



Government
of Canada

Gouvernement
du Canada

2022–23 ANNUAL REPORT TO PARLIAMENT

on the Administration and Enforcement
of the Fish and Fish Habitat Protection and
Pollution Prevention Provisions of the
Fisheries Act



Canada

Fisheries and Oceans Canada and Environment and Climate Change Canada are committed to protecting Canada's aquatic environment in ways that benefit fish for future generations. We actively work together to achieve an integrated approach to the conservation and protection of fish and fish habitat across Canada and empowering Canadians to be informed and effective in managing threats and impacts to aquatic ecosystems caused by human activities. Our efforts include the support and collaboration of Indigenous Peoples, stakeholders, and other governments.

This annual report summarizes the administration, enforcement, and other activities undertaken by both Departments between April 1, 2022 and March 31, 2023 to ensure compliance with the fish and fish habitat protection and pollution prevention provisions of the *Fisheries Act*.

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Introduction

Each year, the Minister of Fisheries and Oceans and the Minister of Environment report to Parliament on their efforts to administer and enforce the fish and fish habitat protection and the pollution prevention provisions of the *Fisheries Act*. This has been a legislative requirement since 1990.

This report describes how our departments carried out their responsibilities from April 1, 2022 through March 31, 2023. This includes our efforts to transform how to conserve and protect fish habitats across Canada in order to confront mounting environmental pressures and, at the same time, supporting economic activities. This includes all of the activities we undertake in collaboration with our partners.

As in previous annual reports, we continue to highlight specific success stories and key results to showcase the different ways that we conserve and protect fish and fish habitat and prevent pollution from entering waters frequented by fish. This includes communicating key statistical information using infographics.

Detailed information about the relevant provisions of the *Fisheries Act*, and the way our departments are organized to administer the fish and fish habitat protection and the pollution prevention provisions, may be found in the annex of this report. The annex also features tables with statistics on our activities to conserve and protect fish and fish habitat and to prevent pollution during the 2022–23 reporting year, as well as year-over-year comparative statistics to enable analysis and increased understanding about the work of the departments.

1.1 Collaboration

Fish and fish habitat are shared resources that benefit Canadians in social, economic, and ecological ways. However, if they are not well managed, these resources can be finite and vulnerable. They must therefore be protected and conserved for future generations. These outcomes are best achieved when governments, Indigenous Peoples, industry, partners and stakeholders work together.

DFO and ECCC work together, and in partnership with others, throughout the year to prevent pollution from entering water and harming fish and their habitat and to take broader measures to conserve and protect fish and fish habitat. For example, we work with other partners such as the Parks Canada Agency to achieve Canada's commitment to conserve 25 per cent of our lands and waters by 2025, and 30 per cent of each by 2030, in order to halt and reverse nature loss in Canada. In addition, DFO collaborates with the Canada Energy Regulator and the Canadian Nuclear Safety Commission to reduce administrative overlaps when these agencies are reviewing the same projects, to ensure fish and fish habitat are protected.

Cooperation and partnership with Indigenous Peoples are supported by the *Fisheries Act*, including provisions that allow the Minister to enter into an agreement with an Indigenous governing body or a co-management body established under land claims agreements to advance the purpose of the legislation¹.

¹ Section 4.1. of the *Fisheries Act*.

When making a decision under the *Fisheries Act*, we consider any adverse effects that a *Fisheries Act* decision may have on the rights of Indigenous Peoples². We consult Indigenous groups when a *Fisheries Act* decision has the potential to adversely affect their Aboriginal and treaty rights and, as appropriate, accommodate them.

The Crown–Indigenous Working Group that was launched in 2020-21 by ECCC to collaboratively explore options to manage the accumulation of oil sands process water in the existing tailings ponds is one example of this kind of partnership. Over 2022–23, the working group met approximately every six weeks to continue assessing alternative options so we can determine whether regulations authorizing the release of oil sands mining effluent are necessary and justified. The working group, which includes nine Indigenous communities and ECCC, also continued to conduct the technical and scientific research and analysis needed to set protective standards that reflect best available science and Indigenous knowledge. At the same time, ECCC worked bilaterally with the Indigenous communities on the working group to formalize the process for consultation on concerns particular to each community and potential impacts to the rights from authorized releases of oil sands mining effluent.

Provincial and territorial authorities across Canada, as well as resource management boards established under land claims agreements, share a range of natural resource conservation responsibilities. Their laws and actions thus have the potential to either complement or impact the protections afforded by federal legislation and regulations. For example, land-use decisions made by these authorities may have a significant bearing on the quality, quantity, and function of fish habitat in a given watershed.

We collaborate closely with provincial and territorial governments, including the jurisdictions with which we have entered into pollution prevention-related equivalency agreements and/or arrangements, to reduce regulatory duplication and streamline administration related to *Fisheries Act* provisions. The Canadian Council of Fisheries and Aquaculture Ministers and the Canadian Council of Ministers of the Environment are key venues used to advance these partnerships.

Our collaboration extends to industry and proponents³ involved in or considering a project near water or those involved in sectors that have the potential to affect waterways, as well as Indigenous Peoples and stakeholders, such as non-governmental organizations and community organizations, that are involved in fish and fish habitat restoration activities. Some of the key results and success stories profiled in this report showcase these collaborations.

² Section 2.4 of the *Fisheries Act*.

³ A person, company or corporation that has submitted, or plans to submit, a development proposal.

2

Protecting fish and fish habitat

DFO educates, engages, and provides information to proponents who work in or near water on how to comply with the fish and fish habitat protection provisions of the *Fisheries Act*. We also undertake reviews of proposed development projects to protect fish and fish habitat across Canada, participate in and conduct environmental and impact assessments, and monitor and enforce compliance.

Our work is informed by research and science. We also support projects to restore fish and fish habitat across Canada.

2.1 Educating, engaging and advising

We use a suite of guidance documents to conserve and protect fish and fish habitat. For example, our [Fish and Fish Habitat Protection Policy Statement](#) outlines how we interpret and apply the regulatory and non-regulatory tools in the *Fisheries Act*.

These documents also serve to guide proponents considering or undertaking projects near water. For example, our [Offsetting Policy](#)⁴ describes how a proponent must develop an offsetting plan by:

- characterizing the residual impacts;
- selecting appropriate measures to offset;
- determining the extent of measures needed; and
- establishing the monitoring and reporting plan.

Additionally, six [Codes of Practice](#) were finalized and published on DFO's website to help proponents protect fish and fish habitat when they undertake projects near water that involve:

- beaver dam breaching and removal;
- clear span bridges;
- culvert maintenance;
- ice bridges and snow fills;
- routine maintenance dredging for navigation; and
- temporary fords.

A key part of our **Fish and Fish Habitat Protection Program (FFHPP)** involves educating proponents on means to protect fish and fish habitat, which are featured on the [Projects Near Water](#) website, to ensure that they understand how to comply with the *Fisheries Act* and how to apply for authorizations under the *Authorizations Concerning Fish and Fish Habitat Protection Regulations*.

We also remain available to proponents to provide advice and answer their questions. Over 2022–23, we did this on 4,706 occasions ([Table 4](#)).

⁴ Policy for applying measures to offset adverse effects on fish and fish habitat under the *Fisheries Act*.

Throughout the year, we collect, share and report on our education and advising activities using an internal Program Activity Tracking for Habitat system, including data on our review of referrals. We also regularly update the [Projects Near Water](#) website with new guidance materials. In February 2021, for example, we added the [Interim Policy for Establishing Fish Habitat Banks to Support the Administration of the Fisheries Act and the Species at Risk Act](#). In addition, summaries of all *Fisheries Act* authorizations are posted on a public [registry](#) for greater public transparency with Canadians.

Engagement is another key component of our program because the future direction of our policies and regulations is shaped, in part, by the insight of our partners and stakeholders, the perspectives of Indigenous Peoples, and the requirement to respect Aboriginal and treaty rights. In 2022–23, we advanced our multi-wave engagement plan to continue the conversation on two topics from Wave 1 and five topics from Wave 2.

The two topics on which we continued Wave 1 engagement were:

- Cumulative Effects on Fish and Fish Habitat Position Statement; and
- Prescribed Works and Water Regulations.

The five topics on which we continued Wave 2 engagement were:

- Death of Fish Position Statement;
- Existing Facilities and Structures Position Statement;
- Framework for Identifying, Establishing, and Managing Ecologically Significant Areas;
- Framework for Aquatic Species at Risk Conservation; and the
- Framework to Identify Fish Habitat Restoration Priorities.

For this engagement, we encouraged interested parties to submit feedback to us on all seven topics, to attend engagement sessions, and to participate in the online activities taking place on our “[Talk Fish Habitat](#)” platform. Additional information on the results of our engagement can be found in our Fish and Fish Habitat Protection Program’s “What We Heard” Reports also published on this platform.

During 2022–23, we attended virtual workshops and meetings held by Indigenous organizations, partners and interested stakeholders to discuss the engagement topics and raise awareness about the *Fisheries Act* and its fish habitat protection provisions.

We also provided guidance, training, advice and scientific support about fish and fish habitat implications to federal contaminated site managers as one of the Federal Contaminated Sites Action Plan's expert support departments. Our support helps federal contaminated site managers in minimizing impacts to fish and fish habitat, while maximizing the benefits of their site management activities.

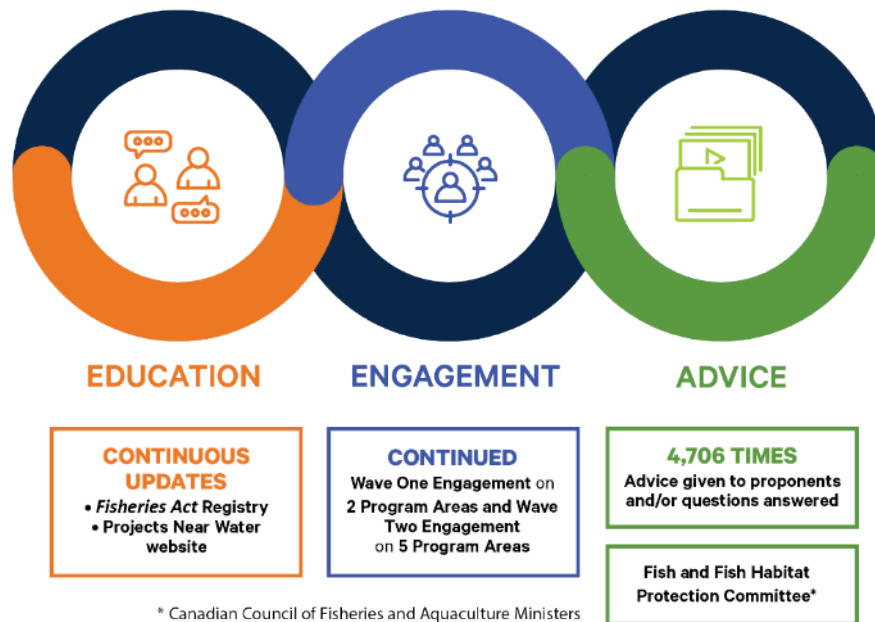
Expert support activities include:

- reviewing site classifications and technical documents to ensure that the potential risks and/or impacts to fish and fish habitat have been appropriately considered;
- developing guidance material and training on aquatic contaminated sites; and,
- promoting regulatory compliance with the *Fisheries Act* and *Species at Risk Act*.

