International projects involve working with a recognized international body or organization to help developing or small island states establish their own sustainable fisheries practices and programs to mitigate the impact of ghost gear.

## DID YOU KNOW?



In support of DFO's \$2.6 million total investment in the **Innovative Solutions Canada domestic plastic challenges**, DFO continued to fund four Canadian companies working on prototype development in 2020-21. Projects include the development of an acoustically activated ropeless fishing system and gear tracking software, the development of a smart biodegradable plastic polymer fishing line and other biodegradable fishing and aquaculture products, the scale-up of a marine plastic processing facility, and the implementation and scale up of equipment used to incorporate end-of-life plastic fishing and aquaculture wastes into plastic lumber and pre-cast plastic products. These promising, made-in-Canada innovations have the potential to help reduce plastic waste and keep valuable plastics circulating in the economy and out of the environment.

In 2020-21, DFO engaged in activities in support of the recycling of fishing nets and other **marine debris** generated by the fishing and aquaculture industries. The Sustainable Fisheries Solutions and Retrieval Support Contribution Program developed videos (available at the [Fisheries and Oceans Canada YouTube Channel](#)<sup>xi</sup>) informing the public and fishing industry of the potential damages posed by abandoned, lost, or otherwise discarded fishing gear and funded projects that improved collection, recycling, and responsible disposal of end-of-life fishing gear.

DFO is committed to promoting awareness and collaboration to encourage other organizations to limit plastic waste. In 2020-21, a collaborative agreement with the Steveston Harbour Authority was developed and approved, with 28 tonnes of nets being recycled at Steveston Harbour. DFO also continued work on business case development for the effective management and recycling of end-of-life fishing nets on the Pacific Coast with a consultant and the Harbour Authority. The goal of this work is to provide options for fishers to dispose of end-of-life fishing gear, including recycling where possible.



### Small Craft Harbours

In support of the then Minister's mandate letter commitment, the Department continued to engage with local community stakeholders; made ongoing investments in harbour maintenance and repair; and, worked with municipalities and other groups where investments and divestitures could enhance local communities. Specifically, the Department completed spending of the \$250 million committed in 2018 for renewing small craft harbours. This included a \$28 million rehabilitation project at Port Dalhousie. These investments have helped close to 200 communities and benefited Canadians by providing safe, secure, and accessible harbours for commercial and economic activities.

Additionally, under the **Abandoned and Wrecked Vessel Removal Program**, DFO removed 95 vessels that had been abandoned in Canada's harbours, removing them as potential environmental, safety, and economic hazards.

### Conservation and Protection

DFO made progress on its ongoing commitment of \$11.6 million to combat **illegal, unreported, and unregulated fishing (IUU)**, a major contributor to declining fish stocks and marine habitat destruction. This funding allowed DFO to invest \$7 million to deploy satellite-based technologies capable of remotely identifying and tracking vessels whose location transmitting devices have been switched off. In 2021, Canada's Dark Vessel Detection platform was used to support multiple operations throughout the South Pacific Islands, as well as deployment to three operation centres in Ecuador, a partnership establishing coverage to support the protection of the Galapagos Islands region from IUU fishing.

In 2020-21, DFO's Conservation and Protection (C&P) program continued its **intelligence-led modernization strategy** by building its digital forensics and major case investigation capacity, and by developing partnerships to share specialized tools and techniques with other enforcement agencies. An initial long-range aircraft was brought into service to support C&P's aerial surveillance program, with a second aircraft expected early in 2021-22. C&P's National Fisheries Intelligence Service (NFIS) started drafting a new and improved Strategic Threat Risk Assessment in 2020-21, completed the first step of its ambitious and innovative Open Source Intelligence Collection program, updated its confidential informant directives, and introduced key software upgrades. In addition, the **radio modernization project**, which will enable fishery officers to work more safely and effectively in the field, is rolling out as anticipated and a new compliance enforcement system was launched in 2021. This expands C&P's capacity to track fisheries enforcement activity, in order to better plan and direct its enforcement actions towards priority and high-risk areas.

#### DID YOU KNOW?



Since August 2020, along with participation in numerous international fora and committees, DFO chaired the Board of the Fisheries Crime Working Group, an Interpol-led intelligence and enforcement collective with a mandate to promote the sharing of information, expertise, and experience, and to develop innovative policing approaches to mitigate fisheries crime around the world. DFO was instrumental in launching Interpol's first ever international operation to combat IUU fishing.

### Fishing and Aquaculture Industry Support

The **Canadian Seafood Stabilization Fund**, established in 2020-21 in response to COVID-19, uses existing programming tools from regional development agencies (Atlantic Canada Opportunities Agency, Canada Economic Development for Quebec Regions, Western Economic Diversification Canada) to deliver grants and contributions to the nation's seafood processing companies to help them overcome the short-term COVID-19 related challenges such as excessive inventory, access to workers, working conditions, and market access in the short term, so they can stabilize their businesses and grow in the medium to longer term.

DFO continued its work with stakeholders to increase awareness of the **Fisheries and Aquaculture Clean Technology Adoption Program** (FACTAP) to improve the efficiency and environmental performance of aquaculture, wild capture fisheries, and fish processing across Canada. Since the program's inception in 2017, DFO and its provincial and private sector



Photo credit: Fisheries and Oceans Canada (P. Fortin)

partners have allocated \$28.4 million toward a total of 120 projects. In addition, the [Evaluation of the Fisheries and Aquaculture Clean Technology Adoption Program](#)<sup>xii</sup> took place in 2020-21. The evaluation found it to be a relevant program that contributes to meeting federal and departmental priorities. The program exceeded its performance targets, with most recipients indicating that they would have not been able to make improvements to the environmental performance of their operations without the federal support.

DFO delivers three regional fisheries funds that encourage innovation and sustainability within Canada's fish and seafood sector while supporting the sector's ability to meet the growing demands of a worldwide market. The **Atlantic Fisheries Fund** (AFF) approved 316 new projects for over \$100 million and four new science partnerships projects totaling almost \$2.5 million, with a focus on ecosystem shifts on fish stocks, distributions, and the commercial fishery. An additional six projects totalling nearly \$1.4 million were approved in 2020-21 for Indigenous recipients.

The AFF program approved two **Canadian Fish and Seafood Opportunities Fund** (CFSOF) pillar projects in 2020-2021 for a total of nearly \$4.3 million in assistance. These projects included building a domestic marketing strategy for the B.C. Dungeness crab as a product of Canada.

In 2020-21, the **British Columbia Salmon Restoration and Innovation Fund (BCSRIF)** prioritized investments in projects that incorporate scientific evidence and Indigenous knowledge, improve the economic resilience of the fisheries sector, and protect and restore wild Pacific salmon. Through the initial application phase, BCSRIF successfully funded 41 projects facilitated by Indigenous groups and non-commercial organizations, representing a total commitment of \$67 million. A key goal of BCSRIF is to introduce innovation to the fish and seafood sector through the adoption of new technologies, processes, and products, as well as research and data collection to identify potential options for improving the sustainability of wild Pacific salmon and B.C. fisheries. As a result of the 2020 intake, an additional 50 projects were identified; funding details will be announced later in 2021.

For five years, the **Quebec Fisheries Fund (QFF)** will support projects in the areas of innovation, science partnerships, commercial fisheries infrastructure, aquaculture, and processing, which increase the value of high quality fish and seafood products from sustainable sources, and help position Quebec's fish and seafood sector for continued long term growth. In 2020-21, the QFF signed twenty-six contribution agreements, thereby surpassing its target.

### Pacific Salmon

The Salmonid Enhancement Program (SEP) works collaboratively with Indigenous and local community groups, non-government organizations, stakeholders and local, provincial and federal agencies to plan, develop, and undertake restoration activities to ensure healthy habitats on which Pacific salmon depend. In 2020-21, DFO developed the **Pacific Region Restoration Tracker** to collect critical information in support of the development of restoration priorities and to report on the state of salmon habitat. The information is essential for the development of strategic rebuilding and recovery plans and effective outcomes for salmon.

In addition, the SEP's **Community Involvement and Resource Restoration** unit worked with Environment and Climate Change Canada, the Province of British Columbia, Ducks Unlimited, and the Habitat Conservation Trust Fund and Nature Trust of British Columbia to promote the management, conservation, stewardship, restoration and enhancement of estuaries, wetlands, and grasslands on Vancouver Island, the central coast, and Haida Gwaii.

### DID YOU KNOW?



The SEP operates **23 hatcheries and spawning channels**. The care of live salmon requires hatchery operations 24 hours a day, seven days a week, and this work is done with support from Indigenous partners, contractors, and stakeholders. To ensure the safety of those involved, changes were made to allow for flexible staffing in the event of a COVID-19 outbreak, to ensure personal protective equipment was available for all, and allow staff to work in small groups. These adjustments ensured SEP hatcheries continued to operate during the pandemic to help support the salmon population.

In 2020-21, DFO applied its expertise and resources to support the ongoing salmon recovery and rebuilding efforts at the **Big Bar** landslide, contributed to the transport of migrating adult salmon over the slide area, and contributed to the development of recovery actions and plans for the salmon stocks impacted by the slide. Salmon stocks that returned to the river between April and July (i.e. early timed migration stocks such as Early Stuart, Bowron, and Taseko sockeye) suffered high en route loss (about 99 per cent mortality). These stocks were unable to sustain prolonged delays at Big Bar and other points on the Fraser River as a result of record-setting high water events caused by rain and the melting of unusually large snowpacks. Other stocks experienced lower en route loss (up to 15 per cent mortality).

DFO has been collaborating with the University of Victoria to sequence and assemble the **genomes** of Chinook, Pink, Chum, and Sockeye salmon, which will provide a foundation for research to study and monitor the effects of stressors on these species, and to better conserve and manage their populations. All sequences are available in Open Access public data repositories. These new genomics<sup>3</sup> resources are already facilitating further studies by the science community; topics include the identification of genomic regions important for climate change adaptation and pathogen resistance, as well as improvements to genetic stock identification.

### Aquaculture

In support of the then Minister's mandate commitment, the Department continued working to introduce Canada's first-ever **Aquaculture Act**. The proposed Aquaculture Act will provide a nationally consistent and adaptable legislative framework that fosters investment, growth, and innovation while upholding and enhancing environmental protections. In response to challenges posed by COVID-19, DFO developed a new approach to engaging key partners and stakeholders on the proposed Aquaculture Act through virtual engagement sessions across Canada. In fall and winter 2020, DFO led targeted, virtual engagement sessions with key partners, including provinces/territories, industry, environmental non-governmental organizations, and other partners and stakeholders. A total of 27 engagement sessions were held with 360 participants. The latest round of engagement on the Aquaculture Act was launched in August 2020 and closed in February 2021, anchored by a [discussion paper](#)<sup>xiii</sup> and a ["What We Heard" report](#)<sup>xiv</sup> summarizing engagement to date. A separate process to engage Indigenous partners will continue throughout 2021-22.

DFO began work with the province of British Columbia and Indigenous communities to create a responsible plan to phase-out open net-pen salmon farming in coastal British Columbia waters by 2025. In 2020-21, the Department created a federal, provincial, and Indigenous Strategic Oversight Committee as well as a Transition Plan Technical Working Group to oversee and lead the transition. Both groups began meeting in fall 2020, with provincial representatives participating as observers. The groups worked toward finalizing a multi-year work plan and engagement strategy, with engagement commencing fall 2021.

---

<sup>3</sup> Genomics refers to the study of genes and how they work.

In Summer 2020, DFO, in collaboration with the Province of British Columbia, Indigenous organizations, the finfish and shellfish industries, and Environmental Non-governmental Organizations, developed a proposed framework for adopting an **Area-Based Aquaculture Management (ABAM)** regime for British Columbia. DFO also began planning for the development of a pilot project in B.C. aimed at building a better understanding of aquaculture-related risks, environmental protection, industry growth, management objectives, and performance measurement that aligns with the interests of Indigenous groups and stakeholders. This will further help to lead the way in developing aquaculture practices that are environmentally, socially and economically sustainable, while contributing to the Government of Canada's reconciliation agenda.

## Key Risks

Work under this Core Responsibility continued over the last year despite the challenges that were encountered due to COVID-19. The Department faced delays in completing some projects and scientific surveys, limitations in implementing certain programs in their entirety, and obstacles in attracting and retaining talent. However, redistributing funding, re-prioritizing efforts, and implementing innovative solutions to program delivery effectively managed these risks. For example, grants and contributions programs transitioned to electronic signatures for agreement ratification and provided additional flexibilities for funding recipients to help expedite payments. DFO will continue to monitor any potential risks and implement mitigation strategies where appropriate to ensure its ability to continue to meet its goal of managing Canada's fisheries and Indigenous fisheries programs, supporting commercial fishing harbours, and developing aquaculture in a sustainable manner that protects marine ecosystems and conserves wild fish populations.

## Gender-based Analysis Plus<sup>4</sup>



In support of Gender-based Analysis Plus and diversity and equity, the application form for the **Atlantic Fisheries Fund (AFF)** was amended in March 2021 to include a section for applicants to voluntarily self-identify as an Indigenous person or Indigenous-owned company (51 per cent ownership or more); or as a woman or company owned by a woman (51 per cent or more).

Addressing inequities particularly for women, youth, Indigenous peoples, visible minorities, and persons with disabilities in ocean industries is an essential part of building a resilient and sustainable **blue economy**. As part of the Blue Economy Strategy engagement, GBA Plus considerations were built into the engagement process, including a Ministerial roundtable held with women who are active in the ocean environment space in order to collect their perspective. The outcomes of this discussion will help identify and find ways to address gender inequalities often associated with the ocean sector. A number of discussions were held with Indigenous groups to seek ways to increase and diversify ocean-related opportunities for Indigenous peoples in the blue economy. The then Minister also held a roundtable exploring the role of youth and their representation in the blue economy and to facilitate inclusive growth.

---

<sup>4</sup> GBA Plus 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 Plus 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](#)<sup>41</sup>.

**The implementation of the British Columbia Salmon Restoration and Innovation Fund (BCSRIF)** supports the inclusion of women and Indigenous peoples in fisheries activities through delivery or participation in funded projects. The program aims to benefit the fish and seafood industry, and industry economics and employment statistics indicate that industry employment is skewed toward male participation. However, BCSRIF has resulted in relatively high participation rates by women and Indigenous peoples on project teams. Of the 41 projects funded by BCSRIF over the first two years, 47 per cent have identified female project leads or principal investigators, and 64 per cent have identified Indigenous leads or involve Indigenous partners. In order to better understand the socio-economic impacts of BCSRIF investments, the program has begun to collect data from recipients related to demographic profiles of project teams, including participation by women, Indigenous Peoples, LGBTQ+ community, seniors, youth and persons with disabilities. In addition, the program has started collecting key metrics related to training and employment opportunities, and Indigenous participation in projects.

### Experimentation



As discussed in DFO's previous Departmental Results Report, DFO partnered with other organizations to manage the **Big Bar landslide** that was reported in June 2019. In 2020-21, the Department analyzed the impacts of the landslide and the mitigation measures (including rock blasting, temporary passage features, and the Whooshh pneumatic fish pump) on salmon migration. The data was collected using a combination of radio tags, sonar equipment, and visual counts. This new information is critical for understanding the impacts of this landslide on migrating salmon, and is being used to direct the long-term Big Bar landslide response.

The **Salmonid Enhancement Program (SEP)** regularly uses experimentation to evaluate and adjust its programming. In 2020-21, DFO began a pilot project at the SEP **Conuma River Hatchery**<sup>xvi</sup> that will use collection of DNA samples and a technique called parentage based tagging to identify Chinook salmon stocks. If successful, the technique can then be used to increase the accuracy and precision of Chinook salmon stock assessment information and enable more effective harvest and conservation management approaches for Chinook fisheries.




In 2020-21, the **Association des Crabiers Acadiens Inc.** completed an AFF-funded project to explore and test technologies designed for reducing the risks of North Atlantic Right Whale entanglements in fishing gear. Ultimately, the analysis completed for each entanglement prevention alternative will serve to inform the fishing industry on the costs, feasibility, and effectiveness of each option tested, allowing industry members to make more informed decisions on how to move forward without harmful impacts on marine mammals and coastal communities.

### 2030 Agenda for Sustainable Development

For additional information on how the Department is advancing the United Nations Sustainable Development Goals, please refer to [Fisheries and Oceans Canada's 2020-21 Departmental Sustainable Development Strategy Report](#)<sup>xvii</sup>.

## Results Achieved

 Departmental Result	Performance Indicators	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	2018-19: 40% 2019-20: 46% <sup>5</sup> 2020-21: 48% <sup>6</sup>
	Percentage of decisions for major fisheries where harvest control rules were followed	100% by March 31, 2021	2018-19: 100% 2019-20: 100% 2020-21: 98% <sup>7</sup>
	Percentage of major stocks in the cautious and healthy zone	Greater than or equal to 52% by March 31, 2021	2018-19: 49% 2019-20: 48% <sup>8</sup> 2020-21: 46% <sup>9</sup>
Canadian aquaculture is sustainably managed	Percentage of aquaculture farms that are compliant with <i>Fisheries Act</i> regulations	Greater than or equal to 90% by March 31, 2021	2018-19: 99% 2019-20: 99% 2020-21: 95%
	Level of Canadian aquaculture production	Greater than 170,00 tonnes by December 31, 2020	2018-19: 191,416 tonnes 2019-20: 191,259 tonnes 2020-21: 187,026 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	2018-19: 89% 2019-20: 92% 2020-21: 91%
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, 2021	2018-19: 94% 2019-20: 95% 2020-21: 94%


<sup>5</sup> 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.

<sup>6</sup> The 2020-21 result is higher than previous years due to a combination of a stabilization of the number of stocks in the survey and progress in the development of harvest control rules and limit reference points.

<sup>7</sup> For 2020-21, the Department used a two-year average to set the total allowable catches in two areas. This was to account for fluctuations in the total allowable catches for the fishery but was not in line with the harvest control rule. The harvest control rule will be followed for 2021-22.


<sup>8</sup> 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.

<sup>9</sup> 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.


	Departmental Result	Performance Indicators	Target	Actual Results
	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, 2021	2018-19: 100% 2019-20: 75% <sup>10</sup> 2020-21: 79% <sup>11</sup>
		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, 2021	2018-19: 100% 2019-20: 96% 2020-21: 92%
	Enhanced relationships with, involvement of, and outcomes for Indigenous people	Number of agreements / arrangements involving Indigenous groups	332 by March 31, 2021	2018-19: N/A 2019-20: N/A 2020-21: 388
		Number of Indigenous people trained through agreements / arrangements	425 by March 31, 2021	2018-19: N/A 2019-20: N/A 2020-21: 639
		Number of Indigenous people employed through agreements / arrangements	3000 by March 31, 2021	2018-19: N/A 2019-20: N/A 2020-21: 4,727

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)

	2020-21 Main Estimates	2020-21 Planned Spending	2020-21 Total Authorities Available For Use	2020-21 Actual Spending (Authorities Used)	2020-21 Difference (Actual Spending Minus Planned Spending)
	1,133,485,845	1,133,485,845	1,664,278,304	988,392,191	145,093,654

### Human Resources (full-time equivalents)

	2020-21 Planned FTE	2020-21 Actual FTE	2020-21 Difference (Actual full-time equivalents minus Planned full-time equivalents)
	3,020	3,245	225

Financial, human resources and performance information for Fisheries and Oceans Canada's Program Inventory is available in the [GC InfoBase](#)<sup>xviii</sup>.

<sup>10</sup> Some of the planned advisory processes were deferred due to COVID-19 restrictions and other challenges or were withdrawn.

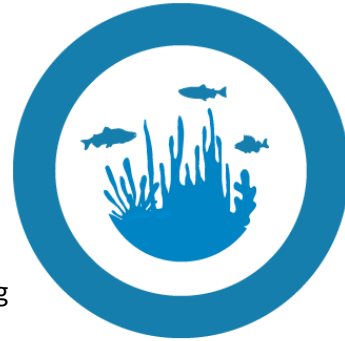
<sup>11</sup> Some of the planned advisory processes were deferred due to COVID-19 restrictions and other challenges or were withdrawn.



## Aquatic Ecosystems

### Description

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



### 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
- Enhanced relationships with, involvement of, and outcomes for Indigenous people.

The indicators used to measure progress towards these results appear in the [Results Achieved](#) table on page 28.

DFO conserves and protects the health of Canada's oceans and other aquatic ecosystems. Programs in the Aquatic Ecosystems core responsibility include: work to protect marine habitats and species at risk; detect and manage aquatic invasive species; and conduct scientific research to support decision-making. Key initiatives for 2020-21 included: building on the success in conserving 13.81 per cent of Canada's marine and coastal areas and beginning to implement the mandate commitment to conserve 25 per cent of Canada's oceans, as well as implementing the new provisions of the modernized *Fisheries Act*. DFO also managed a recent infestation of invasive zebra mussels found on aquarium products and the impacts of COVID-19 on the Department's activities and responsibilities. More information on these and other initiatives can be found below.



### Oceans Management

After exceeding the 2020 goal of protecting 10 per cent of Canada's marine and coastal areas, the Department continued its collaborative work with provinces, territories, Indigenous governments, and local communities to achieve a new ambitious target of conserving 25 per cent by 2025, working towards 30 per cent by 2030. This work will be achieved through the establishment of new marine protected areas (MPAs) and other effective area-based conservation measures (OECMs), including marine refuges, that align with Canada's new protection standards. The establishment of new sites and effective management of existing MPAs and OECMs will strengthen the conservation and protection of important marine ecosystems. As of 2020-21, DFO has established 59 marine refuges, 14 MPAs under the *Oceans Act*, and supported the conservation of areas established by the Parks Canada Agency and Environment and Climate Change Canada.

In 2020-21, DFO developed a nationally standardized **environmental DNA<sup>12</sup> (eDNA)** tool to provide cost effective and non-destructive (to ocean floor or rare species) approach to monitor species diversity in Canada's **Marine Protected Areas**. DFO's work has made Canada one of the first countries to use remote sampling technologies to collect eDNA from the **deep sea**, at a depth of 2 to 3 kilometres.

Collaboration and coordination are key elements of **marine spatial planning (MSP)** in Canada's three oceans. MSP processes bring together relevant authorities to better coordinate how marine spaces are used and managed to achieve ecological, economic, and social objectives. This, in turn, supports biodiversity and strengthens marine ecosystems to resist, recover from, or adapt to, disturbances. To that end, in 2020-21, DFO continued to engage with its federal, provincial, and Indigenous partners to support the advancement of MSP, including the involvement of Indigenous partners in MSP through the provision of dedicated funding to communities and organizations to support capacity building and expertise. In 2020, the Newfoundland and Labrador government committed to advancing MSP through the federal/provincial governance mechanism and has signed a governance/engagement structure to that effect.

At home and abroad, the Department continued to work collaboratively to fight climate change and to protect the environment. The abovementioned targets of protecting 25 per cent of Canada's marine and coastal areas by 2025 and 30 per cent of these areas by 2030 contribute to a whole-of-government approach to the implementation of the **United Nations 2030 Agenda for Sustainable Development** by supporting Goal 14: Life Below Water. In July 2020, the Minister announced that Canada had joined the Global Ocean Alliance to work with other countries to advocate for a global target of 30 per cent marine

conservation by 2030 under the Convention on Biological Diversity (CBD). In collaboration with Environment and Climate Change Canada, the Department also engaged through the CBD to develop new biodiversity targets, including for marine conservation. These new targets are expected to be adopted at the 15<sup>th</sup> Conference of Parties in Kunming, China in 2022. To help developing countries better manage their marine conservation areas, the Department provided financial support to Global Fishing Watch for the development of their marine manager program. Additionally, in collaboration with other government departments, DFO officials also participated in the Ocean Dialogues held in December 2020 under the UN Framework Convention on Climate Change to improve understanding of the links between ocean and climate.

**DID YOU KNOW?**



Vital information about the ocean is often fragmented across scientific domains, policy frameworks, sectors, and institutions. **Ocean Accounts** aim to provide a standard approach to measure the environmental, economic, and social aspects of the ocean will support integrated decision-making to encourage sustainable use.

<sup>12</sup> Environmental DNA (eDNA) refers to molecules of DNA shed from organisms that are found in the environment and can be detected in a simple water or sediment sample. By analyzing eDNA, species present can be identified using only trace amounts of DNA in the sample, even from incomplete DNA.

There has been a substantial increase in human-induced noise emissions in the global marine environment over the past several decades, as well as better awareness of, and concern over, the effects associated with this noise. As many organizations in Canada and around the world are working to better understand and manage this issue, the Government is committed to develop an Ocean Noise Strategy for Canada to establish a long-term roadmap and coordinated whole-of-government approach to address the increase in human-induced noise. A discussion paper was published in fall 2020 presenting a proposed framework for a draft Ocean Noise Strategy for Canada. The document was available to the general public between October 12, 2020 and January 10, 2021.

DFO provided support to the Deputy Clerk of the Privy Council in her role as representative for Canada to the **High Level Panel for a Sustainable Ocean Economy** (HLP). The HLP consists of 14 world leaders committed to bold transformations towards a sustainable ocean economy, where environmental protection and economic prosperity go hand in hand, and which supports Agenda 2030 and the Sustainable Development Goals. In support of Canada's global leadership on oceans issues, Canada participated in the negotiation of the Panel's [Transformations for a Sustainable Ocean Economy: A Vision for Protection, Production, and Prosperity](#)<sup>xix</sup>, which was endorsed by the Prime Minister and released on December 2, 2020.

In 2020-21, DFO worked with Statistics Canada and the Global Ocean Accounts Partnership (GOAP) to support national, regional, and global efforts in a pilot project on **ocean accounting** and capacity building within Canada and in developing countries. The development of ocean accounts is important for informing policy discussions that aim, among other things, to ensure that future coastal development is based on a complete accounting of the value of natural and produced assets, and that the depletion of natural assets is mitigated and compensated. DFO participated and presented in four international events to promote the development and implementation of Ocean Accounts and share experiences in this area. DFO also joined the Economic and Social Commission for Asia and the Pacific (UN-ESCAP, one of the five regional commissions of the United Nations) in its submission to the United Nation Statistical Commission (UNSC) to further develop methodology for ocean accounting, including the development of a SEEA-Ocean (a system of environmental-economic accounting). UNSC is now working on developing SEEA-Ocean, and DFO, in collaboration with Statistics Canada, UN-ESCAP, and GOAP, will be reviewing the resulting technical documents.

In 2020-21, DFO adjusted the delivery of the **Coastal Restoration Fund** program based on lessons learned through a March 2020 workshop with program recipients, including Indigenous and community groups, non-profit organizations, and the research community. In response, the program:

- established a standardized contribution agreement now used by all Ecosystem Management and Biodiversity Management transfer payment programs;
- developed a clear guidance document for all of these programs; and
- provided training sessions for recipients and regions to ensure everyone involved understood the process for developing contribution agreements.

In 2020-21, however, many Coastal Restoration Fund projects were impacted by the COVID-19 pandemic, resulting in the transfer of funds to the following year to allow recipients the flexibility to better achieve their objectives.

DFO continued to work on responses to recommendations from the **2017-18 Evaluation of the Oceans Management Program** but encountered delays in 2020-21 due to COVID-19. DFO worked on draft Marine Conservation Ecological Risk Management Guidance to provide guidance on risk principles, framework elements, and technical process requirements for conducting ecological risk management in a marine conservation context. DFO also worked on developing marine atlases in order to support planning and management processes by supplying decision-makers with relevant information. The atlases will show human activity and environmental features based on scientific, socioeconomic, and cultural information.

In support of the previous Minister's mandate letter commitment on the implementation of the **G7 Charlevoix Blueprint for Healthy Oceans, Seas, and Resilient Coastal Communities**, DFO formally established its Ocean Decade project office and Canada confirmed its membership in the Ocean Decade Alliance. This office helps build scientific capacity, and enhances cooperation and communication among stakeholders.

DFO also continued to implement the **Ocean Plastics Charter**, as per the previous Minister's mandate letter, including efforts to increase the availability of ocean science data and supporting strategies to protect and manage vulnerable areas of our oceans and resources, as well as pursuing commitments to improve gender-response, food security, and environmentally sustainable fisheries management for healthy, resilient, and adaptive coastal communities.

DFO is contributing \$300,000 over three years to the International Hydrographic Organization for its Empowering Women in Hydrography project. Hydrography brings together elements of science, technology, engineering, and mathematics (STEM), areas in which women have been traditionally underrepresented, particularly at the more advanced career levels and in governance positions. This project seeks to create an environment within the hydrographic community that is more inclusive and supports pathways for women to leadership and decision-making roles.

**DID YOU KNOW?**



Canada, led by DFO, provided leadership in advancing **gender equity** in the context of the Ocean Decade by providing financial support to a variety of projects focused on empowering women and girls in ocean science. DFO also co-hosted three virtual sessions under the Virtual Ocean Decade series that focused on different aspects of advancing gender equity in ocean science.

### **Fish and Fish Habitat Protection**

Following the coming into force of the **modernized Fisheries Act** in 2019, the Department worked on implementing the new fish and fish habitat protection provisions, developing new guidance, and refining existing policies to ensure that negative impacts on Canada's aquatic ecosystems are minimized or avoided. DFO developed the 2020-21 Engagement Plan, launched the "**Talk Fish Habitat**"<sup>xxx</sup> platform, and conducted Wave One external engagement on six program areas with Indigenous Peoples, interested Canadians, and partners. DFO began drafting the Ecosystem Management Engagement Framework to underscore this engagement with Canadians on policy, program, and regulatory changes in order to implement changes to the *Fisheries Act* in support of the then Minister's mandate commitment.

In addition, the Department continued the revitalization of the **Fish and Fish Habitat Protection Program** (FFHPP) through a number of activities, including:

- improving DFO's ability to assess and report on the health and status of fish and fish habitat using geospatial data;
- developing a process for identifying, establishing, and managing Ecologically Significant Areas; and
- releasing version 2.0 of the *Fisheries Act* Registry (enhanced search, mapping features, and content, etc.) on the [Common Project Search](#)<sup>xxi</sup>. In doing so, DFO joined other departments in making project-based information tied to respective legislation publicly accessible.

DFO defined a shared vision for establishing conservation, protection, and restoration priorities and objectives; identifying sensitive habitats; and understanding the needs and objectives of resources users.

DFO launched a second round for applications for contribution funding under the **Indigenous Habitat Participation Program** to support participation of Indigenous peoples in the conservation and protection of fish and fish habitat. The Department received over 160 applications and was able to support over 90 proposals. Delays in funding decisions and the impacts of COVID-19 impacted recipients' ability to carry out some project activities in 2020-21, but flexibility required to manage within the COVID-19 pandemic were applied to ensure that recipients of 2020-21 funding could carry out their projects to the extent possible.

### Species at Risk

The Department continued to contribute to the whole-of-government approach toward the implementation of the **United Nations 2030 Agenda for Sustainable Development** Goal 14: Life Below Water and Goal 15: Life on Land, both of which highlight the importance of conserving biodiversity.

In 2020-21, DFO continued to work with federal, provincial, and Indigenous partners, as well as key stakeholder and resource user groups, to implement the Government of Canada's historic investment in a **Nature Legacy for Canada**. This initiative aims to transform the way that aquatic species at risk are protected and recovered by supporting multi-species, place, and threat-based approaches.