The Canadian Council of Fisheries and Aquaculture Ministers' Fish and Fish Habitat Protection Committee provides a venue for Federal–Provincial–Territorial discussion and information sharing related to fish habitat protection. The Committee held six virtual meetings over the reporting year, supporting the continuing work of provinces and territories to develop and deliver collaborative advice for us on specific policies and tools required to implement the modernized *Fisheries Act*.

EDUCATION, ENGAGEMENT AND ADVICE

Fiscal Year 2022-23



Key Result:

Continued monthly update of the *Fisheries Act* Registry Dataset on the Open Data Portal

We continue to evaluate the departmental processes and technical development necessary to enhance the [Fisheries Act Registry](#). Current project information where authorizations were issued, are accessible to Canadians through the [Common Project Search](#) portal.

2.2 Reviewing proposed works and activities

The [Projects Near Water website](#) includes our recommended best practices to help proponents avoid, mitigate and offset risks to fish and fish habitat. These are the [Measures to Protect Fish and Fish Habitat](#) and [Standards and codes of practice](#). There are also project-specific criteria to help proponents determine if they should seek our review of their projects to ensure that they avoid harming fish and fish habitat. This step in the process helps us focus our project-specific reviews and advice on the projects that require our review.

In cases where a project poses risks to fish and fish habitat that cannot be avoided, or for which the scope of the project is not entirely covered under a code of practice, proponents are asked to submit a [request for review](#). The project proposal will be reviewed to determine if your activity also is likely to result in the death of fish, by means other than fishing and/or the harmful alteration, disruption or destruction of fish habitat. In which case, the proponent will need to apply for authorization.

Any time an aquatic species at risk may be affected by a proponent's proposed works, a review can also be requested. As part of the review process, our officials must verify whether or not the project has the potential to adversely affect aquatic species listed under the *Species at Risk Act* (SARA) or their critical habitat, so appropriate measures can be taken by the proponent if the project is permitted to proceed.

At the end of the review process, if the avoidance and mitigation measures will avoid contravening the fish and fish habitat protection and pollution prevention provisions of the *Fisheries Act*, a letter of advice may be issued to the proponent. If the harmful alteration, disruption or destruction of fish habitat or death of fish, by means other than fishing, cannot be avoided, the proponent will need to submit an application for authorization as outlined in the [Authorizations Concerning Fish and Fish Habitat Protection Regulations](#), and the Minister may consider issuing an "authorization" pursuant to paragraph 34.4(2)(b) and 35(2)(b) of the *Fisheries Act* for a project.

If the review determines that an aquatic species at risk or its protected critical habitat could be affected by a proposed project, a *Fisheries Act* authorization that addresses the requirements under SARA may also be required. This authorization would outline the measures required for the project to be compliant with both Acts. A SARA-compliant authorization is typically issued under paragraph 35(2)(b) of the *Fisheries Act* to act as an authorization under both statutes. The [Applicant's Guide Supporting the "Authorizations Concerning Fish and Fish Habitat Protection Regulations"](#) is available to guide proponents through the process of applying for a *Fisheries Act* authorization.

Avoid harmful alteration, disruption or destruction of fish habitat or death of fish

Our preference is to conserve and protect fish and fish habitat by avoiding harmful impacts, whenever possible. Proponents are responsible for avoiding harmful impacts resulting from their works, undertakings, or activities.

The Department, through the **Fish and Fish Habitat Protection Program**, is legally required to address the Crown's duty to consult and accommodate when recommending authorization decisions to the Minister of Fisheries and Oceans under the *Fisheries Act* and *Species at Risk Act* and to address any other consultation requirements that may apply under the *Fisheries Act*, *Species at Risk Act* or other federal statutes.

Between April 1, 2022 and March 31, 2023, we reviewed 4,815⁵ development proposals (referrals) and issued 225 authorizations.⁶ We also achieved an 89 per cent compliance rate with our service delivery standards to confirm that applications for authorizations were complete and adequate within the

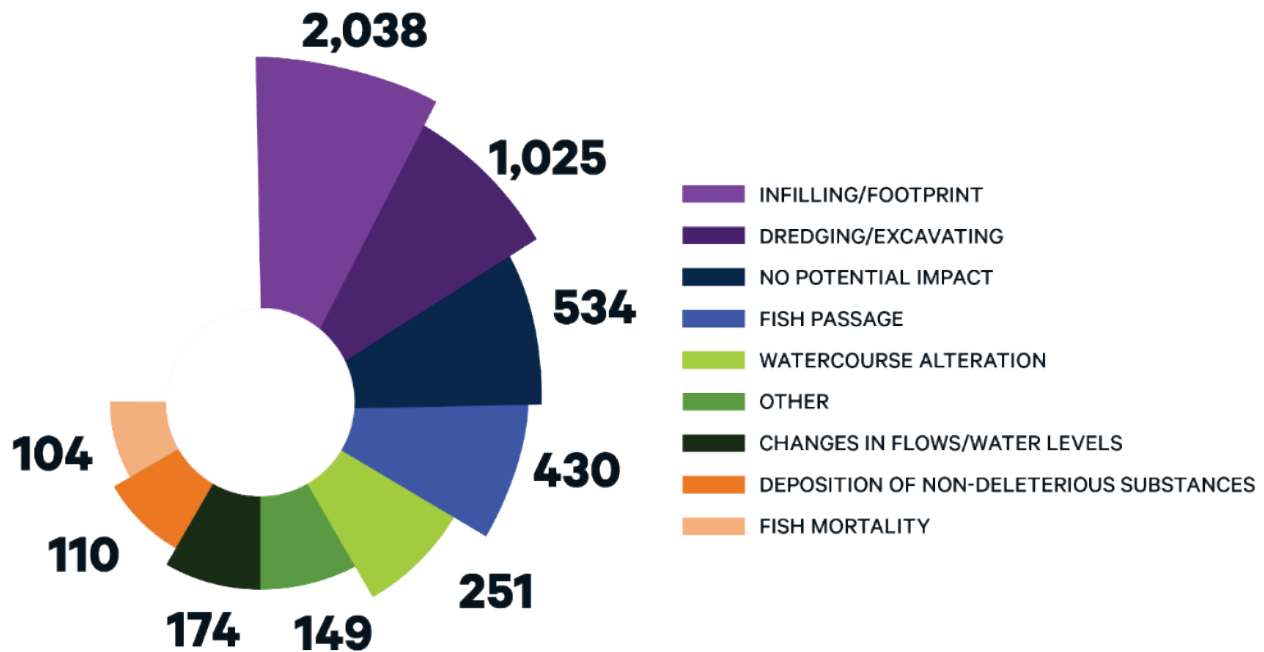
⁵ Habitat referrals by primary impact are shown in [Table 3](#) in the annex.

⁶ Total number of authorizations ([Table 4](#)) issued by DFO regions.

regulated 60-day time limit as well as a 100 per cent compliance rate for making the authorization decisions within the 90-day time limit.

SUMMARY OF HABITAT REFERRALS

by primary impact
Fiscal Year 2022-23



In addition to project-specific authorizations, we managed 157 agricultural municipal drain class authorizations for maintenance activities in 2022–23, as shown in [Table 5](#). These types of authorizations use a standard approach to eliminate the need for site-specific review of these routine projects, but they are still tracked and reported because they authorize works, undertakings or activities that may result in the death of fish (by means other than by fishing) and the harmful alteration, disruption, or destruction of fish habitat.

2.3 Impact assessments

Some public and private development projects in Canada may first require a federal impact assessment before DFO can consider issuing authorizations under the *Fisheries Act* and/or permits under the *Species at Risk Act*. From a federal perspective, impact assessment legislation differs depending on where a project is located in the country. For instance, the *Impact Assessment Act*, and its predecessor the *Canadian Environmental Assessment Act, 2012*, apply in most jurisdictions except where it has been replaced by an alternate process derived from a modern land claims agreement.

When an impact assessment is being carried out, expert advice may be required or requested from DFO and this is provided to the Impact Assessment Agency of Canada or other party responsible for conducting the impact assessment to support their assessment of the potential impacts of a project. The

types of advice DFO provides during an impact assessment process are based on the expertise held within our multiple programs and sectors and may include but is not limited to our analysis of the project's potential impacts on fish and fish habitat, aquatic species at risk and their habitat, effects on the rights of Indigenous Peoples, or matters related to the Canadian Coast Guard as well as recommended mitigation measures to reduce or avoid impacts. DFO, along with other stakeholders involved in the impact assessment (such as other federal departments, provincial/territories governments, Indigenous groups, industry and public) provide advice to the entity leading the assessment for their consideration and to inform their impact assessment decision. Under certain federal impact assessment legislation, namely, in northern Canada, the department may also have additional responsibilities as a decision-making authority (e.g., responsible minister) if a project requires a *Fisheries Act* authorization and/or *Species at Risk Act* permit. DFO is prohibited from issuing an authorization under the *Fisheries Act* and/or a permit under the *Species at Risk Act* until the impact assessment has concluded, and it has been determined through that assessment that the project may proceed to the regulatory phase.

In addition, if a project on federal lands requires a *Fisheries Act* authorization and/or *Species at Risk Act* permit, DFO may be required to undertake its own assessment under section 82 of the *Impact Assessment Act* to identify any potential significant environmental effects of the project. Furthermore, if another federal department is subject to conducting an assessment on federal lands, DFO may be asked to provide its expert advice, based on our areas within our mandate, to support their review. During an impact assessment, DFO will work closely with other federal departments and agencies to ensure that affected Indigenous groups have been consulted, as well as to assess and, where appropriate, accommodate, potential impacts of the projects on their rights. Following an impact assessment, and where DFO receives an application for an authorization under the *Fisheries Act* and/or a permit under the *Species at Risk Act*, it may also be required to consult with Indigenous groups on aspects relevant to the regulatory review.

2.4 Monitoring and Enforcing Compliance

Monitoring to promote compliance with the fish and fish habitat protection provisions helps Canada conserve and protect fish and fish habitat, including aquatic species at risk. Promoting compliance through enforcement activities is also key to achieving these outcomes.

Fishery officers and fishery guardians are individuals designated by the Minister of Fisheries and Oceans under the *Fisheries Act* ([section 5](#)). Fishery officers are designated to monitor and enforce provisions of the *Fisheries Act*, including the fish and fish habitat protection and pollution prevention provisions. The enforcement powers⁷ of a fishery guardian are limited to the powers needed to carry out their duties, such as inspection and seizure of certain items. This means fishery guardians largely 'observe, record, and report' potential violations of the *Fisheries Act*.