The Nature Legacy for Canada initiative provided DFO with new and renewed funding necessary to implement its statutory *Species at Risk Act* obligations to protect and recover species at risk through assessment, listing, recovery planning, protection, recovery implementation, permitting, monitoring, and reporting. For 2020-21, results include:

- Continuing to make significant improvements in meeting statutory obligations by addressing the backlog of recovery document publications and successfully increasing the number of critical habitat orders. Required recovery documents were published for 14 species at risk, and 5 critical habitat orders were made. As of March 31, 2021, critical habitat had been protected for 47 species, a significant increase from 13 species in 2018;
- Supporting and building relationships with Indigenous Peoples, provinces and territories, industry, and other partners by supporting multi-species, threat, and place-based stewardship actions through the Canada Nature Fund for Aquatic Species at Risk. In 2020-21, over 50 multi year projects were funded across Canada that benefit over one hundred aquatic species at risk; and

- Approximately \$1.5 million in science funding for research projects starting in 2020-21 that identify key knowledge gaps in relation to multi-species, place-based, and/or threats-based approaches to species at risk recovery, and measure efficacy of recovery measures and threat abatement actions.

The Government of Canada's **Whales Initiative** covers a range of departmental activities related to the understanding and management of whales in Canadian waters, with a focus on endangered populations. In 2020-21, DFO improved its approach to extending fishing area closures and developing new vessel management measures for the Gulf of St. Lawrence. This included the introduction of a seasonal restricted area in the Shediac Valley, as well as a trial slowdown through Cabot Strait at the beginning and end of the season. DFO also published a [Species at Risk Act action plan](#)<sup>xxii</sup> that includes measures to address threats to North Atlantic Right Whales (NARW) and monitor their recovery.

## DID YOU KNOW?



DFO scientists at the Maurice Lamontagne Institute in Québec developed a system to detect the presence of right whales 24/7 by tracking the specific sounds they emit in near real-time, and sending this information over the internet for validation by marine mammal experts. DFO recorded 1,064 definite acoustic detections between May and November, 2020.

As well, a more formalized process was established between DFO and Indigenous groups to support engagement for the Southern Resident Killer Whale (SRKW) management measure process. This process is working towards:

- increased transparency and inclusivity in the management measure process;
- increased information sharing, including science research and priorities, and linkages to other related processes;
- enabling of participation by communicating availability of capacity funding;
- the scoping and analysis of management measures and recovery actions;
- advancing knowledge and incorporating this information to support the population's recovery, including Indigenous knowledge; and
- identification of opportunities to integrate and learn from other related processes.

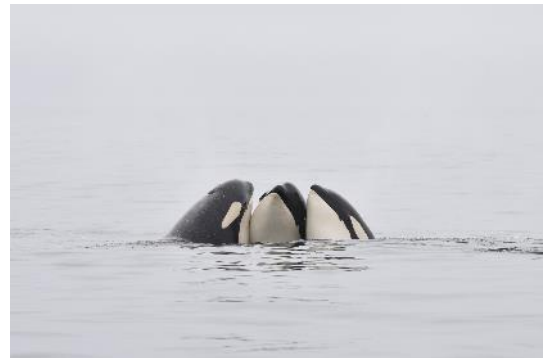


Photo credit: Fisheries and Oceans Canada (K. Gavrilchuk)

### Aquatic Invasive Species

Despite challenges related to the COVID-19 pandemic, DFO quickly addressed a new introduction of the invasive **zebra mussel** that was traced back to imported aquarium moss balls. Zebra mussels are native to the Black and Caspian seas region in southeastern Europe and it is illegal to import them under the *Aquatic Invasive Species Regulations*. Zebra mussels procreate very rapidly to compete with native mussels, affect water quality, and cause millions of dollars in damage every year by clogging intake structures in power stations and water treatment plants, as well as damaging watercrafts. The Incident Command System (ICS) was used to effectively and efficiently respond to and stabilize the incident to prevent new spread of this species. A sustained action plan and enforcement plan continue to help safeguard Canada from this threat through retailer spot checks and importer monitoring with the Canada Border Services Agency.

DFO and its partners successfully put in place all planned physical barriers to sea lamprey migration and successfully applied lampricide to a number of tributaries, including the St. Marys River and the Garden River. Both are significant sea lamprey nursery streams.

DFO continued to work with partners to leverage existing resources and to fund partnership projects that address the threat of aquatic invasive species.

DFO's work to develop policies and tools to integrate the ***Aquatic Invasive Species Regulations*** into the Aquatic Ecosystems regulatory environment was also completed in 2020-21. In addition, the Department continued to foster and further develop relationships with federal, provincial, and territorial partners through the National Aquatic Invasive Species Committee (NAISC) in 2020-21 and continued to address the recommendations of the Commissioner of the Environment and Sustainable Development (CESD). This included continued promotion of nationally consistent messaging with the NAISC for the "[Don't Let it Loose<sup>xxiii</sup>](#)" communication tool-kit to help prevent the release of aquarium fish and plants, live bait fish, live food fish, and other non-indigenous aquatic species into Canadian waters.

### Science

In support of the Government of Canada's response to the COVID-19 pandemic, the Aquatic Animal Health Laboratory at the Gulf Fisheries Centre in Moncton was designated for surge-testing for the detection of SARS-COV-2 on behalf of the Public Health Agency of Canada (PHAC). The laboratory staff quickly adjusted to the new requirements, made changes to the physical



laboratory environment, and completed the necessary specialized training. All National Aquatic Animal Health laboratories also reallocated critical testing equipment and supplies to PHAC to support broader COVID-19 testing for Canadians. Throughout, DFO continued to provide timely diagnostic service to the Canadian Food Inspection Agency to ensure continued protection of Canada's wild and cultured aquatic resources and to avoid any impact of the pandemic on the domestic and international movement of aquatic animals.

As DFO's scientific work is very hands-on, it was significantly impacted in 2020-21 due to the COVID-19 pandemic. For example, in the Arctic Region, travel restrictions made it difficult for **science programs** to be delivered in the usual manner. However, by leveraging its strong connections and co-management collaborations with partners and stakeholders in the Arctic, DFO's successfully devised ways for communities to lead and carry out research and monitoring work in the field, resulting in the safe continuation of important science in the Arctic. Also, to continue the provision of science advice to manage Canada's marine resources, DFO and Coast Guard implemented COVID-19 protocols on vessels to ensure that at-sea science missions could be carried out safely throughout the year.

Through a national peer review process in 2020, DFO produced **Canada's first set of environmental DNA (eDNA) guidelines** on reporting standards to provide consistent, high-quality, cost-effective data as well as guidance on interpretation of these data for species at risk and aquatic invasive species management. These standards will support the development of new, non-destructive means to detect both invasive species and species at risk.

The Inuit Engagement framework guides the Arctic Region's use and collection of Traditional Ecological Knowledge. This framework provides a set of preliminary principles for discussions within DFO, with Indigenous organizations, and eventually with the public. It will guide the development of a policy for the respectful and beneficial inclusion of Indigenous knowledge. The final step in creating the framework will be to engage with Arctic Indigenous groups. This final step has been delayed due to the COVID-19 pandemic.

### Key Risks

Despite the constraints posed primarily by COVID-19 over the last year, work under this Core Responsibility continued. The Department encountered difficulties moving horizontal work forward, such as research projects, internal and external engagements, as well as international projects. To address delays in transfer payment program delivery, the Department adopted more flexible policies and/or standards and modified some funding distribution decisions. DFO will continue to monitor any potential risks and implement mitigation strategies where appropriate to ensure its ability to continue to deliver results under this Core Responsibility.

### Gender-based Analysis Plus



The **Coastal Restoration Fund** is a national program that focuses on investments in coastal and in-land communities to support restoration efforts to protect and restore

Canada's coastal areas, as well as to address threats to marine species. As of 2020-21, 37 per cent of the program's projects were led by Indigenous organizations, and almost 100 per cent of projects involve Indigenous groups in the planning, development, and implementation of their projects.

### Experimentation



Maritimes Region's **Partnership and Collaboration Research Hub** completed its second year of a three-year pilot project aimed at allowing DFO to more readily identify and pursue regional opportunities with external partners to strategically leverage the scientific and socioeconomic types of research and technological developments to advance the Department's mandate. For example, the Hub facilitated DFO's support for innovative projects with science and technology companies funded through Canada's Ocean Supercluster, hosted a virtual United Kingdom Robotics Mission, and organized ongoing discussions and collaborative projects with the Ocean Frontier Institute for the integration of social sciences and humanities research and advice to better support DFO's consideration of social and cultural factors in evidence-based decision-making.

## DID YOU KNOW?




In 2020-21, DFO scientists Dr. Steve Ferguson and Dr. David Yurkowski were contributing authors of a remarkable research paper in one of the world's most renowned journals, *Science*. Along with 146 colleagues from around the globe, their paper, **Ecological insights from three decades of animal movement tracking across a changing Arctic**<sup>xi</sup>, presents the new **Arctic Animal Movement Archive**<sup>xii</sup>, a collection of more than 200 standardized terrestrial and marine animal tracking studies, including DFO data from 1991 to the present. The paper focuses on changes in life cycle timing, reproduction, and movement in response to climate change. Ontario and Prairie and Arctic IRR input. In addition, in January 2021, the Newfoundland and Labrador Region, in collaboration with Nunatsiavut Government (NG) employees and beneficiaries, published a Canadian Science Advisory Report entitled **Biophysical and ecological overview of a study area within the Labrador Inuit Settlement Area Zone**<sup>xiii</sup>. The report fully integrates local Indigenous knowledge for the coast of Labrador with western science. The report was also published in Inuktitut. The success of the research led NG to propose this as a model for other integrated knowledge initiatives.



## 2030 Agenda for Sustainable Development

For additional information on how the Department is advancing the United Nations Sustainable Development Goals, please refer to [Fisheries and Oceans Canada's 2020-21 Departmental Sustainable Development Strategy Report](#)<sup>xxiv</sup>.

### Results Achieved

 Departmental Results	Performance Indicators	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 25% by 2025	2018-19: 7.92% 2019-20: 13.81% 2020-21: 13.81%
	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, 2021	2018-19: 100% 2019-20: 93% 2020-21: 95% <sup>13</sup>
	Percentage of aquatic species/populations at risk listed under the <i>Species at Risk Act</i> for which a recovery strategy/management plan is completed	Greater than or equal to 80% by March 31, 2023	2018-19: 75% 2019-20: 81% 2020-21: 86%
	Percentage of approved requests for science advice on aquatic invasive species that are completed	Greater than or equal to 90% by March 31, 2021	2018-19: 90% 2019-20: 67% <sup>14</sup> 2020-21: 67% <sup>15</sup>
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, 2021	2018-19: 60 2019-20: 60 2020-21: 60
	Percentage of scheduled science advisory processes on aquatic ecosystems that were completed	Greater than or equal to 90% by March 31, 2021	2018-19: 100% 2019-20: 77% <sup>16</sup> 2020-21: 77% <sup>17</sup>
Enhanced relationships with, involvement of, and outcomes for Indigenous people	Number of agreements / arrangements involving Indigenous groups	20 by March 31, 2021	2018-19: N/A 2019-20: N/A 2020-21: 52
	Number of Indigenous people trained through agreements / arrangements	5 by March 31, 2021	2018-19: N/A 2019-20: N/A 2020-21: Data not available <sup>18</sup>
	Number of Indigenous people employed through agreements / arrangements	2 by March 31, 2021	2018-19: N/A 2019-20: N/A 2020-21: Data not available <sup>19</sup>

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

<sup>13</sup> Of the 613 projects monitored, 31 projects were assessed as having compliance and effectiveness measures that were not adequate.

<sup>14</sup> 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.

<sup>15</sup> Some of the planned advisory processes were deferred due to COVID-19 restrictions and other challenges or were withdrawn.


<sup>16</sup> Some of the planned advisory processes were deferred due to COVID-19 restrictions and other challenges or were withdrawn.

<sup>17</sup> Some of the planned advisory processes were deferred due to COVID-19 restrictions and other challenges or were withdrawn.


<sup>18</sup> The program expects to be able to collect information on this indicator in September 2021.

<sup>19</sup> The program expects to be able to collect information on this indicator in September 2021.

**Budgetary Financial Resources (dollars)**

	2020-21 Main Estimates	2020-21 Planned Spending	2020-21 Total Authorities Available For Use	2020-21 Actual Spending (Authorities Used)	2020-21 Difference (Actual Spending Minus Planned Spending)
	331,009,945	331,009,945	403,415,532	354,805,497	23,795,552

**Human Resources (full-time equivalents)**

	2020-21 Planned FTE	2020-21 Actual FTE	2020-21 Difference (Actual full-time equivalents minus Planned full-time equivalents)
	1,460	1,607	147

Financial, human resources and performance information for Fisheries and Oceans Canada's Program Inventory is available in the [GC InfoBase<sup>xxv</sup>](#).

## Marine Navigation

### Description

Provide information and services to facilitate navigation in Canadian waters.



### Results

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

- mariners safely navigate Canada's waters;
- a Canadian maritime economy that is supported by navigable waters; and
- enhanced relationships with, involvement of, and outcomes for Indigenous people.

The indicators used to measure progress towards these results appear in the [Results Achieved](#) table on page 33.



DFO and the Coast Guard support safety and navigation for mariners in Canada's waters. This includes the charting and managing of waterways, as well as the management of navigational and icebreaking services. Key initiatives for 2020-21 included testing remote hydrography and implementing new and experimental lighted buoys for better awareness on the water. More information on these and other initiatives can be found below.

While many Coast Guard employees transitioned to remote work at the start of the pandemic, marine navigation programs employees continued to deliver critical services and support safe and efficient navigation in Canadian waters 24/7/365. Marine Communications and Traffic Services (MCTS) centres, the Aids to Navigation (AtoN) program, icebreaking and lightstation operations in particular maintained consistent operations and services to the marine community throughout the pandemic.

DFO continued to support the safety of marine navigation through the collection of modern hydrographic data and the production of electronic charts for enhanced **electronic navigation**, which provides standardized information for digital systems. This included expanding the electronic chart coverage for the proposed Low Impact Shipping Corridors in order to support safe and efficient navigation for vessels operating in Canada's Arctic waters (including for the resupply of communities or for tourism activities). The Department has completed the bathymetric surveys of 23 high-traffic ports and waterways, and completed electronic charts for 17 of these ports. The electronic charts for the remaining six ports will be completed by March 31, 2022. DFO also

### DID YOU KNOW?



**Electronic navigation** (E-navigation) is the collection, integration, exchange, presentation, and analysis of marine information on-board and ashore by electronic means to enhance navigation and related services for safety and security at sea and protection of the marine environment.

continued work on the development of **dynamic, real-time e-navigation products** (tides, currents and water levels) for six ports: Kitimat, Port Metro-Vancouver, Fraser River Port, Straits of Canso, Port of St. John, and the St. Lawrence River.

In 2020-21, DFO also released the Canadian Hydrographic Service **Non-Navigational Bathymetric Data** (NONNA-10), a ten metre resolution bathymetric (underwater topography) data set that represents a ten-fold improvement in detail over the 100-metre resolution data currently available to the general public. The release of NONNA-10 also marks the first time that a complete inventory of bathymetric data is available free of charge to the general public at such high resolution.

The COVID-19 pandemic resulted in the restriction of travel and the number of people onboard ships. In response, DFO tested the use of **remote hydrography** to operate the data acquisition and data processing systems installed onboard the survey vessel, *Jean Bourdon*. Hydrographers controlled the systems from their home offices while the vessel was sailing 300 to 400 kilometres away, successfully completing critical surveys in the St. Lawrence River Ship Channel despite the limitations caused by the pandemic.

Coast Guard made progress on the procurement phase of the **four-season lighted buoys** project, which involved upgrading a seasonal two-buoy system in the St. Lawrence River to a more cost-effective year-round, single-buoy system. 152 buoys have been deployed to date, with approximately 30 spares to up keep the life cycle management rotation.

Coast Guard is exploring options for the future replacement of its **Aids to Navigation (AtoN)**<sup>xxvi</sup> **Program Information System** with a modernized information technology system that meets future program requirements and international maritime data standards while facilitating improved access to up-to-date data and improved security.

Coast Guard maintains an **e-navigation portal**<sup>xxvii</sup> 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 now the portal is available to all Canadians, supporting voyage planning for mariners by providing accurate and timely maritime information.

**DID YOU KNOW?**



**Bathymetric data** can also be used by marine biologists, marine engineers, and those studying oceanography and marine ecosystems to enable non-navigation blue economy activities such as research on fish and marine mammal habitat, earthquake and fault studies, coastal planning, and ecosystems management.



Photo credit: Fisheries and Oceans Canada (F. Lévesque-Gagnon)

The Coast Guard, the Canadian Hydrographic Service, and Transport Canada engaged with Inuit, First Nations, and Métis organizations that seek to enhance marine safety and minimize potential effects on environmentally and culturally sensitive areas in the **Low Impact Shipping Corridor in the Arctic**, and made progress toward determining a governance model for managing these areas. The group drafted example governance models based on feedback solicited from these groups since 2018.

## Key Risks

Over the last year, COVID-19 created challenges related to staffing and recruitment efforts, as the Department was unable to leverage in-person recruitment events as it had in previous years. Coast Guard developed and implemented a National Recruitment Strategy, which shifted its recruitment efforts to the establishment of an online social media presence and held two advertising campaigns to inform and attract candidates. DFO also faced challenges in delivering in-person training to its employees. To mitigate this risk, the Department modified its training delivery method, making a focused effort to shift toward a virtual environment. DFO will continue to monitor these and other potential risks, including tracking current technology being used for marine navigation and implement mitigation strategies where appropriate to ensure its ability to provide information and services to facilitate navigation in Canadian waters.

## Gender-based Analysis Plus



The Coast Guard undertook a **gender parity assessment** with Women in Governance (WiG), a not-for-profit organization that supports leadership development, career advancement, and access to board seats for women. This was done to help ensure that women in the Coast Guard:

- are increasingly represented in areas where they have historically been underrepresented;
- have equal opportunities;
- are in more leadership roles; and
- are supported throughout their career development.

The next steps are to conduct a deeper analysis of the questionnaire results and work collaboratively with representatives from across the Coast Guard and WiG to develop an action plan with the goal of improving the silver rating in two years' time.

## Experimentation




Coast Guard completed the design of a new, smaller and lighter version of the **four-season buoy** and received positive feedback from mariners following testing in the St. Lawrence and Great Lakes sectors.

## 2030 Agenda for Sustainable Development

For additional information on how the Department is advancing the United Nations Sustainable Development Goals, please refer to [Fisheries and Oceans Canada's 2020-21 Departmental Sustainable Development Strategy Report](#)<sup>xxviii</sup>.

## Results Achieved

 Departmental Results	Performance Indicators	Target	Actual Results
Mariners safely navigate Canada's waters	Rate of marine incidents versus vessel movements	Less than 1% by March 31, 2021	2018-19: 0.03% 2019-20: 0.02% 2020-21: 0.03%
	Number of official navigational products created and/or updated from incorporation of new and/or archived modern hydrography per year in key areas	Greater than or equal to 200 by March 31, 2021	2018-19: 824 2019-20: 669 2020-21: 673
A Canadian maritime economy that is supported by navigable waters	Rate of marine incidents versus vessel movements	Less than 1% by March 31, 2021	2018-19: 0.03% 2019-20: 0.02% 2020-21: 0.03%
	Percentage of ship ice escort requests south of the 60th parallel north that are delayed beyond level of service response time standards	0% by March 31, 2021	2018-19: 8.2% 2019-20: 1.4% <sup>20</sup> 2020-21: 4% <sup>21</sup>
	Average time beyond level of service response time standards for ice escort requests south of the 60th parallel north	0 by March 31, 2021	2018-19: 22 2019-20: 6.23 <sup>22</sup> 2020-21: 33.03 <sup>23</sup>
Enhanced relationships with, involvement of, and outcomes for Indigenous people	Number of agreements / arrangements involving Indigenous groups	To be established for 2021-22	2018-19: N/A 2019-20: N/A 2020-21: Data not available
	Number of Indigenous people employed through agreements / arrangements	To be established for 2022-23	2018-19: N/A 2019-20: N/A 2020-21: Data not available

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


<sup>20</sup> 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.

<sup>21</sup> Of the 161 escort requests received in 2020-21, 6 were delayed.


<sup>22</sup> The icebreaking program experienced four delays out of 284 requests. Coast Guard achieved a high rate of success, given the challenging operational environment, and in comparison to previous years.

<sup>23</sup> There were a total of six delays totaling 198.17 hours beyond levels of service (79.18 hours in Atlantic, 0.62 hours in St-Lawrence, 118.37 hours in Great Lakes), for an average time of 33.03 hours.

### Budgetary Financial Resources (dollars)

	2020-21 Main Estimates	2020-21 Planned Spending	2020-21 Total Authorities Available For Use	2020-21 Actual Spending (Authorities Used)	2020-21 Difference (Actual Spending Minus Planned Spending)
	324,692,710	324,692,710	366,608,672	285,902,876	-38,789,834

### Human Resources (full-time equivalents)

	2020-21 Planned FTE	2020-21 Actual FTE	2020-21 Difference (Actual full-time equivalents minus Planned full-time equivalents)
	1,830	1,826	-4

Financial, human resources and performance information for Fisheries and Oceans Canada's Program Inventory is available in the [GC InfoBase](#)<sup>xxix</sup>.

# Marine Operations and Response



## Description

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

## 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
- enhanced relationships with, involvement of, and outcomes for Indigenous people.

The indicators used to measure progress towards these results appear in the [Results Achieved](#) table on page 43.

DFO and the Coast Guard 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 continued to work towards having the equipment and fleet needed to perform its duties. The Coast Guard also ensured it had the specialized staff needed to perform these important duties, and continued its work to ensure that its people have the support and training needed for a strong fleet today and in the future. More information on these and other initiatives can be found below.

Coast Guard's **National Emergency Coordination Centre** (NECC) was instrumental in mounting and sustaining the response to COVID-19. The NECC coordinated engagement with other federal departments and agencies to ensure the Coast Guard was integrated into the broader federal response plan. This included:

- providing advanced warning notifications through Marine Communications and Traffic Services centres at the regional level;
- ensuring the safe continuity of operations and uninterrupted services to Canadians while prioritizing the health and safety of the Coast Guard personnel;
- providing Personal Protective Equipment (PPE) to ensure the health and safety of Coast Guard personnel and the communities we serve; and
- developing a series of national directives and procedures to better inform planning and response options for Coast Guard's internal policies in safeguarding its people and assets.

Coast Guard was also part of the Government of Canada's collaborative effort, the Boats and Borders Initiative, the aim of which was to enforce Canada's interim order to restrict passenger vessels during COVID-19. In this capacity, the Coast Guard contributed to the Recognized Maritime Picture<sup>24</sup>, which facilitated enforcement actions by other departments and agencies.

<sup>24</sup> The Recognized Maritime Picture is compiled by combining a variety of sources of information (weather, tides, etc.) with reports from naval ships and military aircraft in their areas of operation.



### Search and Rescue and Environmental Response

The Coast Guard has continued to provide maritime search and rescue (SAR) services on the water throughout the COVID-19 pandemic. This year saw an increase in recreational boaters across Canada as people looked for safe ways to get outdoors, which led to increased calls for response. SAR vessels employed COVID-19 protocols both to keep the crew and mariners safe and fit to operate their vessels. The inshore rescue boat program continued to safely bring together summer students from across Canada and get them on the water to respond during the busy summer boating season. SAR preparedness activities such as training of the Coast Guard Auxiliary and other partners continued with appropriate protocols, as well as helping to ensure the crucial volunteer base for maritime SAR could safely and effectively participate.



Implementation work also progressed well on the new **Environmental Response Equipment Life Cycle Management Program**, which includes both preventive and corrective maintenance measures to keep environmental response vessels, equipment, and other assets in proper working order and ready to be deployed when required. In 2020-21, the team:

- developed a suite of national governance documents, such as an overarching roles and responsibilities document and national service level agreements; and
- accepted delivery of new equipment under the Oceans Protection Plan and developed the associated maintenance plan.

The Coast Guard asserted Arctic leadership serving as incoming chair, and separately, Head of Canadian Delegation, for the Arctic Council's Emergency Prevention, Preparedness and Response (EPPR) working group. Semi-annual EPPR meetings assemble expertise from all eight Arctic states, six Indigenous permanent participants, and 38 observers to foster international collaboration through dialogue and collective action that improves the outcomes of pollution and SAR incidents and the safety and security of mariners and inhabitants across the circumpolar Arctic. EPPR projects are designed to help address gaps, prepare strategies, exchange information, and conduct exercises to test and practice procedures. For example, the



Arctic Guardian emergency response exercise joined together the policy-oriented EPPR with the operations-oriented Arctic Coast Guard Forum in a series of virtual exercises coordinating an international response to an accident at sea. In preparation for assuming the EPPR Chairship on behalf of Canada, the Coast Guard developed a 2021-23 work plan to promote diversity and inclusion, increase Indigenous engagement, and advance Canadian priorities and values.

As a member of the North Pacific Coast Guard Forum (NPCGF), the Coast Guard was scheduled to host the Multilateral Multi-mission Exercise (MMEX) in Vancouver, British Columbia in June 2020. Due to the restrictions associated with the ongoing COVID-19 pandemic, and for the safety of participants, the MMEX was shifted to October 2021, where NPCGF delegations participated virtually in a tabletop exercise based on a migrant vessel scenario. This MMEX allowed Canada to demonstrate a whole-of-Government response and provided an opportunity for NPCGF delegations to share lessons learned, best practices, and areas for improvement. The event rolled out smoothly and was well received by all parties who participated.

The Coast Guard works in close cooperation with other federal **maritime security** partners at Marine Security Operation Centres (MSOCs) to collaborate on a daily basis to ensure maritime domain awareness. These centres assist an extended network of partners and agencies such as Global Affairs Canada (GAC) and the Canada Border Services Agency, to achieve their goals through the capacity building efforts. While COVID-19 travel restrictions meant Coast Guard personnel were unable to deploy to Africa under the program, progress was made in the delivery of the 2020-21 work plan, which took place virtually over a two-week period.

The Coast Guard continued its support for the Inuit Marine Monitoring Program in 2020-21, in partnership with Nunavut Tunngavik Incorporated. The program seeks to increase marine domain awareness<sup>25</sup> in Nunavut through Inuit marine monitors and Automatic Identification System (a vessel tracking system) capacity. This program, and its monitors, supported the identification of foreign vessels in the Arctic Region.

In 2020-21, DFO published the results of an [evaluation of the Shore-based Asset Readiness Program](#)<sup>xxx</sup>. The Program is responsible for the life cycle management of non-fleet assets and for ensuring that these assets are available, capable and reliable. The Department developed a comprehensive action plan to address the recommendations. To date, the Department has reviewed the asset condition assessment methodology, updated Service Level Agreements with clients, and analyzed historical procurement needs in order to define organizational efficiencies and develop procurement tools. Once the recommendations have been implemented next summer, the Coast Guard will have improved its asset management practices. This in turn will optimize the availability and reliability of the Coast Guard's Marine Communication and Traffic Services, Aids to Navigation, and Environmental Response assets, which support Coast Guard's services to mariners.

### Reconciliation

The Coast Guard continued its work on advancing reconciliation through engagement and collaboration with Inuit, Métis, and First Nations governments and organizations on the boundaries of, and priorities for, service delivery in the **Arctic Region**. Coast Guard and DFO collaboratively developed draft terms of reference for Inuit Nunangat governance with Inuit Tapiriit Kanatami to advance priorities in the Region. In addition, Coast Guard negotiated contribution agreements with Inuit, First Nations, and Métis partners to support service delivery priorities and initiatives, as well as capacity in the Arctic Region.

---

<sup>25</sup> Marine domain awareness refers to true and timely information about everything on, under, related to, adjacent to, or bordering a sea, ocean, or other navigable waterway.

In 2020-21, DFO made progress on the commitment to support new **employment opportunities in the North**. The Department hired seven Inuit Community Engagement Coordinators who reside in remote communities across the Arctic Region who will enhance departmental communication with Northern communities, support regional capacity building, strengthen the consideration of Indigenous and local knowledge in decision-making, and enhance program and service delivery in the North. The Department also hired an Inuit Arctic Youth Council Coordinator in Iqaluit to lead the council.

The Coast Guard also expanded the **Inuit Marine Monitoring Program**, which seeks to enhance marine domain awareness in the Arctic, and support Nunavut Tunngavik Incorporated with \$250,000 in funding to allow for the provision of aquatic invasive species management services.

Under the **Oceans Protection Plan (OPP)**, the Coast Guard aligned its efforts with Transport Canada and their Indigenous partners in the design and implementation of the Enhanced Marine Situational Awareness system, which improves access to maritime information and data, including vessel traffic, for Indigenous peoples, coastal communities and other partners.

As a result of the meaningful, two-way dialogue that took place during the re-initiated Phase III consultations for the **Trans Mountain Expansion (TMX) Project**, the Government developed eight accommodation measures to address the concerns of potentially impacted Indigenous groups. As a contributor in the Government of Canada's response, the Coast Guard leads implementation of the **Co-Developing Community Response<sup>xxxi</sup>** accommodation measure, including having contributed to federal engagement strategies and the development of communication tools and information packages for Indigenous groups. The Coast Guard contacted all 33 eligible Indigenous groups along the TMX marine route to provide information on this accommodation measure. As of August 31, 2021, Coast Guard has signed contribution agreements with 16 Indigenous groups along the TMX marine route to address Indigenous groups' concerns about the risks of increased project-related tanker traffic to marine activities, the environment, and culturally important and sacred sites in their traditional territories. Ten Indigenous groups have taken training that enables them to participate in marine response exercises and 14 Indigenous groups have participated in marine response exercises. The Coast Guard also continues to promote opportunities for coastal communities, including Indigenous women and youth, to become more involved in marine response.

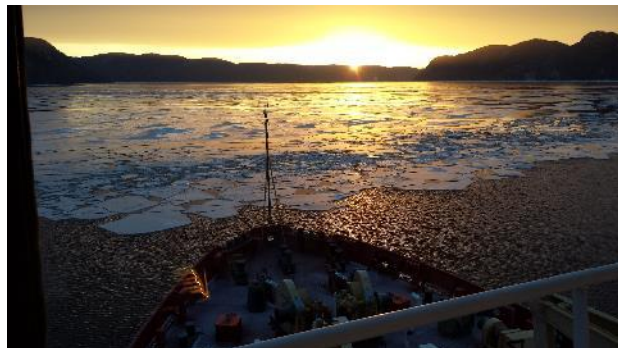
### Vessels of Concern

The **Wrecked, Abandoned or Hazardous Vessels Act** (WAHVA) enforces compliance and owner liability for problem vessels as part of the Oceans Protection Plan. The Act received Royal Assent in 2019, and in 2020-21, the Coast Guard worked to implement a comprehensive, national vessels of concern program, which addresses all types of vessels representing any form of hazard, be it environmental, safety and security-based, or socio-economic, in Canada's exclusive economic zone. Coast Guard officers investigate, hold vessel owners accountable to their legal responsibilities, and direct or take immediate action as required to ensure the environment is protected. The Coast Guard completed the development of a Risk Assessment Scoring Tool that will assist in the prioritization of vessels across the country based on the level of hazard a vessel presents. In 2020-21, 16 Coast Guard personnel were trained and officially designated as enforcement officers under WAHVA. In addition, under the National Strategy to Address Abandoned and Wrecked Vessels, the Coast Guard worked with Transport Canada to further develop an owner-financed, long-term remediation fund. The next step includes proposed legislative changes via WAHVA and the *Canada Shipping Act, 2001* (CSA, 2001) to permit the development of rules for the fund and allow it to begin collecting money through a direct, regular charge to vessel owners, thereby contributing to offsetting the cost of addressing abandoned and/or hazardous wrecked vessels nation wide.