Our fishery officers devote active time and effort to monitor and enforce compliance by:

⁷ Fishery guardians exercise powers under sections 49(1), 49(1.1-1.3), section 51 (excluding fishing vessels, vehicle and equipment) and section 52.

- conducting habitat patrols, inspections and investigations;
- working with habitat biologists, some of whom are designated as fishery guardians, on sites with authorized works, undertakings or activities;
- responding to reports of potential habitat violations from members of the public;
- assisting in habitat protection education activities held with the public;
- working with other enforcement partners to support habitat protection
- working with Crown counsel on prosecutions; and
- other activities, as needed.

When habitat violations are identified, fishery officers may issue warnings or directions to address the non-compliance. If warranted, they may also undertake investigations, lay charges and when necessary, undertake major cases and special investigations. These enforcement actions are a part of a broader compliance promotion effort that combines monitoring, control and surveillance with education, shared stewardship, and stakeholder engagement.

During fiscal year 2022–23, fishery officers:

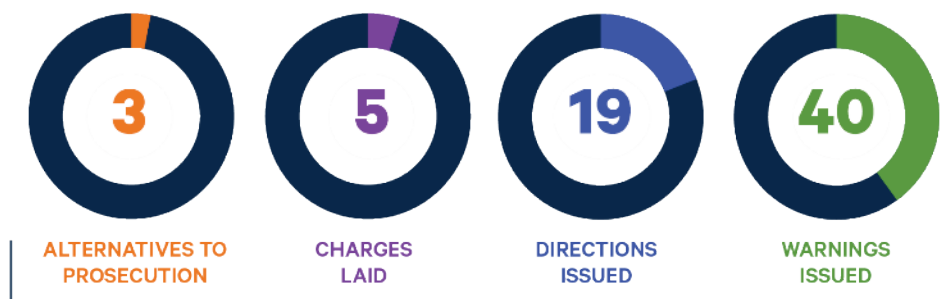
- spent 37,706 hours verifying compliance with and enforcing the fish and fish habitat provisions;
- issued 40 warnings;
- issued 19 directions; and
- laid 5 charges.

Our habitat protection compliance efforts largely focused on rural and urban development, and agriculture- and transportation-related activities. More than half of the charges laid during 2022–23 related to non-compliance in the agriculture sector.

DEDICATED HOURS TO VERIFY COMPLIANCE

& enforce fish and fish habitat protection provisions

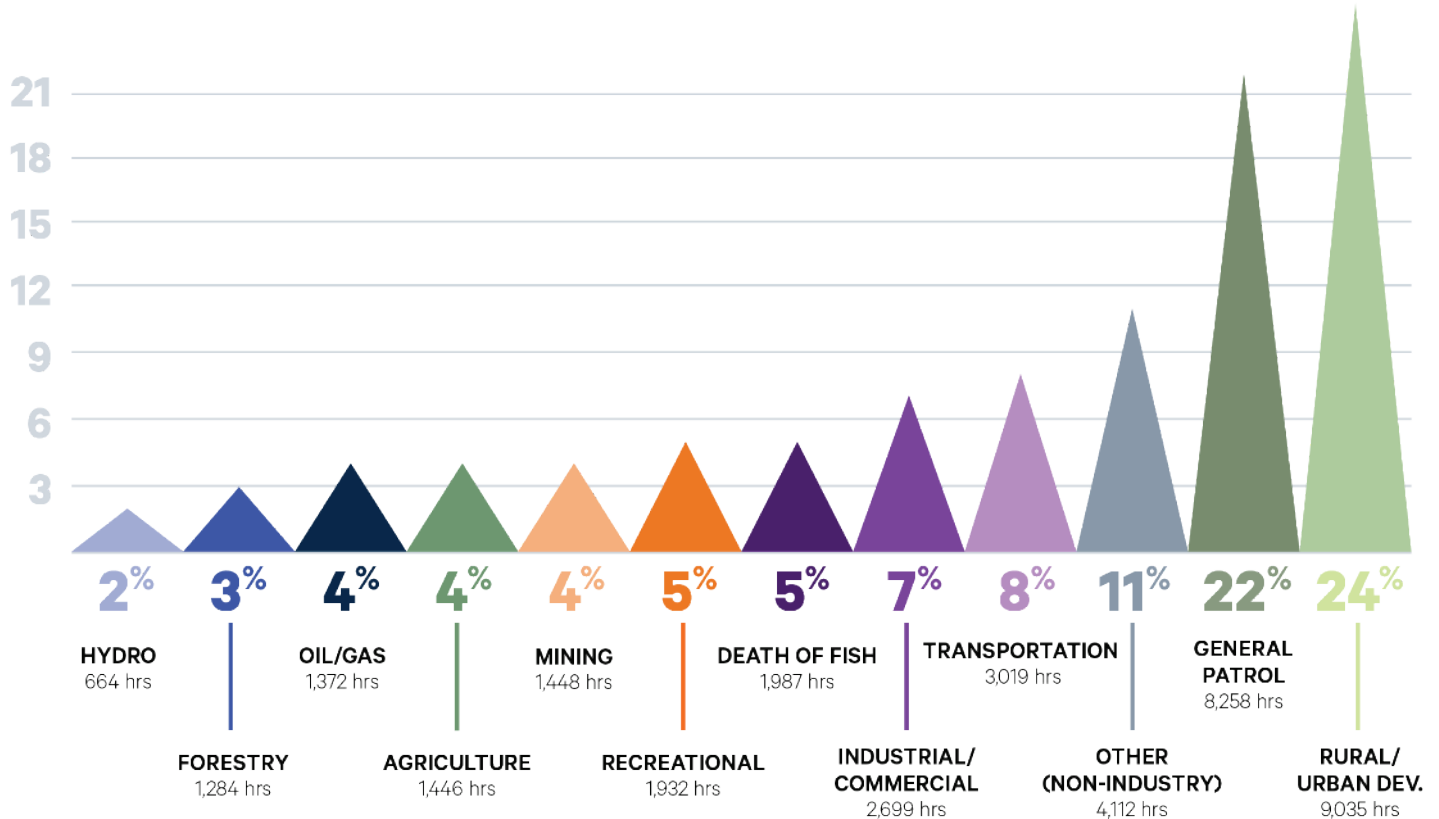
Fiscal Year 2022-23



37,706 HOURS

ALLOCATION OF COMPLIANCE EFFORT BY HABITAT SECTOR

Fiscal Year 2022-23



Refer to [Table 6](#) in Annex 4.4 for the allocation of compliance effort by all habitat sectors

Key Result:

More Monitoring and Compliance Promotion of Fish and Fish Habitat

Fishery officers have been devoting more of their efforts to address fish habitat issues since the *Fisheries Act* was amended in 2019. New work elements were also created in the Conservation and Protection's occurrence and time reporting system to help officers better track their efforts to protect fish and fish habitat. This includes responding to natural events, conducting habitat-specific work in the office and leveraging general patrols for habitat-related compliance promotion work. As a result, the total hours spent by fishery officers on habitat-related work has continued to increase each fiscal year.

Success Story:

Mount Polley Integrated Investigative Task Force – Likely, British Columbia

DFO, ECCC and the British Columbia Conservation Officer Service jointly investigated possible contraventions of the *Fisheries Act* related to the tailings pond breach at the Mount Polley mine that occurred in August 2014. This investigation was both complex and sensitive, and it required a substantial commitment from DFO staff. In 2022–23, more than 1,000 working hours were recorded. As a result of the combined agency efforts, a comprehensive report of the investigation was delivered to the Public Prosecution Service of Canada and the British Columbia Prosecution Service in June 2022 to support their prosecution actions.

2.5 Monitoring and Reviewing Energy Projects

In 2013, DFO entered into separate Memoranda of Understanding (MOUs) with the Canadian Nuclear Safety Commission (CNSC) and the National Energy Board (now the Canada Energy Regulator) to improve the efficiency and effectiveness of the assessment of applications for:

- Construction and operation, decommissioning and abandonment of energy infrastructure (CER); and
- Class I nuclear facilities and uranium mines and mills (CNSC).

Under these MOUs, CER and CNSC review projects for impacts to fish and fish habitat and aquatic species at risk on behalf of DFO.

CNSC regulates the use of nuclear energy and materials, including nuclear facilities under the *Nuclear Safety and Control Act*. Fisheries experts at the CNSC review licensee documentation to ensure appropriate measures are being applied to avoid and mitigate impacts to fish and fish habitat, including aquatic species listed under the *Species at Risk Act* and their critical habitat.

The potential of energy infrastructure projects to impact fish and fish habitat are reviewed by the CER under the authority of the *Canadian Energy Regulator Act*. Typically, this means reviewing proposals for the installation or maintenance of pipeline watercourse crossings.

If there are potential unavoidable impacts to fish and fish habitat, the project is referred to DFO for further review. The Minister of Fisheries and Oceans remains responsible for decisions on the issuance of *Fisheries Act* authorizations and conditions of authorization, as well as for permits under the *Species at Risk Act*.

In 2022–23, we continued to collaborate with CNSC to ensure the protection of fish and fish habitat near nuclear facilities under this MOU. During this reporting period, no *Fisheries Act* authorizations were issued to nuclear generating stations in Canada. The CNSC also continued to review the fish and fish habitat protection monitoring reports required of nuclear generating stations that were issued *Fisheries Act* authorizations in the past. During the reporting period, there were no reports of non-compliance with the fish and fish habitat protection provisions of the *Fisheries Act* or of any potential impacts to aquatic species at risk or their critical habitat.

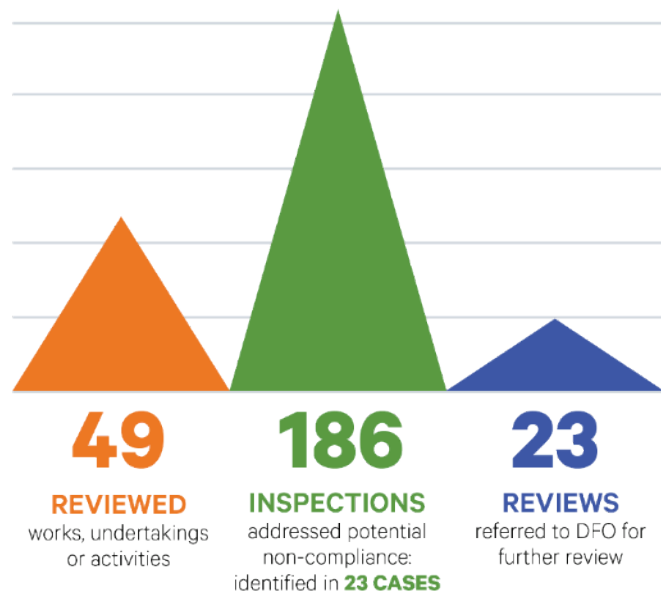
This year, the CER reviewed 49 proposed works, undertakings or activities in or near water to determine whether appropriate mitigation measures were being applied and whether impacts to fish and fish habitat were likely to occur. This included 19 works, undertakings or activities associated with new applications and 30 operations and maintenance works, undertakings or activities associated with existing projects. Of the 49 projects reviewed, 23 were referred to DFO for review.