### Fleet Renewal

DFO advanced work on the then Minister's mandate commitment to work with Public Services and Procurement Canada 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.

In 2020-21, DFO made progress on its **fleet renewal** initiative. In August 2020, Canada began exploring options to advance the design for the Multi-Purpose Vessels, which will enable the Coast Guard to carry out multiple missions, including icebreaking, search and rescue, emergency response, and aids to navigation. The third and final Offshore Fisheries Science Vessel, CCGS *John Cabot*, was received in October 2020, marking the successful completion of the first large shipbuilding project under the [National Shipbuilding Strategy](#)<sup>xxxii</sup> (NSS). The NSS, established in 2010, is a sustainable, long-term shipbuilding plan and has framed the procurement approach for the recapitalization of the Canadian Coast Guard and Royal Canadian Navy fleets. Also, two additional Search and Rescue Lifeboats, CCGS *Florenca Bay* and CCGS *Cadboro Bay*, were



**DID YOU KNOW?**



The [Nairobi International Convention on the Removal of Wrecks, 2007](#)<sup>lxiv</sup>, which came into law in Canada through WAHVA, makes vessel owners strictly liable for the costs of removing wrecks, if it's determined that they pose a hazard to the environment, local economy, safety of navigation, or Canada's coastlines. It does so by requiring owners of vessels 300 gross tonnes and above to maintain and carry proof of insurance capable of covering the potential costs related to wreck removal, as well as any losses that might be claimed as a result of the wreck.

received in October 2020. This brought the total number of Search and Rescue lifeboat deliveries to eight, out of the 20 currently under contract. In March 2021, Vancouver Shipyards started construction of the Offshore Oceanographic Science Vessel which is set to replace the aging CCGS *Hudson*. Finally, work progressed on the Arctic and Offshore Patrol Ships and Program Icebreaker projects throughout 2020-21.

Interim measures continued to progress during 2020-21 to help ensure service continuity until the replacement vessels can be delivered. Vessel life extension activities took place, working to prolong the lifespan of the existing Coast Guard fleet. The second of three medium icebreakers, CCGS *Jean Goodwill*, entered into service in November 2020 following conversion work. Additionally, a successful bidder was selected for the acquisition of a Light Icebreaker.

Canada is seeking to expand the NSS with a partnership with a third Canadian shipyard to enhance domestic shipbuilding capacity. In 2020-21, the qualification process with Chantier Davie continued to progress. Once selected, the third shipyard is expected to build the six Program Icebreakers and one Polar Icebreaker for Coast Guard.

### Personnel

The Coast Guard is committed to becoming a training and learning organization that is better positioned to recruit, develop, support, and retain employees. To fully develop a training and learning-oriented culture, the **Canadian Coast Guard College** (the College) took an active and intentional approach to identify training needs and develop training opportunities to ensure Coast Guard members are fully capable of delivering the critical programs and services on which Canadians depend. Specifically, in 2020-21, the College began implementing a new integrated Student Information System, which provides a centralized repository to effectively, efficiently, and accurately track, maintain, and report student information and learning progress. The College also introduced a Moodle Learning Management System (“OnCourse”) in May 2020 to facilitate the delivery of course material on-line in an asynchronous environment. Its launch was accelerated to ensure continuity of program delivery during the global pandemic. The system has more than 900 active users and over 200 college courses have been delivered online through OnCourse.

In 2019, the Coast Guard drafted a **Professional Development and Apprenticeship Program (PDAP)** for the national Environmental Response management teams, which will also be used as a template for future development and apprenticeship initiatives for other response programs and associated training.

Within the Personnel Branch, the Force Generation (FG) team was established to undertake analysis and build products specific to the Canadian Coast Guard’s unique operational profile to support the recruitment, retention, career development, and wellness of all members. Embedded in the new Personnel Branch, and combined with training governance being developed by the Coast Guard College, this represents an overall move toward a new people-based governance structure. The Environmental Response PDAP was a completed project by FG as one of those tools, scalable and repeatable.

The Force Generation team completed the following projects:

- Coast Guard People Strategy ;
- Administrative Portal; and
- Fleet Career Portal.

## Key Risks

Despite facing a variety of challenges due to COVID-19 during 2020-21, the Department continued its work under this core responsibility. The Department faced scheduling delays and a reduction in shipyards capabilities, as well as challenges in procuring equipment from national and international suppliers due to border restrictions. Progress on projects continued to move forward as strategies to meet federal and provincial restrictions were implemented to mitigate risks as much as possible. DFO/the Coast Guard continue to monitor any potential risks, including monitoring its fleet and continuing to update and implement the Vessel Life Extension Program, as well as implementing interim measures, including the planned acquisition of a light icebreaker and completing the conversion work on the medium icebreakers to ensure the ability to provide marine response services and operate Canada's civilian maritime fleet.



Photo credit: © S. Tremblay

## Gender-based Analysis Plus



Coast Guard is committed to becoming an increasingly **inclusive and diverse workplace** that fully represents the Canadians it serves. As part of an accessibility and ergonomics analysis, the Coast Guard re-assessed sightlines on its newest class of search and rescue lifeboats. As a result, console layouts, seating arrangements, and windscreen construction were configured to ensure that the vessel conditions are comfortable for operators with different physical needs and requirements.

## Experimentation



In support of Canada's net-zero 2050 greenhouse gas emissions reduction goal, Coast Guard is leveraging the Challenge Stream of Innovation, Science, and Economic Development's **Innovative Solutions Canada (ISC)** Program. The Coast Guard is seeking a new product that will collect kinetic energy from ship movement and use it for the operations of the vessel to help the Department and the broader maritime sector meet decarbonization goals. In 2020-21, four companies that had proceeded to the Proof of Concept phase successfully developed prototypes. The four proofs of concept were delivered, evaluated by ISC, and met criteria to move into Phase II. Following Phase II evaluation and review, two were ultimately selected to move through to contracting. Contracts are currently under development between the proponents and Public Services and Procurement Canada. Once the contracts are completed, the proponents will start developing, building and testing prototypes over a 24 month contract period. Coast Guard also collaborated with Transport Canada in developing two additional ISC challenges in the areas of plastic hull recycling and marine vessel underwater noise reduction.


Under the ISC, the Coast Guard also launched the development of a concept of operations for the use of **autonomous vehicles** to support program delivery. The concept of operations explains from the viewpoint of the program how we would use the autonomous vehicle depending on its use, such as to perform aerial searches during a SAR incident or to collect ice information. The Coast Guard is examining this technology, as it may have the potential to enhance the capacity of the Coast Guard to respond more efficiently in search and rescue, environmental response, and icebreaking.

The Coast Guard runs an **Innovation and Experimentation Hub**. This hub enabled IT teams to conduct innovative waste management projects, which led to the installation of new technology on the *CCGS Terry Fox* that will improve environmental performance by transforming oily wastewater into reusable or dischargeable water and purify sewage. Evaluations also began on these solutions to seek potential novel benefits when used on vessels operating in the Arctic. In collaboration with several other departments, the fund also contributed to three studies to inform strategies for lowering and offsetting carbon emissions in the fleet, supporting the [Greening Government Strategy's](#)<sup>xxxiii</sup> net-zero 2050 commitment. Lastly, in collaboration with the National Research Council and Transport Canada, the Coast Guard provided funding support and contributed subject matter expertise to advance the St. Lawrence Climate Risk Information System, which provides details about the impacts of climate change on hydrodynamics (such as storm surges, winds, waves, and water levels), and ice-season duration and severity. This research will contribute to improved climate risk assessments for transportation infrastructure.

### **2030 Agenda for Sustainable Development**


For additional information on how the Department is advancing the United Nations Sustainable Development Goals, please refer to [Fisheries and Oceans Canada's 2020-21 Departmental Sustainable Development Strategy Report](#)<sup>xxxiv</sup>.

## Results Achieved

	Departmental Results	Performance Indicators	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, 2021	2018-19: 100% 2019-20: 100% 2020-21: 100%
		Percentage of search and rescue responses that meet established standards	Greater or equal to 99% by March 31, 2021	2018-19: 98% 2019-20: 98% <sup>26</sup> 2020-21: 99%
	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, 2021	2018-19: 87% 2019-20: 97% 2020-21: 96%
		Percentage of operational days lost due to crewing and other logistical issues	Less than or equal to 3% by March 31, 2021	2018-19: 0.7% 2019-20: 0.6% 2020-21: 1%
		Percentage of operational days lost due to unplanned maintenance	Less than or equal to 3% by March 31, 2021	2018-19: 3.4% 2019-20: 4.35% <sup>27</sup> 2020-21: 3%
	Enhanced relationships with, involvement of, and outcomes for Indigenous people	Number of agreements / arrangements involving Indigenous groups	To be established for 2021-22	2018-19: N/A 2019-20: N/A 2020-21: Data not available
		Number of Indigenous people trained through agreements / arrangements	To be established for 2022-23	2018-19: N/A 2019-20: N/A 2020-21: Data not available

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

## Budgetary Financial Resources (dollars)


	2020-21 Main Estimates	2020-21 Planned Spending	2020-21 Total Authorities Available For Use	2020-21 Actual Spending (Authorities Used)	2020-21 Difference (Actual Spending Minus Planned Spending)
	1,195,835,743	1,195,835,743	1,424,020,153	1,160,540,295	-35,295,448

<sup>26</sup> Search and rescue responses were impacted by various factors, such as environmental conditions (including ice conditions, etc.).

<sup>27</sup> Until newer vessels come into service and older vessels can be retired, exceeding this target is expected to continue for the immediate future.



### Human Resources (full-time equivalents)

	2020-21 Planned FTE	2020-21 Actual FTE	2020-21 Difference (Actual full-time equivalents minus Planned full-time equivalents)
	4,170	4,348	178

Financial, human resources and performance information for Fisheries and Oceans Canada's Program Inventory is available in the [GC InfoBase<sup>xxxv</sup>](#).

## Internal Services

### Description

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



### Results

The Department's Internal Services support all of DFO and the Coast Guard's programs and activities, and ensure that they have the resources needed to provide effective services to Canadians. The Department needs a complement of staff that are well-trained, whose mental and physical wellbeing are supported, and whose diversity is celebrated. Internal Services continues to focus on these priorities. To conduct their work, thousands of DFO/Coast Guard staff members require information management and information technology tools, such as reliable networks and application systems that place data at the centre of service and decision making. Internal Services supported this through improvements like the Digital Transformation Agenda. Internal Services also ensure that the work that is done by the Department is done in a sustainable manner that supports Canada's environment. In 2020-21, Internal Services successfully supported the Department's staff, all across the country, in continuing to deliver important results to Canadians in safe and effective ways, as shown below.

### Reconciliation

In support of the Department's **Reconciliation Strategy** and **Reconciliation Results Model**, DFO and the Coast Guard worked on a coordinated departmental approach resulting in the completion of regional reconciliation action plans, the establishment of regional reconciliation champions, and on tools for Indigenous engagement and consultation, much of which is discussed at length in Core Responsibility 1: Fisheries. Additionally, the Coast Guard developed a national approach to Indigenous Relations including focused governance, a strategic framework, and the creation of the Indigenous Relations Branch.

**DID YOU KNOW?**



The Department identified three **Reconciliation Champions** who seek to raise awareness and promote a meaningful and open discussion about reconciliation.

## People

The Department worked tirelessly to support the Government's response to the COVID-19 pandemic and to ensure the **safety and well-being** of its employees, particularly at the onset of the pandemic, while also ensuring that it was positioned to continue to deliver on its priorities and services to Canadians. To this end, internal guidance and directives for managers and employees were developed to support the daily operations and administration of the organization along with regular health tips to support the well-being of employees during these unprecedented times.

In support of the Government of Canada's commitment to make the Public Service more representative of the population it serves, the Department developed a Diversity and Inclusion Strategy that aims to address underrepresentation gaps and ensure that notable progress is made in fostering a diversified and inclusive workplace within the next four years. In 2020-21, the Department continued an organizational cultural shift toward staffing for women in technology jobs through support of initiatives such as; Advancing New Canadian Women in Technology, and Women in Science, Technology, Engineering, and Math. As a result, over 25 per cent of computer science staffing actions involved women in technology. DFO also continued to implement its **Indigenous Recruitment and Retention Strategy**, which aims to increase the representation and development of Indigenous peoples through stronger employee awareness of Indigenous culture, values, and history. Forty-one Indigenous students were onboarded as part of the successful implementation of the National Indigenous Student Recruitment Initiative. Increased efforts were also made in hiring people with disabilities. DFO's participation in the Federal Internship Program for Canadians with Disabilities resulted in the placing of four interns across the country.



In addition to **reviewing its policies and practices to remove barriers to employment**, the Department also introduced **innovative hiring strategies** for promoting and recruiting talent both internal and external to the Department, increased use of more accessible technology in the evaluation of candidates (which improved the candidate experience by enhancing opportunities for applicants with disabilities), and further relied on adaptable computer technology. Greater use of digital platforms and applicant tracking systems in talent acquisition provided flexibility for candidates to apply to opportunities in a format that better fit their needs. The Student Bridging Portal for the hiring of former student employees was another innovation; it proved successful in promoting and recruiting talent for the Department and in providing hiring managers with new staffing options.

The Department reviewed possibilities for changing signage on single-stall washrooms to ensure inclusiveness for all genders. For example, the Gulf engineering team completed building upgrade designs for two Conservation and Protection camps that will provide their officers with gender-neutral washrooms and separate bedrooms as per program requirements. Many other initiatives are still underway.

Following the launch of Phoenix in 2016, which resulted in pay issues disproportionately affecting its employees, the Department is continuing to actively participate in the Government's efforts to stabilize pay for employees. In 2020-21, the Department worked closely with the Pay Centre to resolve outstanding pay cases and continued to leverage many ongoing initiatives such as training, communications, and development of user-friendly tools for employees and managers to avoid new pay issues. Combined efforts have produced positive outcomes, including a notable decrease the backlog of pay cases.

The Department continued to foster a **psychologically safe and healthy workplace** by developing and implementing a number of programs and initiatives. This included the development of a Psychological Health and Safety Directive, Framework, and Action Plan. Furthermore, DFO continued the implementation of its Mental Health Strategy with a greater focus on the impacts of psychological health and safety factors, how to address them, and how to better support employees in a virtual environment. As demonstrated by improved Public Service Employee Survey results on the topic of mental health, efforts in these areas have proven successful. Overall, the Department has seen improvement in most categories, including in raising awareness of mental health in the workplace.

DFO/Coast Guard continued to cultivate a community of motivated employees by providing professional development, networking, learning opportunities, and a community for engagement through Your Professional Network (YPN).

### Technology

Many innovative solutions were developed and implemented to support staff through the first year of the **COVID-19 pandemic**. Many of the foundational tools to support employees were accelerated to accommodate working safely and effectively from home, including digital infrastructure projects, such as enhanced secure network bandwidth and transition from desktop computers to portable laptops, with many being implemented within weeks of the start of widespread remote working.

The Department created its **Digital Transformation Agenda**, a plan to improve the way it delivers services and information to Canadians and mariners in alignment with the Government of Canada's Digital Operations Strategic Plan: 2018-2022. As a foundation of this agenda, in July 2020, the Department established a Digital Strategy that will contribute to shape DFO as an open and service-oriented, citizen-centric, integrated, connected, secure, trusted, simple, agile, and future-oriented organization.

Additional successes from 2020-21 include the establishment of a secure cloud-based platform in accordance with the Government of Canada **Cloud First** mandate. Future application hosting in the Cloud will improve service reliability for both employees and Canadians.

### DID YOU KNOW?



The Department began experimenting with innovative approaches to enhance the use of data, including organizing and participating in "**hackathons**", where post-secondary students endeavor to develop solutions to departmental and Canadian issues through the use of data. The models they developed explore subject areas such as identifying illegal vessel activity, identifying whales to help avoid whale-vessel collisions, and helping to identify anomalous marine data being collected through automated systems.

Through the commitments of the 2019 **DFO Data Strategy**, DFO continued to implement improved data lifecycle management to ensure departmental data is more discoverable, available, and shareable, including with Canadians and other organizations, while ensuring privacy and security is protected. In 2020-21, the Department developed a catalogue of data assets and established department-wide roles and responsibilities for data so that employees have clearly-defined accountabilities for collecting, protecting, sharing, and using government data on behalf of Canadians. The Department also developed common data quality requirements and expectations so that departmental data can be assessed and confirmed as trustworthy to support data-driven decision-making. The Department also experimented with innovative models that review and analyze data and flag interesting results for further review by employees to support their decision-making.

In response to the findings of the [Evaluation of the Oceans Protection Plan](#)<sup>xxxvi</sup> conducted in 2019-20, DFO has established a departmental Data Governance Framework supported by a new structure of committees with clear oversight responsibilities and authorities. The goal is for trusted and well-managed data to be available for decision making, evaluating performance, and reporting on results for Canadians. As well, department-wide requirements for data roles and responsibilities, including for the stewardship of the Oceans Protection Plan data assets, have been established under the DFO Policy on Data and Directive on Data, two key components of the Data Governance Framework that were launched in July 2020. This exercise aimed at improving DFO's strategic management of data has facilitated a number of lasting benefits for the Department by supporting enhanced planning, decision-making, and reporting through data that is available, usable, and trusted across the organization.

### **Assets and Financial Systems**

Fisheries and Oceans Canada, in partnership with the Treasury Board Secretariat, successfully implemented **SAP S/4 HANA** on April 1, 2021. The IT solution provides a solid platform to support departmental financial operations. DFO is the first large department to implement this financial and material management system, and will use its lessons learned to help other government organizations with their own implementation projects. Key post-implementation activities such as decommissioning the former financial system, operationalizing improved business processes, and institutionalizing a continuous learning program begun on April 1, 2021 and are well underway.

DFO began preparing for the implementation of **Accrual Budgeting** in June 2020 and would be the third department in the Government of Canada to adopt this approach. This large-scale transformative initiative to implement Accrual Budgeting will allow DFO to further strengthen its capital asset management regime with better longer-term capital investment planning. In support of the planned implementation of Accrual Budgeting, DFO also commenced the establishment of a cost estimating center of expertise to implement a more standardized approach to costing of assets. This enhancement will help ensure consistency in estimate quality and financial risk identification and standardize the utilization of this information in investment decisions. Efforts are well underway to establish the Department's requirements and set the foundation for improved asset lifecycle management using an Accrual Budgeting approach. This initiative continues to be a departmental priority given the importance of the Department's large capital asset base in achieving organizational objectives.

The Department continues efforts to improve the accuracy of its **inventory and valuation** through improved tracking systems and processes. This improved accuracy will enhance financial reporting and operational efficiency and will facilitate planning and decision-making on the acquisition, utilization, and disposal of materiel. DFO/Coast Guard successfully performed verifications of inventory at Coast Guard's staffed warehouses to ensure the accuracy of valuation of consumable inventory. Due to the onset of the COVID-19 pandemic, the continued verification of inventory at remaining warehouses was delayed. Having all warehouses using the same inventory management system, one that liaises with the Department's financial system, will allow for integrated planning with better information available for decision-making on stock management and procurement.

### **Security**

The new 2020-2023 **Departmental Security, Safety and Emergency Management Plan** was implemented in November 2020 to meet the requirements of the Policy on Government Security. It ensures safe and secure working environments for all individuals, appropriate protection of sensitive information and valuable assets under the stewardship of the Department, and the continued delivery of services and operations, including the ongoing response to the COVID-19 pandemic and other threats.

### **Contaminated Sites and Asbestos Assessments**

As of 2020-21, the Department had completed **Asbestos and Designated Substance assessments** at the majority of its staffed sites. This work responds to a government-wide mandated program to assess its portfolio of buildings and other property for asbestos-containing materials. As a result of the implementation of a risk-based approach, the assessment coverage was expanded to include equipment structures and small buildings.

To align with the renewal of the government-wide Federal Contaminated Sites Action Plan (FCSAP), DFO updated its **National Contaminated Sites Environmental Management Plan** for its current inventory of 2,588 sites that require further work. The federal government aims to either close or implement a risk management regime at 95 per cent of all existing Federal Contaminated Sites by 2035 to effectively reduce risks to the environment. The Department intends to meet this target by implementing the Contaminated Sites Environmental Management Plan (CS-EMP), which sets key objectives with associated timelines for assessment, remediation and risk management activities. The Department's plan also contributes to achieving the Federal Sustainable Development Strategy goal of safe and healthy communities through the restoration of ecological integrity, the protection of the wellbeing of Canadian communities, and access to clean drinking water and sustainable food. In addition, remediation activities conducted at contaminated aquatic sites contribute to achieving the Sustainable Development Goal of Life Below Water by mitigating water pollution, protecting aquatic ecosystems and consequently all those who depend on waters for their livelihood. In 2020-21, the Department performed assessment activities at 213 sites, remediation at 142 sites, and closed 137 sites.

### Greening Government

The Greening Government Strategy outlines the Government of Canada's objective to transition to low-carbon and climate-resilient operations, while also reducing environmental impacts beyond carbon. In line with this objective, the Department developed a **Carbon Neutral Portfolio Strategy** for real property to establish a cost-effective approach to achieving low-carbon operations and meeting the government's targets. DFO's Strategy identifies measures that should be considered when capital projects are being undertaken (e.g., fuel switching, on-site renewable energy generation, deep energy and greenhouse gas retrofits), as well as measures that should be implemented as an ongoing part of portfolio management (e.g., asset disposal and re-purposing, workplace densification, laboratory modernization). The Strategy assesses the applicability of the measures across DFO's broad range of real property asset types (e.g., bases, laboratories, hatcheries) and recommends which measures can be expected to yield the greatest benefit by asset type. Furthermore, the Department successfully completed the Canso Canal Vulnerabilities and Risk Assessment. The principal objective of the assessment was to undertake a climate study of the asset to identify potential risks of failure, damage, loss of service and/or deterioration due to changing environmental factors and the severity of extreme weather events. This study was jointly delivered under the Transportation Asset Risk Assessment (TARA) program led by Transport Canada.

**DID YOU KNOW?**



The recently-constructed Canadian Coast Guard Atlantic Regional Headquarters received the Canada **Gold LEED Certification**. LEED (Leadership in Energy and Environmental Design) is an international industry standard for green buildings. The new building is primarily heated and cooled through an energy efficient open-loop seawater geoexchange system and has a number of other energy efficient measures. The new building does not use any fuel as a heating source.

Also in 2020-21, DFO worked collaboratively with other departments on the development of a 30-month program of projects focused on modernizing and greening the federal infrastructure portfolio in alignment with the Greening Government Strategy. The extensive project lists have been compiled in a database administered by Public Services and Procurement Canada (PSPC, and will be available if infrastructure stimulus programs are initiated in the future.

As planned, DFO launched a **digitization strategy to reduce paper** in the processing of Access to Information and Privacy (collectively referred to as ATIP) requests, which come from the public and seek copies of records held by the Department. Although this had already been planned, once it became evident that the pandemic would affect employees' access to the workplace, this strategy was accelerated by approximately six months. ATIP is a high-volume service and, in 2020-21, DFO processed over 250,000 pages of records for these requests. Digitizing this process eliminated a significant volume of paper use. This strategy also increased productivity, lowered operating costs associated with paper use, and modernized CFO/Coast Guard's overall ATIP process, as well as improve the speed at which requesters receive their information by introducing electronic delivery options. This also helped to maintain the Department's ability to process and respond to ATIP requests on time throughout the COVID-19 pandemic, when most employees were unable to physically access the workplace, resulting in an overall on-time response rate of 99.2 per cent.

The Department also successfully completed a DFO/Coast Guard **Solid Waste Audit Framework** in March 2021, which includes a systematic outline of the waste audit operational procedures and a prioritized ranking of remaining major facilities to be assessed. These guidelines were developed with the lessons learned from the initial Canadian Coast Guard College and St. Andrews Biological Station audits, which captured information about waste generated by the workplace (including plastic waste and construction, renovation, and demolition waste) and identified the rate of solid waste, plastics, organics, and other waste types that were being diverted from landfills (both sites successfully met the Greening Government Strategy's 75 per cent diversion target). The guidelines also took into consideration Public Service and Procurement Canada waste audit standards and an analysis of local/regional waste diversion capacity. The Framework initiates an annual waste audit assessment process. The Framework's ultimate goal is efficient waste disposal programs that reduce air and water pollution, help to curb global warming, and conserve natural resources. The Department also initiated a Personal Protective Equipment (PPE) recycling pilot project at several DFO facilities across the country. This pilot project will help inform waste management processes in the future.

The Department is committed to the continual improvement of its **National Environmental Management System for Operations and Assets**, which manages performance with a focus on environmental regulatory compliance. Key activities in 2020-21 included launching the Departmental Procedure for the Implementation of the Federal Lands Provisions of the *Impact Assessment Act* and developing a draft National Strategy for Wildlife and Habitat Management at DFO sites.

## Key Risks

The Department continued to deliver its Internal Services over the last fiscal year despite the challenges that were encountered largely due to the COVID-19 pandemic. Some of the risks that materialized were the increase in cybersecurity attacks and the demand for network capacity as the majority of the workforce has shifted to working remotely. In response, the Department established various tools and programs to assure in-time response and on-going monitoring of the IT systems while providing data storage space in the secured DFO Cloud. The Department also developed a phased approach to handling our "new normal" along with [guidance for remote work](#)<sup>xxxvii</sup> as well as [protocols for on-site work](#)<sup>xxxviii</sup>. Furthermore, the Department developed and implemented a number of initiatives to help ensure the well-being, security and safety of the working environment for all employees. DFO will continue to monitor any potential risks, and implement sound mitigation strategies where appropriate, to ensure the Department's ability to continue to meet its goals.



## Gender-based Analysis Plus



DFO/Coast Guard created a Gender-based Analysis Plus (**GBA Plus**) **Centre of Expertise (CoE)** which is the hub of GBA Plus expertise to ensure assessments meet GBA Plus objectives. The CoE provides information, guidance, and support, as well as training for conducting comprehensive GBA Plus assessments. The CoE also acts as the focal point of contact with Women and Gender Equality Canada (WAGE) on all matters relating to the GBA Plus Action Plan and survey. With increased capacity in 2020-21, the CoE was able to spread awareness and create opportunities in a number of areas, including the Blue Economy Strategy, the [Gender Equity in Ocean Science<sup>xxxix</sup>](#) paper published for the Commonwealth Blue Charter Action Group, COVID-19 committees on work from home and safe return to work policies, and the Canadian Science Policy Conference, which included participation on the panel titled “Proactively Planning for Gender Equity in the Emerging Blue Economy”.

The annual **GBA Plus Implementation Survey** run by WAGE indicated that considerable progress was made over the last year, while also indicating the importance of continuing to create opportunities for training, and increasing awareness and capacity across the Department. In 2020-21, DFO continued making GBA Plus an integral part of its policies, programs, and initiatives to ensure an understanding of the impacts on gender and diversity, make better decisions, and achieve better results. This included updating resources and training, and enhancing internal communications and understanding of the advantages of applying GBA Plus practices and considerations.

Results of these activities in 2020-21 included the following:

- As part of the broader **Blue Economy Strategy** development, DFO sought input from federal partners on the Blue Economy scoping paper, which included a section on gender issues in Canada’s ocean space. The Blue Economy Strategy engagement process offered opportunities to better understand barriers that limit diverse representation in ocean sectors, and this input will be used in the development of the Strategy;
- As part of implementing the **British Columbia Salmon Restoration and Innovation Fund<sup>xi</sup> (BCSRIF)**, GBA Plus analysis was used to identify potential barriers to accessing funding, and allowed the program to prioritize the promotion of inclusivity. Of the 42 projects currently funded by BCSRIF, 47 per cent (20/42) have identified women project leads or principal investigators; and
- Early GBA Plus analysis of the **Fleet Procurement program** indicated that the operational environment of Coast Guard vessels had diversity barriers, the majority of which were attributed to physical size and strength requirements, medical requirements, and working conditions of seagoing positions. Accordingly, people with disabilities and women were more likely to be impacted. As a result of this analysis, the Department established a dedicated engineering team to ensure the principles of innovation in ship design, diversity, and cultural inclusivity are incorporated into the fleet planning process. For example, in its newest class of Search and Rescue lifeboats, the Department re-assessed sightlines and adapted console layouts, seating arrangements, and windscreen construction to operators with different physical needs.

## Experimentation



The Quebec Region launched a two-year pilot project to develop an inclusive and innovative approach to the recruitment, retention, and development of Indigenous employees.

This project is an opportunity to contribute to experimentation by testing new, culturally-appropriate ways of doing things in order to initiate ongoing changes to our Indigenous employee onboarding practices. This project focuses on public policy experimentation through an open policy approach to operational procedures to ensure that proposed changes reflect the interests, realities, and needs of those affected. A partnership was established with an Indigenous organization that is very involved in the development of Quebec First Nations human resources. Guided by the principles of co-creation and collective intelligence, the project team, composed of two departmental employees and two partner employees, analyzed current practices and began testing various solutions. The partnership has led us to develop a better understanding of the barriers, challenges, and obstacles faced by Indigenous peoples. As a result, we have reviewed the way we promote some of our jobs and hiring processes to make them more inclusive.

## DID YOU KNOW?




Through the competitive internal **Results Fund**, the Department actively supports and promotes the use of experiments within programs to better achieve results. The Department targets funds for projects that are expected to enhance the achievement of results through experimental and/or innovative pilot projects that aim to improve program delivery and/or internal support activities. The selection criteria include points allocated specifically for experimental elements in the design of the project. The Department undertook 33 new Results Fund projects, which included diverse projects such as new artificial intelligence solutions for data analytics and testing new technologies for oil spill response.


## 2030 Agenda for Sustainable Development

For additional information on how the Department is advancing the United Nations Sustainable Development Goals, please refer to [Fisheries and Oceans Canada's 2020-21 Departmental Sustainable Development Strategy Report](#)<sup>xli</sup>.