During the same time frame, the CER inspected 186 projects that involved fish and fish habitat and, as a result, found and addressed 23 instances of potential non-compliance with the *Canadian Energy Regulator Act* or the *Canada Energy Regulator Onshore Pipeline Regulations*. They also referred one project to DFO for further review.

Since 2021-22, we have been working with the CER and CNSC to revise our MOUs to reflect legislative changes, including the modernized *Fisheries Act*, as well as the changed name of the National Energy Board to the Canada Energy Regulator. Work is ongoing to finalize an MOU with the CNSC, however, a [revised MOU](#) was signed with the CER in March 2023.

Under the revised MOU, the CER will continue to assess potential project impacts to fish and fish habitat under the *Fisheries Act* and *Species at Risk Act* (SARA). Companies will continue to be required to submit projects to the CER for review, that could impact fish and fish habitat, unless the project occurs within aquatic critical habitat of a SARA-listed species, in which case they will submit it directly to DFO for review. The revised MOU does not apply to proposed projects that are subject to federal impact/environmental assessment regimes, as that is the responsibility of the Impact Assessment Agency of Canada.

CANADA ENERGY REGULATOR
Fiscal Year 2022-23



2.6 Protecting Aquatic Species at Risk

The fish and fish habitat protection provisions of the *Fisheries Act* enable us to take a holistic approach to conserve and protect fish and fish habitat. We also apply the relevant provisions of other Acts and regulations when making decisions to ensure that fish and fish habitat are protected. This includes the *Species at Risk Act* (SARA).

For example, if a proponent’s proposed work, undertaking or activity is likely to result in an impact prohibited under SARA, our regulatory review would consider whether or not the permitting conditions

under SARA could be met. If it is possible, the *Fisheries Act* authorization would also act as a *Species at Risk Act* permit.

This permit would impose certain pre-conditions and requirements on the proponent in carrying out the work, undertaking or activity. If the conditions could not be met, we would refuse the authorization.

Among other things, SARA protects the most at-risk species and their critical habitat by prohibiting:

- the killing, harming, harassing or capturing of species listed as threatened, endangered and extirpated;
- any damage or destruction of a species' residence; and
- the destruction of critical habitat for species at risk (once this critical habitat has been identified).

Every year, we report to Parliament on our activities to administer the provisions of the *Species at Risk Act* that apply to aquatic species at risk, in a [publication](#) that is produced by ECCC. This includes highlighting key results and success stories.

2.7 Researching and Providing Scientific Advice

Aquatic ecosystems include interdependent plants, animals, and microorganisms. DFO scientists help fisheries managers and others understand the impacts of multiple human activities undertaken in and around aquatic ecosystems by researching and providing scientific advice. This advice covers a broad array of topics, including habitat science, species at risk, marine mammals, and cumulative effects.

Promote Sound Decision-making

Our decisions are informed by the best available science, technical information, and Indigenous knowledge. They are also guided by the application of the precautionary approach and a risk-based approach.

Our internal peer review process for providing scientific advice is coordinated by the Canadian Science Advisory Secretariat. The scope of this advice ranges from informing policy development to advising on a specific project. Examples of the research products and scientific advice given in 2022–23 included:

- [Science advice on the use of timing windows as a mitigation measure](#);
- [Science advice for assessing cumulative effects in support of policy development and regulatory decision-making](#);
- [Geospatial mapping tools, indicators, and metrics for fish habitat in the Pacific Region](#);
- [Decision Support Framework for the Conservation Translocation of SARA-listed Freshwater Fishes and Mussels](#);
- [Update of indicators of Atlantic Salmon \(*Salmo salar*\) in DFO Gulf Region Salmon Fishing Areas 15 - 18 for 2020 and 2021 \(specifically the "Environmental Conditions" section\)](#); and
- [Preliminary assessment of the State of Fish and Fish Habitat in Fisheries and Oceans Canada's Ontario and Prairie Region](#).

The results of our scientific research are published and made [publicly available](#). They are also shared with officials responsible for the conservation and protection of fish and fish habitat:

- as peer-reviewed scientific advice or in fact sheets; and
- during scientific workshops and briefings, and/or technical discussions.

In 2022–23, DFO continued to leverage strong connections and co-management collaborations with partners and stakeholders to carry out research and monitoring work in the field. Work by external partners supported by the Department was also important in producing science in priority areas. For example, the [Canadian Aquatic Barriers Database](#) project by the Canadian Wildlife Federation, produced a large and publicly available database of dams and other aquatic barriers in Canada. Additional information can be found on DFO’s [What is fish habitat](#) website.

Key Result:

Science on the use of timing windows as a mitigation measure

A timing window defines a period when work in or near water has a low risk to fish and fish habitat. Timing windows are the Fish and Fish Habitat Protection Program’s most commonly-prescribed mitigation measures. In 2022, we held a national peer review process to produce science advice on the use and effectiveness of timing windows. Although they are intuitive in nature, have been developed for most regions of Canada, and are widely used, their effectiveness as a mitigation measure is largely unknown especially given climate change impacts.

A [research document](#) was produced to present a state of knowledge on timing windows and a new conceptual model for developing and refining effective timing windows. The information presented can be used by FFHPP in the development of a science-based timing window framework to guide their creation and modification, to aid practitioners to identify potential risks of work outside of established windows, and to inform their adaptation to changing environmental conditions.

2.8 Restoring Fish and Fish Habitat

Fish habitat restoration offers an opportunity to address past impacts to habitats and ecosystems, while supporting Government of Canada priorities like climate change mitigation and adaptation strategies, biodiversity conservation, and protection of species at risk. The goal of fish habitat restoration is to rebuild healthy and functioning ecosystems that support fish throughout their lifecycles.

With the goal of improving the coordination of aquatic restoration activities and informing resource management decisions across Canada, we published a “[Framework to Identify Fish Habitat Restoration Priorities](#)” in February 2023. The Framework describes an approach to identify fish habitat restoration priorities, principles for successful and effective restoration, and considerations to determine restoration priorities; and, reflects input from partners and stakeholders received over the summer of 2022. Engagement will continue through 2023-24 to develop regional fish habitat restoration priorities that identify important species, areas, and ecosystem functions and define restoration goals in specific geographic areas.

To explore and champion the ways that DFO collaborates with partners, Indigenous Peoples, and stakeholder communities to protect fish and fish habitat, we published the first in our new series of

“[Habitat Highlights](#)” reports in spring 2023. Each Habitat Highlight examines one or more threats to fish and fish habitat in a specific geographic area of Canada and how those threats are being assessed and addressed, with a focus on freshwater ecosystems. These reports aim to ignite curiosity and foster a culture of stewardship, with a longer-term goal of examining how place-based fish and fish habitat data can be used to better support evidence-based decision-making and the development of indicators of aquatic ecosystem sustainability.

Fish habitat restoration projects occur along our coastlines, in estuaries, along riparian zones, and through to our inland waterways. We have a number of habitat restoration programs underway, including the new Aquatic Ecosystems Restoration Fund (AERF) that was supported by the renewal of the \$2.0B Oceans Protection Plan. The AERF was also identified in the DFO Ministerial mandate as a commitment to renew the previous Coastal Restoration Fund. Like its predecessor, the AERF is providing \$75M over 5 years (i.e., 2022–23 to 2026–27) on projects to address impacts on Canadian coastal and upstream aquatic environments (e.g. climate change, new contaminants, algal blooms, agricultural runoff).

In its first year of operation, the AERF identified 45 projects that will support Government of Canada priorities including Indigenous reconciliation, climate change impact mitigation, and restoration of valued habitats for important species such as American eel and salmon.

During this first year, the program also selected three contribution projects to accompany AERF’s launch. Those projects were identified as the best candidates to support the AERF’s core objective (to protect and restore Canada’s coastal areas) and contribute to addressing the department’s other priorities including investing in blue carbon⁸ and supporting climate change mitigation and adaptation activities. Each recipient signed contribution agreements for a value of \$5M each from 2022–23 to the end of 2026–27. This funding support is provided to:

- The Fisheries and Marine Institute of Memorial University of Newfoundland - to establish healthy coastal habitats for species such as Atlantic salmon, Atlantic cod, American eel, and lobster through the restoration of degraded/damaged eelgrass beds in partnership with the Mi’kmaq Alsumk Mowimsikik Koqoey Association which includes the Miawpukek and Qalipu First Nations.
- St. Mary’s University, in Nova Scotia – to leverage a two-eyed seeing approach with the Mi’kmaq to restore 35 ha of salt marsh to sequester carbon and reduce greenhouse gas emissions.
- The Nature Conservancy of BC - to establish a network of estuary monitoring and assessment activities in estuaries within the Salish Sea that will evaluate resilience to sea level rise and identify restoration opportunities.

⁸ carbon stored in marine ecosystems



3

Preventing Pollution from Entering Waters

ECCC has reported on the administrative, regulatory, and enforcement activities related to the pollution prevention provisions of the *Fisheries Act* for many years. Our role is to educate and promote compliance to help the industries and communities we regulate follow the legislation. We also work with these partners to develop, improve, and streamline pollution prevention-related regulations.

Throughout the year, our environment enforcement officers conduct both planned and unplanned inspections to verify compliance and respond to incidents. They also carry out investigations to gather the evidence required to prosecute offenses. At the same time, environmental protection and enforcement staff at ECCC analyze self-reported effluent data from regulated industries, monitor the waters used as shellfish growing areas for pollution, and respond to emergencies to prevent pollution from entering waters frequented by fish across Canada.

In 2022–23, we continued to review regulations under the *Fisheries Act* as mandated by the Treasury Board Secretariat of Canada. Specifically, we reviewed the *Experimental Lakes Area Research Activities Regulations* to verify whether or not the regulations still achieve their intended objectives. As part of this review, we had the opportunity to discuss the administration of the regulations in the context of environmental pollution prevention with the regulated party, provincial governments, and Indigenous communities and organizations. Other regulations under the *Fisheries Act* are set to be reviewed in the upcoming years⁹.

The pollution prevention provisions of the *Fisheries Act* that relate to aquaculture activities and which serve to prevent, control, and eliminate aquatic invasive species are administered and enforced by DFO.

3.1 Educating and Promoting Compliance

We work to increase awareness and understanding about the importance of preventing pollution from entering waters frequented by fish and the consequences of non-compliance among the industries and communities that we regulate. These include the:

- Pulp and paper sector;
- Metal and diamond mining sector; and
- Wastewater systems run by most federal, provincial and municipal governments, private companies, and Indigenous communities¹⁰

We share this information via email and website postings, in letters, as brochures or other documents, and during site visits and information sessions. For example, in 2022–23, we led in-person engagement sessions with several First Nations communities, in conjunction with Indigenous Services Canada, which resulted in increased levels of wastewater systems compliance. In addition to on-site work, we participated in virtual meetings, tradeshow, presentations and phone calls with First Nations

⁹ For more information, please see the ECCC regulatory review [webpage](#).

¹⁰ We do not regulate wastewater systems in the Northwest Territories, Nunavut or communities north of the 54th parallel in Quebec or Newfoundland and Labrador.

communities, Tribal Councils, technical associations, and Circuit Riders to build awareness and understanding of the regulatory requirements of the *Wastewater Systems Effluent Regulations*. We also continued to help these communities and their supporting agencies by participating in Indigenous-focused conferences and workshops, creating user-friendly compliance material for owners/operators, providing regular reporting reminders, and offering meetings to discuss any reporting challenges. In addition, we continued to engage First Nations communities and their supporting agencies to determine if communities are subject to the *Wastewater Systems Effluent Regulations*, and to increase their capacity to conduct ongoing sampling and reporting to comply with the regulations.

Key Results:

Improving online guidance materials for the metal and diamond mining sector

In 2022–23, we renewed the *Metal and Diamond Mining Effluent Regulations* [webpage](#) to make it easier to navigate and more visually appealing. The website features quick links to the [mining fact sheets](#) and [Single-Window](#) reporting system for online reporting.

ECCC hosted a booth at the Prospectors & Developers Association of Canada's 2023 Convention to promote the *Metal and Diamond Mining Effluent Regulations* by distributing fact sheets and answering questions. We also engaged with 13 mining industry associations across Canada to distribute fact sheets to their members. Working with organizations that are willing to distribute regulatory information is an efficient way to communicate with many industrial stakeholders at once.

Promoting information transparency by building a *Fisheries Act* registry for Canadians

At the beginning of 2022, we published the [Fisheries Act Registry: pollution prevention](#) which contains information on current regulations related to the pollution prevention provisions of the *Fisheries Act*, regulations under development, equivalency and administrative agreements with provinces and territories, consultations, and administration and enforcement activities.

Later in the year, we updated the registry to add the Canadian Council of Ministers of the Environment guidelines for the protection of aquatic life that is incorporated by reference in the *Regulations Establishing Conditions for Making Regulations Under Subsection 36(5.2) of the Fisheries Act*. These updates were made in response to a review by the Standing Joint Committee on the Scrutiny of Regulations.

Work on this registry will continue each year to ensure information stays current and relevant to the needs of Canadians.

3.2 Modernizing and Developing Pollution Prevention Regulations

Eight regulations have been developed to date to protect waters that are frequented by fish from pollution. The regulations achieve this outcome by controlling the type and amount of substances that can be deposited into waterways by certain industries and wastewater systems or by setting other requirements that would support the protection of fish, fish habitat and human use of fisheries resources.

We regularly undertake regulatory reviews to strengthen environmental protections, improve administrative efficiencies, and reduce unnecessary regulatory burden on industry. During 2022–23, for example, we continued to analyze the input of stakeholders gathered during consultations related to the modernization of the *Pulp and Paper Effluent Regulations* and to develop an updated consultation document for further engagement.

We also advanced the development of *Coal Mining Effluent Regulations* by putting in place contribution agreements with 15 Indigenous recipients and holding two or three bilateral meetings with each. We also met industry, provinces, and environmental non-governmental organizations, as requested by these stakeholders. At the end of the fiscal year 2023, we started to review the proposed approach and identified areas for potential changes based on comments and information identified during engagement with an aim to publish the draft regulations in *Canada Gazette I* in 2024.

In 2022–23, the *Oil Sands Mining Effluent Regulations* Crown–Indigenous Working Group continued to examine oil sands process-affected water in existing tailing ponds. This working group, which includes members from nine Indigenous communities and ECCO, shared and held engagement sessions on an assessment report of best available technologies for oil sands effluent treatment. The group also continued exploring alternatives to the release of treated effluent to ensure that all options are considered before a decision is made to regulate. Any such regulations would only be developed with strict protective standards reflecting the best available scientific information and Indigenous knowledge, and in collaboration with local Indigenous communities.

Key Results:

Regulatory review of the *Experimental Lakes Area Research Activities Regulations*

The Experimental Lakes Area extends approximately 270 km² in the Kenora district of northwestern Ontario close to the Manitoba border. The operator of the Experimental Lakes Area facility, which is made up of 58 lakes and three streams, is the International Institute for Sustainable Development. The *Experimental Lakes Area Research Activities Regulations* authorize deposits of deleterious substances in the lakes of the area under strict conditions to allow the operator to conduct whole-lake experiments that help the scientific community contribute to the management of fish habitat and aquatic ecosystems. For example, during 2022–23, scientists continued to study eutrophication from pesticide usage and agricultural run-off, oil spills, microplastics, nanosilver particles, and pharmaceuticals waste in eight ongoing research projects.

In 2022–23, we initiated and completed the regulatory review of the *Experimental Lakes Area Research Activities Regulations* to ensure they are still achieving their intended policy objectives. Engaging stakeholders and rights holders to get their perspectives on the regulations was an important part of this work.

This included engagement sessions with the Grand Council of Treaty 3 and the Métis Nation of Ontario. Our engagement activities found that all stakeholders and rights holders support the regulations and that changes in the way we administer the regulations could be undertaken to align with the implementation of the *United Nations Declaration on the Rights of Indigenous Peoples Act*.

Development of proposed *Regulations Amending the Wastewater Systems Effluent Regulations*

We continued to work towards amending the *Wastewater Systems Effluent Regulations* in 2022-23. Early engagements and pre-consultation activities ended in the spring of 2022. The proposed amendments aim to help regulatees meet their regulatory requirements, to reopen transitional authorizations, to expand temporary bypass authorizations, and to address administrative and operational challenges that have been identified.

3.3 Analyzing Self-Reported Effluent Data

Every year, we analyze the data reported by facilities subject to *Fisheries Act* regulations; namely, pulp and paper mills, metal and diamond mines, and community wastewater system facilities.

Our analysis of the 2021¹¹ monitoring data that was self-reported by the 74 pulp and paper mills subject to regulations show a compliance rate of:

- over 99 per cent for total suspended solids and biochemical oxygen demand;
- 97.4 per cent for the requirement that effluent not be lethal to rainbow trout; and
- 86 per cent for conducting and reporting on biological monitoring studies and sublethal toxicity testing required under environmental effects monitoring¹².

Our analysis of the 2021 data self-reported by 143 metal and five diamond mine facilities subject to regulations show that companies continue to report high rates of compliance¹³:

- over 98 per cent for suspended solids and nickel, and the requirement for effluent to have a minimum pH;
- over 99 per cent for all remaining substances and parameters;
- 99 per cent for the requirement that effluent not be lethal to rainbow trout; and
- 92 per cent (2021) for conducting and reporting on biological monitoring studies and effluent and water quality monitoring studies required under environmental effects monitoring¹⁴.

¹¹ “The most recent year for which data has been pooled, tabulated, and analyzed at an aggregate level is 2021.

¹² Compliance rates for environmental effects monitoring (EEM) requirements considered whether the various study components, such as, for example, a fish population study, sublethal toxicity testing, or, for the metal and diamond mines only, water quality monitoring, were conducted as required, and whether the information and data required in relation to these study components were submitted during the calendar year they were required to be submitted.

¹³ [Metal mining effluent quality - Canada.ca](https://www25.international.gc.ca/metal-mining-effluent-quality-canada-ca)

¹⁴ See Footnote 11

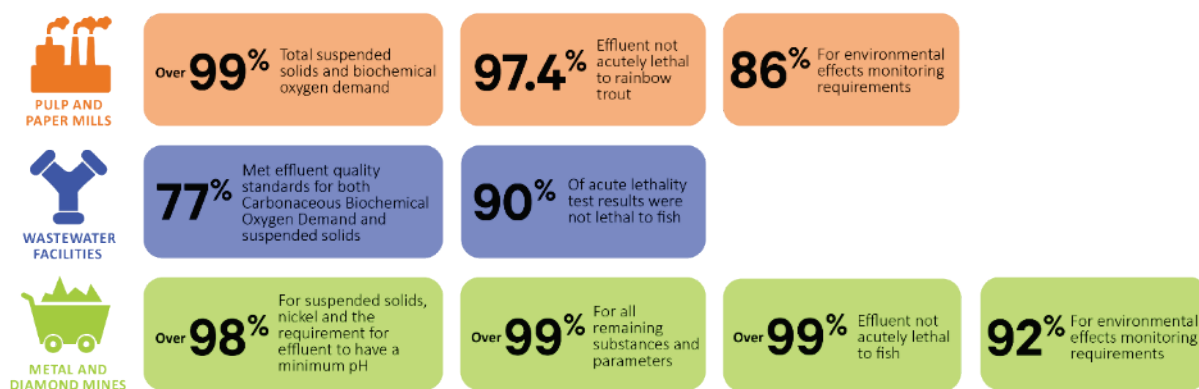
Our analysis of the 2021 self-reported data on effluent quality results and the volumes deposited by more than 2,300 wastewater systems that are subject to regulations or are under an equivalency agreement, as well as the medium and large wastewater systems that are required to conduct lethality tests, show that:

- 77 per cent met the effluent quality standards of 25 mg/L for both Carbonaceous Biochemical Oxygen Demand and suspended solids; and
- 90 per cent of the lethality test results were not lethal to fish.

ANALYSIS OF SELF-REPORTED EFFLUENT DATA

in terms of Compliance Rates

Fiscal Year 2022-23



Statistics reflect reporting from the 74 pulp and paper mills and the 143 metal and 5 diamond mine facilities that are subject to regulations. For wastewater, statistics reflect reporting from more than 2,300 wastewater systems subject to regulations or an equivalency agreement.

3.3.1 Transitional Authorizations

Under the *Wastewater Systems Effluent Regulations*, owners or operators of a wastewater system that is subject to regulations but is not built to achieve the national effluent quality standards were able to apply for a transitional authorization before June 30, 2014. These authorizations established the conditions under which the wastewater systems could continue to operate, while setting a deadline to upgrade the system (end of 2020, 2030 or 2040) to meet the mandatory national effluent quality standards.

We issued transitional authorizations for 65 wastewater systems, including five systems located in Quebec which are now subject to an equivalency agreement and managed by the Province of Quebec. Of the 60 transitional authorizations that we still manage, 16 systems have completed upgrades. Of the remaining 44:

- Seven transitional authorizations expired on December 31, 2020¹⁵;
- Eight must meet effluent quality standards by December 31, 2030; and
- Twenty-nine must meet effluent quality standards by December 31, 2040.

¹⁵ Owners or operators of a wastewater system that did not complete their upgrades by the time their transitional authorization expired are not in compliance with the effluent quality standards and are being addressed by ECCC enforcement.

Various factors can affect timelines for completing required upgrades, including access to infrastructure funding as well as the length of time needed to plan, design and construct a wastewater treatment plant.