## Budgetary Financial Resources (dollars)

	2020-21 Main Estimates	2020-21 Planned Spending	2020-21 Total Authorities Available For Use	2020-21 Actual Spending (Authorities Used)	2020-21 Difference (Actual Spending Minus Planned Spending)
	477,586,102	477,586,102	612,752,800	557,346,522	79,760,420

## Human Resources (full-time equivalents)

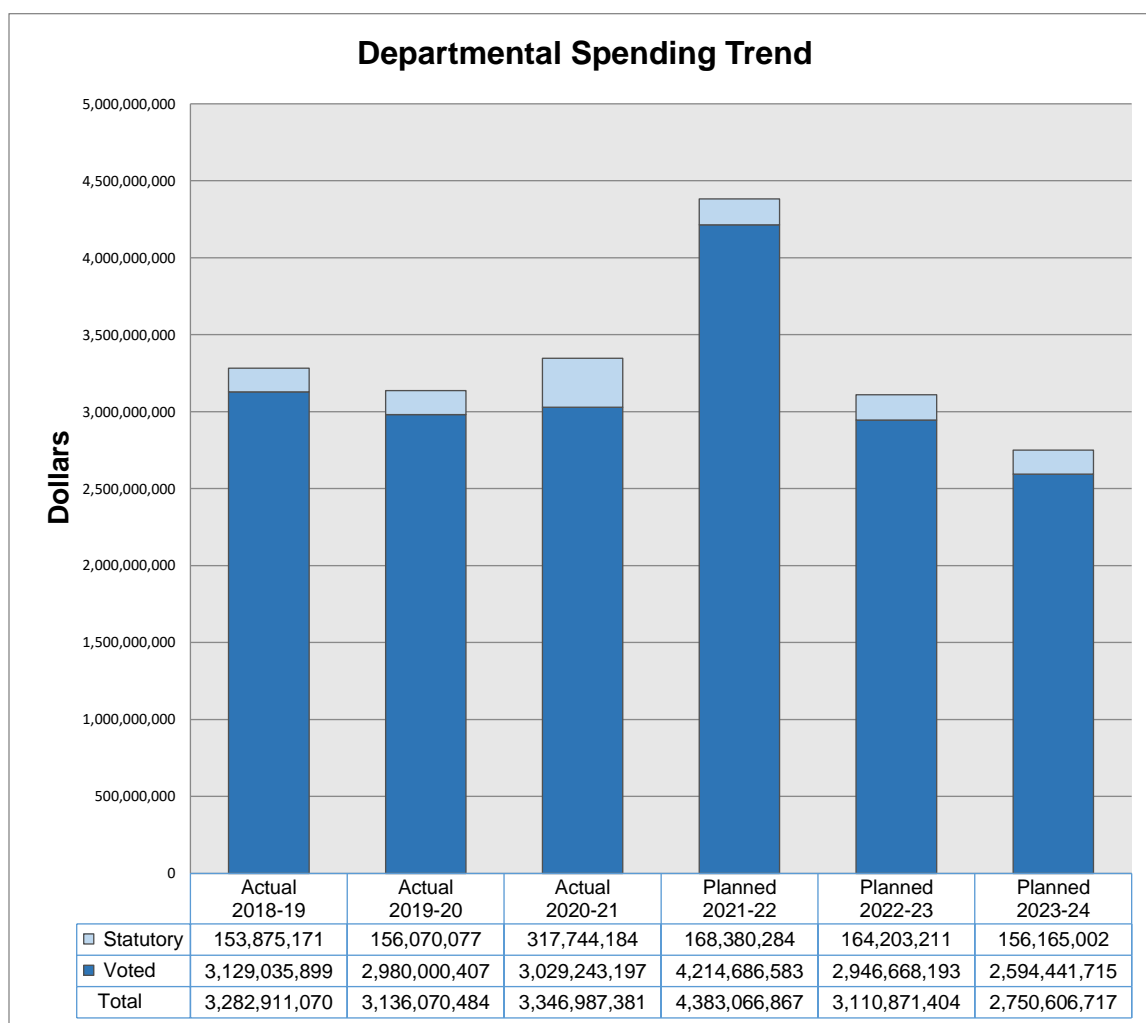
	2020-21 Planned	2020-21 Actual	2020-21 Difference (Actual full-time equivalents minus Planned full-time equivalents)
	2,120	2,231	111

## Analysis of Trends in Spending and Human Resources

### Actual Expenditures

#### Departmental Spending Trend

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



The Department's total actual spending for 2020-21 was \$3,347.0 million. This represents an increase of 6.7 per cent compared to the total actual spending for 2019-20 (\$3,136.1 million).

This increase is mainly attributed to an increase in total authorities approved by Parliament and allocated by Treasury Board. The increase in funding relates to items such as payments to support Canada's fish harvesters.

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

Core Responsibilities and Internal Services	2020-21 Main Estimates	2020-21 Planned Spending	2021-22 Planned Spending	2022-23 Planned Spending	2020-21 Total Authorities Available for Use	2018-19 Actual Spending (Authorities Used)	2019-20 Actual Spending (Authorities Used)	2020-21 Actual Spending (Authorities Used)
Fisheries	1,133,485,845	1,133,485,845	1,636,345,231	832,382,707	1,664,278,304	681,775,648	870,305,003	988,392,191
Aquatic Ecosystems	331,009,945	331,009,945	340,861,687	287,473,039	403,415,532	239,288,497	311,606,616	354,805,497
Marine Navigation	324,692,710	324,692,710	333,108,348	287,383,538	366,608,672	345,802,442 <sup>28</sup>	332,887,078	285,902,876
Marine Operations and Response	1,195,835,743	1,195,835,743	1,542,760,148	1,221,410,740	1,424,020,153	1,540,252,005 <sup>28</sup>	1,074,073,985	1,160,540,295
Budget Implementation vote – unallocated authorities	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Subtotal</b>	<b>2,985,024,243</b>	<b>2,985,024,243</b>	<b>3,853,075,414</b>	<b>2,628,650,024</b>	<b>3,858,322,660</b>	<b>2,807,118,592</b>	<b>2,588,872,682</b>	<b>2,789,640,859</b>
Internal Services	477,586,102	477,586,102	529,991,453	482,221,380	612,752,800	475,792,478	547,197,802	557,346,522
<b>Total</b>	<b>3,462,610,345</b>	<b>3,462,610,345</b>	<b>4,383,066,867</b>	<b>3,110,871,404</b>	<b>4,471,075,461</b>	<b>3,282,911,070</b>	<b>3,136,070,484</b>	<b>3,346,987,381</b>

At the outset of 2020-21, Fisheries and Oceans Canada's planned spending was \$3,462.6 million. Incremental funding from Supplementary Estimates, Carry Forwards and other sources brought the total authorities to \$4,471.1 million, which is \$1,124.1 million higher than the \$3,347.0 million in expenditures.

The \$1,008.5 million increase from planned spending to total authorities is mainly attributed to Supplementary Estimates funding for: payments to support Canada's fish harvesters; advancing reconciliation on Indigenous and treaty rights issues; the ongoing response to the Big Bar landslide; and implementing British Columbia Agreements.

The difference of \$1,124.1 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.

<sup>28</sup> 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.

**2020-21 Budgetary Actual Gross Spending Summary (dollars)**

Core Responsibilities and Internal Services	2020-21 Actual Gross Spending	2020-21 Actual Revenues Netted Against Expenditures	2020-21 Actual Net Spending (authorities used)
Fisheries	988,392,191	0	988,392,191
Aquatic Ecosystems	354,805,497	0	354,805,497
Marine Navigation	326,786,958	(40,884,082)	285,902,876
Marine Operations and Response	1,160,542,895	(2,600)	1,160,540,295
<b>Subtotal</b>	<b>2,830,527,541</b>	<b>(40,886,682)</b>	<b>2,789,640,859</b>
Internal Services	557,346,522	0	557,346,522
<b>Total</b>	<b>3,387,874,063</b>	<b>(40,886,682)</b>	<b>3,346,987,381</b>

For certain services, the Canadian Coast Guard collects service fees to ensure that, where appropriate, the entire cost of delivering the service is not borne by taxpayers. Fees for icebreaking, marine navigation, and dredging support the safe navigation of Canadian waters.

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

Core Responsibilities and Internal Services	2018-19 Actual	2019-20 Actual	2020-21 Planned	2020-21 Actual	2021-22 Planned	2022-23 Planned
Fisheries	2,871	3,072	3,020	3,245	3,253	3,210
Aquatic Ecosystems	1,289	1,490	1,460	1,607	1,523	1,436
Marine Navigation	1,761	1,940	1,830	1,826	2,040	1,967
Marine Operations and Response	4,104	4,118	4,170	4,348	4,124	4,057
<b>Subtotal</b>	<b>10,025</b>	<b>10,620</b>	<b>10,480</b>	<b>11,024</b>	<b>10,940</b>	<b>10,670</b>
Internal Services	1,968	2,080	2,120	2,231	2,060	2,030
<b>Total</b>	<b>11,994</b>	<b>12,700</b>	<b>12,600</b>	<b>13,257</b>	<b>13,000</b>	<b>12,700</b>

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 2020–2021](#)<sup>xlii</sup>.

**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](#)<sup>xliii</sup>.

## Financial Statements and Financial Statements Highlights

### Financial Statements

Fisheries and Oceans Canada's financial statements (unaudited) for the year ended March 31, 2021, are available on [Fisheries and Oceans Canada's](#)<sup>xliv</sup> website.

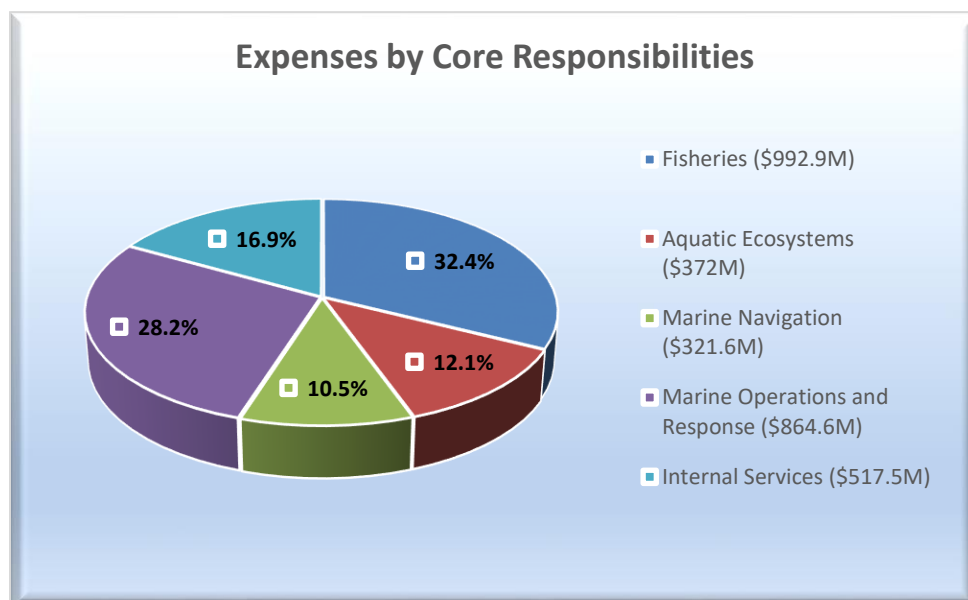
### Financial Statements Highlights

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](#)<sup>xlv</sup> website.

### Condensed Statement of Operations (unaudited) for the Year Ended March 31, 2021 (dollars)

Financial Information	2020-21 Planned Results	2020-21 Actual Results	2019-20 Actual Results	Difference (2020-21 Actual Results minus 2020-21 Planned Results)	Difference (2020-21 Actual Results minus 2019-20 Actual Results)
Total expenses	3,056,723,724	3,068,657,062	3,018,218,624	11,933,338	50,438,438
Total revenues	40,011,000	41,007,275	47,177,312	996,275	(6,170,037)
Net cost of operations before government funding and transfers	3,016,712,724	3,027,649,787	2,971,041,312	10,937,063	56,608,475

## Expenses

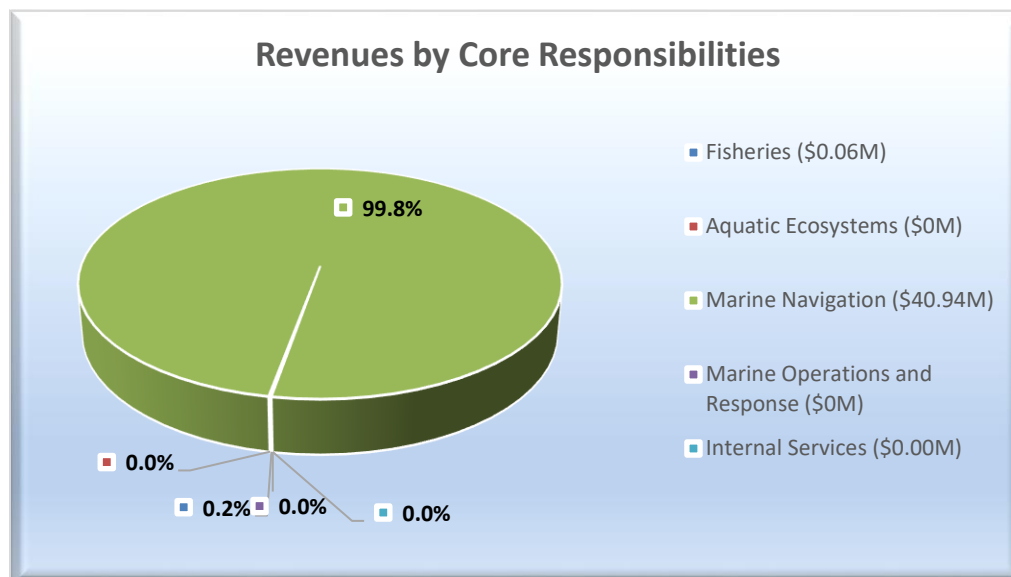


Total expenses were \$10.9 million higher than planned results because of the additional authorities received by Fisheries and Oceans Canada during the year, but not included in the planned results at the time of preparation of the Departmental Plan.

Total expenses in support of Fisheries and Oceans Canada's programs and services were \$3,068.7 million in 2020-21, an increase of \$50.5 million or 1.7 per cent when compared to the previous year's total expenses of \$3,018.2 million.

In particular, this increase is mainly attributed to an increase in salary and benefits of \$137.2 million and an increase in grants and contributions of \$134.9 million. These increases are offset by a decrease in allowance of contingent liabilities of \$107.2 million, a decrease in travel and hospitality of \$50.7 million, a decrease in remediation expense related to contaminated sites of \$28.7 million, a decrease in repair and maintenance of \$15.5 million and a decrease in utilities, material and machinery and equipment of \$18.5 million.

## Revenues



The total actual revenues for 2020-21 were higher than the planned results by \$1.0 million mainly because of an increase in revenues for marine navigation services fees, icebreaking services fees, and maintenance dredging services fees.

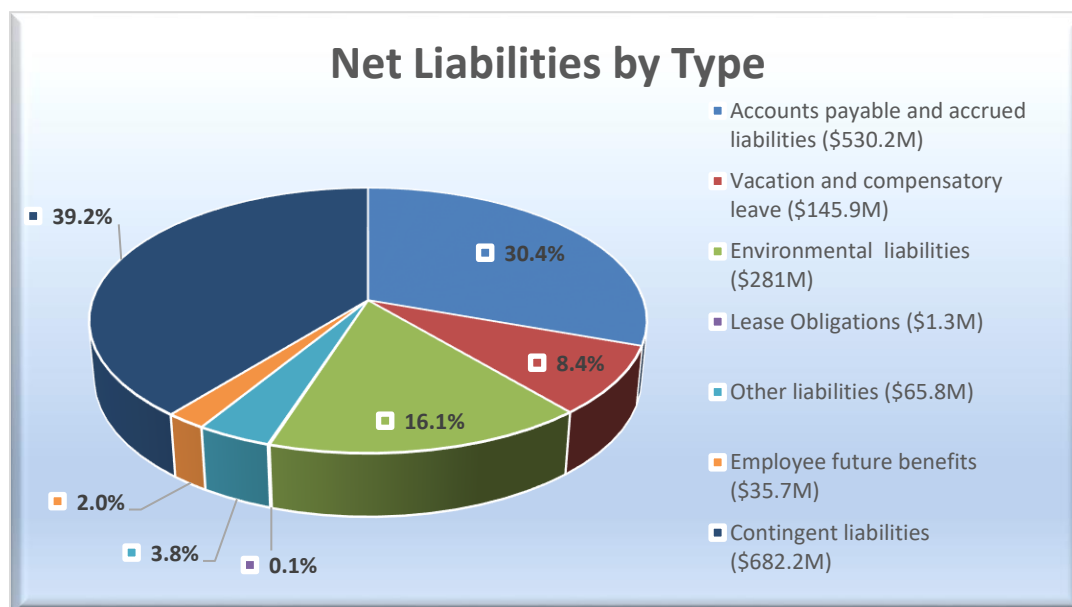
Total actual revenues were \$41.0 million in 2020-21, a decrease of \$6.2 million or 13.1 per cent when compared to the previous year's total actual revenues of \$47.2 million. The decrease is mainly attributed to a reduction in services as a result of the COVID-19 pandemic.