Key Result:

Upgrades completed to the wastewater treatment plant in Red Rock, Ontario to reduce pollutants entering Nipigon Bay on Lake Superior

In 2022, the Township of Red Rock completed upgrades to its secondary treatment system at the Red Rock Wastewater Treatment Plant. The old facility was the last primary wastewater treatment facility on the Canadian side of the Great Lakes¹⁶. The undertreated effluent resulted in Nipigon Bay being designated as an Area of Concern under the *Great Lakes Water Quality Agreement* between Canada and the United States. The new facility will allow the Township of Red Rock to meet the national effluent quality standards in the *Wastewater Systems Effluent Regulations*. It will also provide residents with access to modern and reliable wastewater infrastructures for years to come¹⁷.

3.4 Enforcing the Pollution Prevention Provisions

3.4.1 Enforcement Priorities

In 2022–23, we continued to use a risk- and evidence-based framework to inform, plan, and allocate resources to our enforcement activities.

This entailed carrying out regional and national enforcement projects targeting high-risk toxic substances and high-risk water pollution sectors. These projects included inspections to assess industry compliance with the pollution prevention provisions of the *Fisheries Act* and/or its regulations. For example, in 2022–23 we inspected the presence of ammonia in wastewater.

The [Compliance and Enforcement Policy for Habitat Protection and Pollution Prevention Provisions of the *Fisheries Act*](#) guides the enforcement activities we undertake to ensure industry and community compliance with the pollution prevention provisions of the *Fisheries Act*.

3.4.2 Enforcement Activities

During the reporting period, 160 environmental enforcement officers had been designated by the Minister of Environment and Climate Change as fishery officers under the *Fisheries Act*¹⁸. These environmental enforcement officers work in every province and territory across Canada. They are supported by a range of other experts, including intelligence officers and analysts, regulatory analysts, scientists, and legal advisors.

¹⁶ Primary wastewater treatment involves the removal of a portion of suspended solids and organic matter by physical and/or chemical processes. Secondary wastewater treatment involves further removal of suspended solids and organic matter using biological treatment processes.

¹⁷ To read more about this project, visit the Water Canada [webpage](#) covering the article.

¹⁸ In addition, there were also 21 wildlife enforcement officers cross-designated as fishery officers under the *Fisheries Act* in 2022–23.

Environment enforcement officers are responsible for:

- conducting planned (proactive) inspections to verify compliance;
- conducting unplanned (reactive) inspections in response to:
 - complaints from members of the public
 - reported spills and incidents
 - referrals from internal and external partners;
- conducting investigations to gather evidence necessary to prosecute offences in court;
- working with Crown counsel on prosecutions;
- working with other partners, including Indigenous communities, provincial and territorial environmental agencies, and other national and international organizations; and
- undertaking other activities, as needed.

Work with Indigenous communities may include, but is not limited to:

- notifying Indigenous communities before entering their lands, when possible, to conduct inspections;
- meeting with Indigenous communities (e.g., to discuss the reason(s) for being in their community, explain our mandate, and/or respond to any concerns the community may have); and
- ensuring the harm or loss that an offence has caused to Indigenous communities is documented, so the Court can take it into account when an offender is sentenced.

Environmental enforcement officers issue enforcement measures to address alleged violations, including warnings, directions, and orders. They can also recommend files for prosecution. In addition, information collected by environmental enforcement officers may be considered by courts to impose injunctions.

The goal of any enforcement measure is to ensure that a violation is corrected, if possible, within the shortest possible period, so that the violator is brought into compliance with the *Fisheries Act* and discouraged from future non-compliance. For example, a direction is issued when immediate action is necessary to halt or prevent an unauthorized deposit of a harmful substance into water frequented by fish.

During 2022–23, our environmental enforcement officers undertook the following activities and measures to enforce the pollution prevention provisions of the *Fisheries Act*¹⁹:

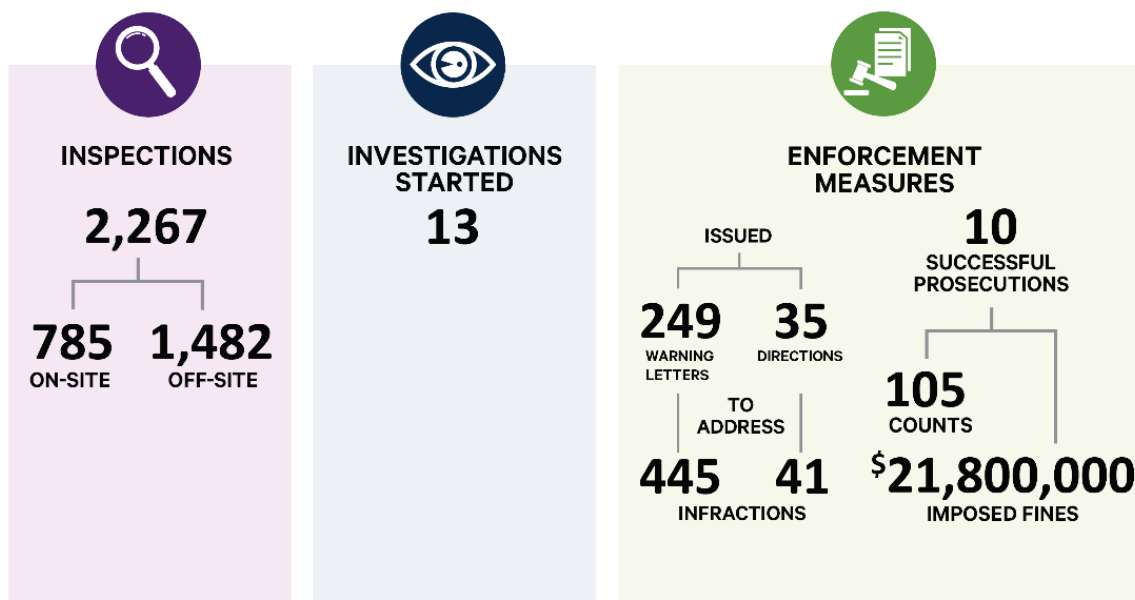
- conducted 2,267 inspections (785 on-site and 1,482 off-site²⁰);
- initiated 13 investigations;
- issued 249 written warning letters to address 445 infractions;
- issued 35 directions to address 41 infractions; and
- concluded 10 successful prosecutions, which resulted in the conviction of 10 subjects on 105 counts and a total of \$21,800,000 in imposed fines, most of which were directed to the Environmental Damages Fund.

¹⁹ [Table 10](#) in the Annex details these enforcement activities and measures as they relate to the *General Prohibition* and specific regulations of the *Fisheries Act*.

²⁰ An off-site inspection (also known as an administrative verification) is normally undertaken at the officer's place of work or in another location that is not at the regulated site and is usually limited to documentation verification.

INSPECTIONS, INVESTIGATIONS, AND ENFORCEMENT MEASURES

Fiscal Year 2022-23



Complete information on our enforcement activities in 2022–23 is included in the following tables in the Annex:

- [Table 10](#) – Inspections Conducted in Fiscal Year 2022–23
- [Table 11](#) – Enforcement Measures in Fiscal Year 2022–23
- [Table 12](#) – Investigations Breakdown for Fiscal Year 2022–23
- [Table 13](#) – Prosecutions and Penalties in Fiscal Year 2022–23

Key Result:

Major successes resulting from environmental enforcement officer actions

In 2022–23, we imposed nearly \$22 million in fines on offenders convicted of offences under the pollution prevention provisions of the *Fisheries Act*. Most of these fines are credited to the [Environmental Damages Fund](#) to ensure “environmental good follows environmental harm” by supporting projects with measurable outcomes in communities across Canada. Persons other than individuals, such as a corporation, that are convicted of an offence are also added to the [Environmental Offenders Registry](#).

A few case highlights²¹ from 2022–23 include:

- On June 10, 2022, **ArcelorMittal Canada Inc.** and **7623704 Canada Inc.** were fined a total of \$15 million by the Court of Quebec, at the Montréal courthouse. On October 15, 2021, ArcelorMittal Canada Inc. was found guilty of 93 charges and 7623704 Canada Inc. was found guilty of five charges for violating the *Fisheries Act* and the *Metal Mining Effluent Regulations* (now replaced with the *Metal and Diamond Mining Effluent Regulations*). The conviction stemmed from incidents at the Mont-Wright mining complex in Fermont, Quebec from May 25, 2011 to May 14, 2013, following a dike rupture at the complex in March 2013. Charges include 33 unauthorized deposits out of the normal course of events of toxic substances into water frequented by fish between May 25, 2011 and May 14, 2013, the failure to declare all effluent monitoring test results, to conduct the testing required during deposits out of the normal course of events, and to submit quarterly effluent monitoring reports within the prescribed timeframe.
- On December 6, 2022, **Michels Canada Co.** pleaded guilty to two charges under subsection 36(3) of the *Fisheries Act* at the Provincial Court of British Columbia in Surrey. The charges stem from the release of drilling fluid and sediment-laden waters through storm sewer systems into Cape Horn Creek in Coquitlam on August 22, 2017 and Quibble Creek in Surrey on September 2, 2017. Following these releases, a combined total of 553 dead fish were found in the creeks. These deposits were determined to be deleterious (harmful) to fish and the company was ordered to pay a total of \$2.8 million to the Environmental Damages Fund.
- On April 29, 2022, **Husky Oil Operations Limited** was fined \$600,000 in the Provincial Court of Saskatchewan after pleading guilty to one count laid under subsection 36(3) of the *Fisheries Act*. The charge is in relation to the release of approximately 2.8 million litres of process water following a rupture in the Westhazel pipeline in 2018. The process water, which is a by-product of oil and gas production and typically high in salt content, entered the Englishman River, a fish-bearing tributary of the North Saskatchewan River near Turtleford, Saskatchewan. Laboratory analysis of the samples determined that the process water was deleterious (harmful) to fish as defined under the *Fisheries Act*. The fine was directed to the Environmental Damages Fund.



Environmental enforcement officer taking samples (near Turtleford, SK)



Environmental enforcement officer taking a scene survey at the bank of Englishman River (near Turtleford, SK)

²¹ For more information on these cases, or some of our other successes, visit the enforcement notifications [webpage](#).

- On January 31, 2023, **Barclay Construction Group Inc.** entered into an alternative measures agreement with the Government of Canada and agreed to pay \$175,000 to the Environmental Damages Fund. During a marine training exercise on June 21, 2018 at Pier 12 in Hamilton Harbour in Hamilton, Ontario, ECCC environment enforcement officers observed a pump that was removing water from the company's excavation site, depositing sediment-contaminated water containing substances that are deleterious to fish into Lake Ontario, thus violating the *Fisheries Act*. As part of the agreement, the company committed to: holding a conference to share lessons learned and promote effective implementation of environmental management systems, and developing a standard operating procedure on spill containment and cleanup and training all their field employees on this procedure. The charges have since been stayed.



Pump used to discharge brown water into Hamilton Harbour (Lake Ontario)



Hose directed into Hamilton Harbour (Lake Ontario)

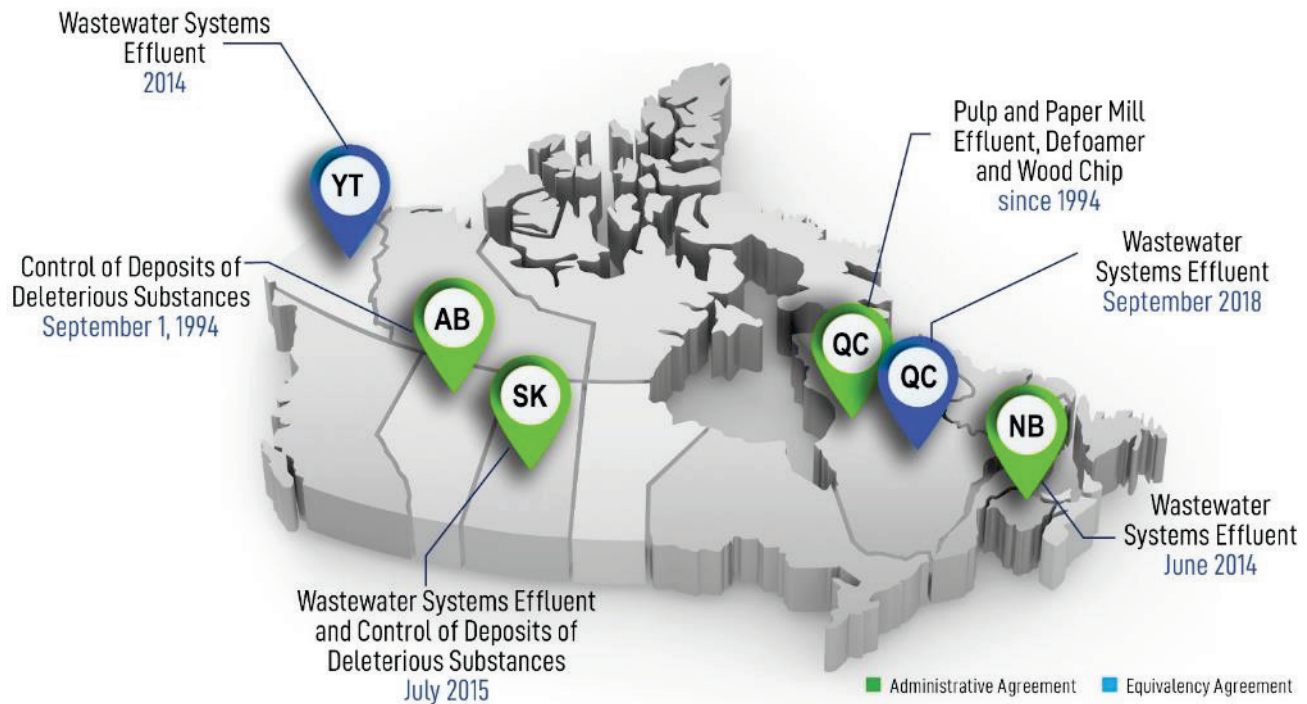
- On June 16, 2022, **Nova Scotia Power Incorporated** was sentenced in the Provincial Court of Nova Scotia and ordered to pay \$175,000 after pleading guilty to one charge under the *Fisheries Act*. The charge relates to an oil spill at the Nova Scotia Power Incorporated Tufts Cove power generation facility that occurred on August 2, 2018 due to a corroded pipe failure. The oil spill entered Tufts Cove (a part of the Halifax Harbour) and laboratory analysis of water samples concluded deleteriousness (harm) to fish as defined under the *Fisheries Act*. The fine was directed to the Environmental Damages Fund.
- On February 7, 2023, ECCC became aware of an incident at **Imperial Oil Ltd.'s** Kearl Oil Sands Site. Our environmental enforcement officers and environmental emergencies officers carried out inspections at the site and subsequently opened an investigation into a suspected contravention of subsection 36(3) of the *Fisheries Act*. In addition to the investigation, our environmental enforcement officers continue to monitor the mitigation measures taken by Imperial Oil Ltd. to prevent impacts to fish bearing water, as required by the *Fisheries Act* direction ECCC Enforcement issued on March 10, 2023.

3.5 Equivalency and Administrative Agreements

Equivalency agreements with a province, territory or Indigenous governing body are permitted by the *Fisheries Act* when the provisions of a provincial, territorial or Indigenous law are determined to be equivalent to the federal legislation. These agreements reduce regulatory duplication, streamline administration, facilitate co-operation, and enhance communications amongst Canada’s regulators.

EQUIVALENCY AND ADMINISTRATIVE AGREEMENTS WITH PROVINCES AND TERRITORIES

Reducing regulatory duplication



Under an equivalency agreement, federal regulations do not apply to those who are subject to a provincial or territorial regulatory regime, because it has been determined to be equivalent in effect to the federal regulations. Under an administrative agreement, federal and provincial and/or territorial regulatory requirements both remain in force, but provincial or territorial officials administer the federal regulations in their province or territory.

Canada presently has pollution prevention-related bilateral agreements with Yukon, Alberta, Saskatchewan, Quebec, and New Brunswick.

Yukon

In November 2014, the Governor in Council issued an Order declaring that the *Wastewater Systems Effluent Regulations* do not apply to wastewater systems that are subject to the *Agreement on the Equivalency of Laws Applicable to Wastewater Systems Located in Yukon*.

In 2022, five municipalities submitted their required reports and all three wastewater systems that discharged treated wastewater during that year met the effluent quality standards of 25 mg/L for both Carbonaceous Biochemical Oxygen Demand and suspended solids.

While the City of Haines Junction's wastewater licence expired on January 29, 2022, the city has committed to respect the conditions of the expired licence for reporting and operating its system. In addition, no wastewater was released from the community's lagoon system in 2022. ECCC continued to work collaboratively with the Yukon government to ensure consistency with the equivalency agreement until the licence is renewed by the Yukon Water Board.

Alberta

The *Canada-Alberta Administrative Agreement for the Control of Deposits of Deleterious Substances under the Fisheries Act* entered into force on September 1, 1994. The agreement establishes the terms and conditions for the co-operative administration of ss. 36(3) and the related provisions of the *Fisheries Act*, regulations under the Act, and the *Alberta Environmental Protection and Enhancement Act*. The agreement also streamlines and coordinates the regulatory activities of ECCC and Alberta Environment and Sustainable Resource Development to protect fisheries and reduces duplication of regulatory requirements for those regulated.

Saskatchewan

The renewal of the *Administrative Agreement between the Government of Saskatchewan and the Government of Canada Regarding the Administration of the Wastewater Systems Effluent Regulations in Saskatchewan* came into effect in 2020. Under the agreement, provincial officials corresponded with 72 members of the regulated community to administer the *Wastewater Systems Effluent Regulations* and promote and verify compliance with the regulations. The *Canada-Saskatchewan Administrative Agreement for the Control of Deposits of Deleterious Substances under the Fisheries Act* also sets out the principles for co-operation and identifies a preliminary list of activities to help develop detailed collaborative arrangements.

Quebec

The Province of Quebec and the Government of Canada have been collaborating to protect and conserve fish and fish habitat and prevent pollution since 1994. The parties currently co-operate through a memorandum of understanding for data collection, renewed in April 2018, whereby Quebec provides a single data-entry portal for regulated parties for the following federal regulations:

- *Pulp and Paper Mill Effluent Chlorinated Dioxins and Furans Regulations made pursuant to the Canadian Environmental Protection Act, 1999*
- *Pulp and Paper Mill Defoamer and Wood Chip Regulations made pursuant to the Canadian Environmental Protection Act, 1999*
- *Pulp and Paper Effluent Regulations made pursuant to the Fisheries Act*

Under the memorandum of understanding, pulp and paper mills continue to report their data for these regulations using the electronic reporting system administered by Quebec. Both orders of government

retain full responsibility for carrying out inspections and investigations, and for taking appropriate enforcement measures in order to ensure compliance with their respective legislation.

In September 2018, the Governor in Council issued an Order declaring that the *Wastewater Systems Effluent Regulations* do not apply to the 650 or so wastewater systems that are subject to the *Canada-Quebec Agreement on Acts and Regulations Applicable to the Municipal and Provincial Wastewater Systems in Quebec*. In 2022, approximately 76 per cent of these facilities met the effluent quality standards of 25 mg/L for both Carbonaceous Biochemical Oxygen Demand and suspended solids. This includes 58²² communities that had until the end of 2020 to build a facility that meets Quebec's effluent quality standards that are equivalent to the federal standards. The Quebec government is monitoring the situation closely and helping these communities put in place adequate wastewater treatment without delay. Quebec's *Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques* also conducted 100 inspections in the 2022 calendar year and issued 241 notices of non-compliance and eight administrative monetary penalties.

In 2020, Quebec amended its regulatory regime for wastewater. We assessed the changes and determined that the equivalency agreement would need to be amended for the regimes to remain equivalent. While we anticipated that this work would be completed and reported in the 2021-22 report, the amendments are still being completed and will only be reflected on in the 2023-24 report.

New Brunswick

The *Administrative Agreement between the Government of New Brunswick and the Government of Canada Regarding the Administration of the Wastewater Systems Effluent Regulations in New Brunswick* came into effect in February 2018. Under the agreement, provincial officials had 62 interactions with the regulated community to promote and verify compliance, and the results of these interactions were shared with us.

3.6 Monitoring Marine Water Quality for Shellfish

ECCC is one of three federal partners in the Canadian Shellfish Sanitation Program. Our role is to survey shellfish harvesting areas to help identify actual and potential sources of pollution and minimize the potential health risks associated with eating shellfish. The basis of shellfish harvesting classification relies on accepted water quality standards and general sanitary conditions. Our shellfish harvesting classification recommendations are used by another partner in the program, DFO, to manage the harvesting areas based on the *Management of Contaminated Fisheries Regulations*.

In 2022–23, we collected 27,247 marine water quality samples at 5,831 stations in order to classify shellfish harvest areas along the coasts of the Atlantic and Pacific Ocean and the St. Lawrence Estuary.

²² The number of communities changed from 49 in 2021 to 58 in 2022 because the daily volumes of future wastewater systems were refined during preliminary studies and some additional systems increased their effluent to 100 m³/d or more, which made them subject to the federal *Wastewater Systems Effluent Regulations* and to the equivalency agreement.