### Condensed Statement of Financial Position (unaudited) as of March 31, 2021 (dollars)

Financial Information	2020-21	2019-20	Difference (2020-21 minus 2019-20)
Total net liabilities	1,742,039,338	1,647,416,676	94,622,662
Total net financial assets	571,036,565	534,804,492	36,232,073
Departmental net debt	1,171,002,773	1,112,612,184	58,390,589
Total non-financial assets	6,406,686,552	5,918,849,430	487,837,122
Departmental net financial position	5,235,683,779	4,806,237,246	429,446,533



## Net Liabilities



Total net liabilities were \$1,742.0 million as at March 31, 2021, an increase of \$94.6 million or 5.7 per cent when compared to the previous year's balance of \$1,647.4 million. The increase is mainly attributed to an increase in accounts payable and accrued liabilities of \$25.4 million, an increase in vacation pay and compensatory leave of \$24.6 million, an increase in deferred revenues related to cost-sharing agreements of \$21.3 million and an increase in allowance for environmental liabilities related to contaminated sites of \$13.0 million.

### NET FINANCIAL ASSETS

Total net financial assets were \$571.0 million as at March 31, 2021, an increase of \$36.2 million or 6.8 per cent when compared to the previous year's balance of \$534.8 million.

This is mainly attributed to an increase in Due from the Consolidated Revenue Fund of \$36.5 million.

### DEPARTMENTAL NET DEBT

The increase in net debt of \$58.4 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 \$6,406.7 million as at March 31, 2021, an increase of \$487.9 million or 8.2 per cent when compared to the previous year's balance of \$5,918.8 million. The increase is mainly due to a net increase in tangible capital assets of \$450.3 million and an increase in prepaid expenses of \$31.9 million.

## Corporate Information

### Organizational Profile

**Appropriate Minister:**

The Honourable Bernadette Jordan

**Institutional Head:**

Timothy Sargent, Deputy Minister

**Ministerial Portfolio:**

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

**Enabling Instruments:**

- *Oceans Act*<sup>xlvi</sup>;
- *Fisheries Act*<sup>xlvii</sup>;
- *Species at Risk Act*<sup>xlviii</sup>;
- *Coastal Fisheries Protection Act*<sup>xlix</sup>;
- *Canada Shipping Act, 2001*<sup>l</sup> (Transport Canada-led); and
- *Fishing and Recreational Harbours Act*<sup>li</sup>
- *Department of Fisheries and Oceans Act*<sup>lii</sup>

**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 [Fisheries and Oceans Canada's](#)<sup>liii</sup> website.

For more information on the Department's organizational mandate letter commitments, see the [Minister's mandate letter](#)<sup>liv</sup>.

### Operating Context

Information on the operating context is available on [Fisheries and Oceans Canada's website](#)<sup>lv</sup>.

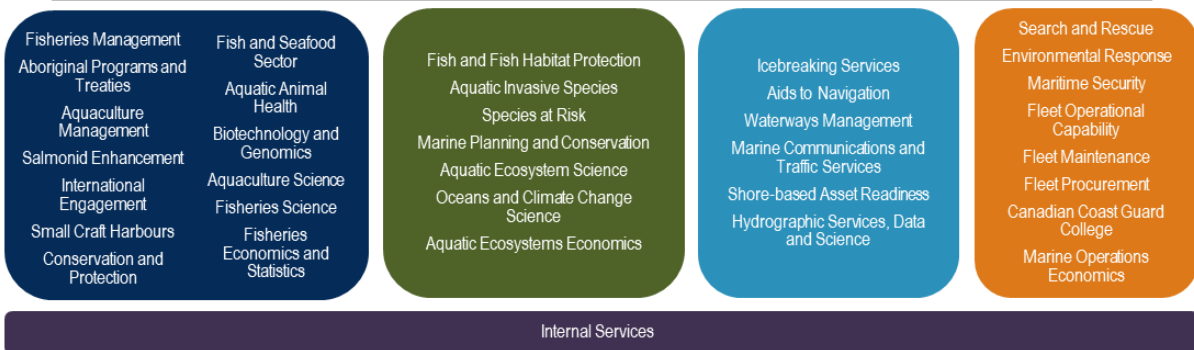
## Reporting Framework

The Fisheries and Oceans Canada Departmental Results Framework and Program Inventory of record for 2020–21 are shown below.

### Departmental Results Framework



### Program Inventory



## 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](#)<sup>vi</sup>.

## Supplementary Information Tables

The following supplementary information tables are available on [Fisheries and Oceans Canada's website](#)<sup>vii</sup>:

- Details on Transfer Payment Programs
- Gender-based Analysis Plus
- Horizontal Initiatives
- Response to Parliamentary Committees and External Audits
- 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 each year in the [Report on Federal Tax Expenditures](#)<sup>viii</sup>. This report also provides detailed background information on tax expenditures, including descriptions, objectives, historical information and references to related federal spending programs as well as evaluations and GBA Plus of tax expenditures.

## 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](mailto:info@dfo-mpo.gc.ca)

Web Address: <http://dfo-mpo.gc.ca><sup>ix</sup>



## 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 Plus)** (*analyse comparative entre les sexes plus [ACS Plus]*)

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 2020–21 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

- <sup>i</sup> Blue Economy Strategy, <https://www.dfo-mpo.gc.ca/campaign-campagne/bes-seb/index-eng.html>
- <sup>ii</sup> Introducing Canada's modernized *Fisheries Act*, <https://www.dfo-mpo.gc.ca/campaign-campagne/fisheries-act-loi-sur-les-peches/introduction-eng.html>
- <sup>iii</sup> Sustaining Canada's Major Fish Stocks, [https://www.oag-bvg.gc.ca/internet/English/parl\\_cesd\\_201610\\_02\\_e\\_41672.html](https://www.oag-bvg.gc.ca/internet/English/parl_cesd_201610_02_e_41672.html)
- <sup>iv</sup> Regulations Amending the Fishery (General) Regulations, <https://canadagazette.gc.ca/rp-pr/p1/2021/2021-01-02/html/reg1-eng.html>
- <sup>v</sup> Action Plan for the Renewal and Expansion of DFO's Indigenous Programs, <https://www.dfo-mpo.gc.ca/fisheries-peches/aboriginal-autochtones/action-plan-action/index-eng.html>
- <sup>vi</sup> AAROM Overview, <https://aarom.ca/>
- <sup>vii</sup> Indigenous Marine Servicing Initiative, <https://www.dfo-mpo.gc.ca/fisheries-peches/aboriginal-autochtones/imsi-isma/program-eng.html>
- <sup>viii</sup> Reconciliation Strategy, <https://www.dfo-mpo.gc.ca/fisheries-peches/aboriginal-autochtones/reconciliation-eng.html>
- <sup>ix</sup> DFO Organizational Structure, <https://www.dfo-mpo.gc.ca/about-notre-sujet/organisation-eng.htm>
- <sup>x</sup> Compendium of Indigenous Socio-economic Best Practises in Fisheries and Oceans Sectors, [https://indigenousfisheries.ca/en/wp-content/uploads/2021/05/Compendium-of-Indigenous-Socio-economic-Best-Practises\\_March-2021.pdf](https://indigenousfisheries.ca/en/wp-content/uploads/2021/05/Compendium-of-Indigenous-Socio-economic-Best-Practises_March-2021.pdf)
- <sup>xi</sup> DFO Youtube, <https://www.youtube.com/user/fisheriescanada>
- <sup>xii</sup> FACTAP, <https://www.dfo-mpo.gc.ca/ae-ve/evaluations/20-21/factap-patppa-eng.html>
- <sup>xiii</sup> A Canadian Aquaculture Act, <https://www.dfo-mpo.gc.ca/aquaculture/act-loi/discussion-eng.html>
- <sup>xiv</sup> Proposed federal Aquaculture Act, <https://www.dfo-mpo.gc.ca/aquaculture/act-loi/submissions-soumissions-eng.html>
- <sup>xv</sup> Women and Gender Equity Canada website, <http://www.swc-cfc.gc.ca/gba-acg/index-en.html>
- <sup>xvi</sup> Conuma River Hatchery, <https://www.pac.dfo-mpo.gc.ca/sep-pmvs/hatcheries-ecloseries/conuma-eng.html>
- <sup>xvii</sup> Fisheries and Oceans Canada's 2020-21 Departmental Sustainable Development Strategy Report, <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/reports-rapports-eng.htm#strategy>
- <sup>xviii</sup> GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- <sup>xix</sup> Transformations for a Sustainable Ocean Economy, <https://www.oceanpanel.org/ocean-action/files/transformations-sustainable-ocean-economy-eng.pdf>
- <sup>xx</sup> Fish and Fish Habitat Protection Program's Engagement Platform, <https://talkfishhabitat.ca/index.php>
- <sup>xxi</sup> Common Project Search, <https://common-project-search.canada.ca/>
- <sup>xxii</sup> North Atlantic Right Whale, <https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/action-plans/north-atlantic-right-whale-2021.html>
- <sup>xxiii</sup> Preventing aquatic invasive species, <https://www.dfo-mpo.gc.ca/species-especes/ais-eae/prevention/index-eng.html#dlil>
- <sup>xxiv</sup> Fisheries and Oceans Canada's 2020-21 Departmental Sustainable Development Strategy Report, <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/reports-rapports-eng.htm#strategy>
- <sup>xxv</sup> GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- <sup>xxvi</sup> Aids to navigation, <https://www.ccg-gcc.gc.ca/navigation/aids-aides/index-eng.html>
- <sup>xxvii</sup> Maritime Information Portal, <https://www.marinfo.gc.ca/e-nav/index-en.php>
- <sup>xxviii</sup> Fisheries and Oceans Canada's 2020-21 Departmental Sustainable Development Strategy Report, <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/reports-rapports-eng.htm#strategy>
- <sup>xxix</sup> GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- <sup>xxx</sup> Evaluation of the Shore-Based Asset Readiness program, <https://www.dfo-mpo.gc.ca/ae-ve/evaluations/20-21/sbar-epat-eng.html>
- <sup>xxxi</sup> Co-Developing Community Response, <https://www.canada.ca/en/campaign/trans-mountain/what-is-tmx/the-decision/backgrounder11/co-developing-community-response.html>

- <sup>xxxii</sup> National Shipbuilding Strategy, <https://www.tpsgc-pwgsc.gc.ca/app-acq/amd-dp/mer-sea/sncn-nss/index-eng.html>
- <sup>xxxiii</sup> Greening Government Strategy, <https://www.canada.ca/en/treasury-board-secretariat/services/innovation/greening-government/strategy.html>
- <sup>xxxiv</sup> Fisheries and Oceans Canada's 2020-21 Departmental Sustainable Development Strategy Report, <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/reports-rapports-eng.htm#strategy>
- <sup>xxxv</sup> GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- <sup>xxxvi</sup> Evaluation of the Oceans Protection Plan, <https://www.dfo-mpo.gc.ca/ae-ve/evaluations/18-19/OPP-eng.html>
- <sup>xxxvii</sup> Remote working, <https://inter-l01-uat.dfo-mpo.gc.ca/dfo-mpo-empl/en/remote-working>
- <sup>xxxviii</sup> Onsite working, <https://inter-l01-uat.dfo-mpo.gc.ca/dfo-mpo-empl/en/onsite-working>
- <sup>xxxix</sup> New study calls for gender equity in ocean science, <https://bluecharter.thecommonwealth.org/new-study-calls-for-gender-equity-in-ocean-science/>
- <sup>xl</sup> British Columbia Salmon Restoration and Innovation Fund, <https://www.dfo-mpo.gc.ca/fisheries-peches/initiatives/fish-fund-bc-fonds-peche-cb/index-eng.html>
- <sup>xli</sup> Fisheries and Oceans Canada's 2020-21 Departmental Sustainable Development Strategy Report, <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/reports-rapports-eng.htm#strategy>
- <sup>xlii</sup> Public Accounts of Canada, <http://www.tpsgc-pwgsc.gc.ca/recgen/cpc-pac/index-eng.html>
- <sup>xliiii</sup> GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- <sup>xliiii</sup> Corporate management and reporting, <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/reports-rapports-eng.htm>
- <sup>xlv</sup> DFO's financial statements, <https://www.dfo-mpo.gc.ca/about-notre-sujet/publications/reports-rapports-eng.htm#performance>
- <sup>xlvi</sup> Oceans Act, <http://www.laws-lois.justice.gc.ca/eng/acts/O-2.4>
- <sup>xlvii</sup> Fisheries Act, <http://laws-lois.justice.gc.ca/eng/acts/f-14/>
- <sup>xlviii</sup> Species at Risk Act, <http://laws-lois.justice.gc.ca/eng/acts/S-15.3/>
- <sup>xlix</sup> Coastal Fisheries Protection Act, <http://laws-lois.justice.gc.ca/eng/acts/C-33/>
- <sup>l</sup> Canada Shipping Act, 2001, <http://laws-lois.justice.gc.ca/eng/acts/c-10.15/>
- <sup>li</sup> Fishing and Recreational Harbours Act, <http://laws-lois.justice.gc.ca/eng/acts/F-24/>
- <sup>lii</sup> Department of Fisheries and Oceans Act, <https://laws-lois.justice.gc.ca/eng/acts/F-15/>
- <sup>liii</sup> Mandate and Role, <https://www.dfo-mpo.gc.ca/about-notre-sujet/mandate-mandat-eng.htm>
- <sup>liiii</sup> Minister's mandate letter, <https://pm.gc.ca/en/mandate-letters/2019/12/13/minister-fisheries-oceans-and-canadian-coast-guard-mandate-letter>
- <sup>lv</sup> Operating Context, <https://www.dfo-mpo.gc.ca/dpr-rmr/2020-21/annex-eng.html>
- <sup>lvi</sup> GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- <sup>lvii</sup> Supplementary Information Tables, <http://www.dfo-mpo.gc.ca/dpr-rmr/2020-21/tables-eng.html>
- <sup>lviii</sup> Report of Federal Tax Expenditures, <https://www.canada.ca/en/department-finance/services/publications/federal-tax-expenditures.html>
- <sup>lix</sup> Fisheries and Oceans Canada, <https://www.dfo-mpo.gc.ca/>
- <sup>lx</sup> COVID-19 measures, updates, and guidance, <https://www.dfo-mpo.gc.ca/covid19/index-eng.html>
- <sup>lxi</sup> Arctic Animal Movement Tracking, <https://science.sciencemag.org/content/370/6517/712>
- <sup>lxii</sup> Archive Arctic Animal Movement, <https://www.movebank.org/cms/movebank-content/arctic-animal-movement-archive>
- <sup>lxiii</sup> Science Advisory Report, [https://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2021/2021\\_003-eng.html](https://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2021/2021_003-eng.html)
- <sup>lxiv</sup> Nairobi International Convention on the Removal of Wrecks, 2007 Overview, <https://tc.canada.ca/en/corporate-services/policies/overview-nairobi-international-convention-removal-wrecks-2007>