Key Result:

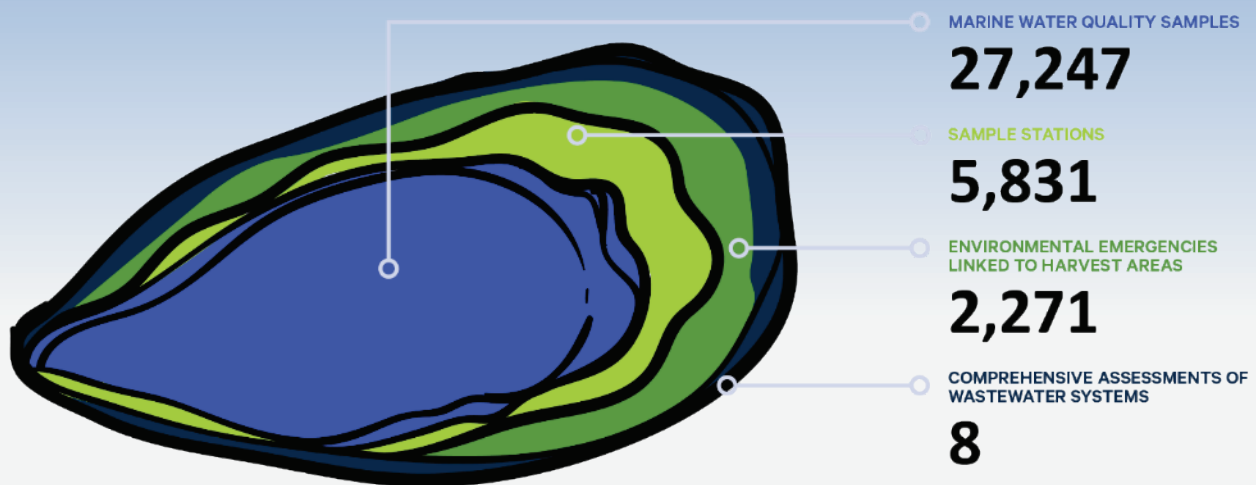
Protecting Canadians from consuming contaminated shellfish

Federal partners in the Canadian Shellfish Sanitation Program have been working together to raise awareness amongst wastewater treatment plant operators about the importance of timely reporting when unexpected discharge events occur because early awareness and action successfully prevent Canadians from consuming contaminated shellfish harvested in the area.

As a result of these efforts, 2,271 environmental emergency events were reviewed and significant incidents were assessed to determine the need for emergency harvest area closures.

MONITORING WATER QUALITY FOR SHELLFISH

Fiscal Year 2022-23



We also evaluated or re-evaluated eight wastewater systems using leading-edge, three-dimensional hydrodynamic modeling technology to help redefine established classifications of shellfish harvesting areas located close to wastewater treatment plants. As a result of this work, we revised the harvesting limits in some locations.

3.7 Responding to Environmental Emergencies

In the event of a significant water pollution incident, we oversee the response actions taken by the responsible party to counteract, mitigate or remedy any adverse effects. We also give science-based expert advice 24 hours a day, seven days a week through the National Environmental Emergencies Centre to inform these response actions to reduce the consequence of environmental emergencies. This is done in collaboration with other federal, provincial and territorial governments, municipalities, and stakeholders.

Our environmental emergency officers are authorized to:

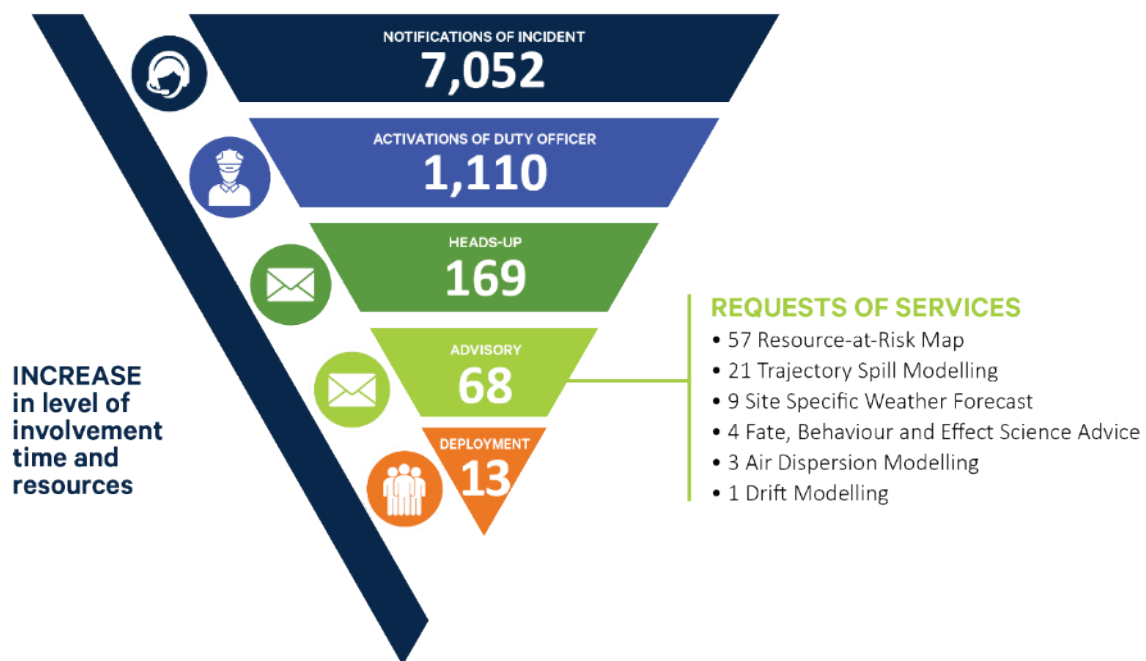
- receive notifications of deposits of deleterious (harmful) substances into the environment;
- access and inspect the site of the deposits or any related documents in order to observe or to carry out spill-response activities;
- collect relevant information and samples to establish the fate and effects of the pollutant, and determine environmental damage;
- evaluate to ensure that reasonable measures are taken by the polluter to protect the environment and human health and, if the polluter is unable or unwilling to take reasonable measures, our environmental emergency officers are able to take or direct the measures; and
- support enforcement activities.

In 2022–23 the National Environmental Emergencies Centre recorded 7,052 notifications involving the *Fisheries Act*. Of these notifications,

- 1,110 were escalated to one of the Centre’s duty officers for additional assessment and to ensure that all reasonable measures were being taken to protect the environment and human health;
- 169 incidents resulted in specific communication with senior management (i.e., “Heads-up”) and 68 incidents resulted in scientific information being provided to the agency leading the response

NATIONAL ENVIRONMENTAL EMERGENCIES CENTRE

Incident Statistics related to the *Fisheries Act*
Fiscal Year 2022-23



to inform decisions about appropriate response measures and operations. Such information includes:

- resources-at-risk maps
 - dispersion, drift or trajectory models
 - special weather forecasts, and
 - fate and behaviour science; and
- Thirteen incidents resulted in virtual or on-site deployments of environmental emergency officers to support the agency leading the response to the incident.

Success Story:

An environmental emergency response to an oil discharge in the St. Marys River in Ontario

On June 9, 2022, Algoma Steel inc., a steel manufacturing facility located in Sault Ste. Marie, Ontario, advised the Ontario Spill Action Centre of an ongoing oil discharge into the St. Marys River. The St. Marys River is on the Canada-US border. The quantity spilled was estimated at 20,000-25,000 litres of lubricating oil, of which approximately 10,000 litres reached the river. In response, approximately 1,200 metres of boom was deployed and lift locks/gates were closed to mitigate downstream migration. The cause of the release was not confirmed at the time.

The National Environmental Emergencies Centre supported the Province of Ontario's Ministry of Environment, Conservation and Parks' response to the incident by providing critical scientific advice. This included identifying resources at risk and environmental sensitivity intelligence, trajectory modelling, site-specific weather forecasts, fate and behaviour of pollutants, wildlife distributions, and important habitats. The Centre also deployed two environmental emergency officers onsite to help the province assess the situation, delineate the impacted area, and assess the impact to shorelines. The environmental emergency officers also worked with our environmental enforcement officers to inspect the Algoma Steel Inc. main facility and their wastewater treatment plant. This included collecting samples at the Algoma Steel Inc. main facility and providing technical information.

3.8 Streamlining Environmental Notifications

In an environmental emergency or occurrence that is likely to negatively impact fish and fish habitat, the person responsible for the incident or who has control of the activity that resulted in the emergency, must immediately notify an inspector, a fishery officer, or an authority listed in the *Deposit Out of the Normal Course of Events Notification Regulations*. In 2021, we initiated a review of these regulations to identify areas for improvement and this review continued over 2022–23.

In most cases, provincial and territorial laws also require notification of an environmental emergency or occurrence. To reduce duplication, we entered into [environmental occurrences notification agreements](#) with the governments of Alberta, British Columbia, Manitoba, Ontario, Saskatchewan, and Yukon. These agreements were re-negotiated in 2021-22. They have since been approved, signed and posted on the [Government of Canada environmental occurrences notification agreement website](#). ECC is in

discussion with the provinces regarding the standard operating procedures that stem from the notification agreements.

Notification agreements enable us to streamline the process for persons who are required to verbally notify one or more governments about an environmental emergency. Under the agreements, the person can notify the 24-hour authority operating for the province or territory and they will transfer the information to us so we can provide timely and effective oversight, possible scientific support, compliance verification, and appropriate enforcement response.

3.9 Monitoring and Enforcing Aquaculture Activities

The *Aquaculture Activities Regulations* clarify the conditions under which aquaculture operators may install, operate, maintain, or remove an aquaculture facility, deposit organic matter, or undertake measures to treat their fish for disease and parasites. The regulations also set three classes of deleterious substances that may be deposited in waters frequented by fish, (subject to conditions):

- biochemical oxygen demanding [matter](#);
- drugs; and
- pesticides.

The deposit of these substances is restricted to avoid, minimize, and mitigate potential detriment to fish and fish habitat. Aquaculture operators must also consider measures they could take to avoid using these substances, and to mitigate potential environmental impacts related to their deposit.

What is a biochemical oxygen demanding matter?

If organic material such as unconsumed feed, fecal matter, shellfish drop-off, and other organisms accumulate, the decomposition process begins to use oxygen and change the chemical properties of the nearby sediment.

In addition, the *Aquaculture Activities Regulations* require industry to report annually on the deposit of drugs and pesticides, in terms of frequency and quantity. DFO publicly reports on the [farm-level usage of drugs and pesticides](#) each year, which supports Canada's commitment to openness and transparency.

If the use of drugs or pesticides by aquaculture operators cause or are suspected to have caused morbidity or death of fish within 96 hours following their deposit, the owner or operator of the facility must notify DFO immediately. If we find that the deposit of drugs or pesticides caused the event, a directive may be issued to determine whether the substance was deposited in contravention of the regulations, and appropriate enforcement action may be taken.

Of the 140 inspections that our fishery officers conducted on aquaculture operations in 2022–23, 96% did not result in charges being laid.

In 2022–23, we continued to develop a comprehensive monitoring program which aims to address the potential impacts of the deposit of deleterious substances at marine finfish aquaculture sites on wild fish and fish habitat. This work is a result of a Canadian Science Advisory Secretariat peer-review process that was undertaken in 2020 to support DFO's efforts to assess potential options to strengthen pesticide and drug environmental monitoring at aquaculture sites.

Key Result:

National Aquaculture Public Reporting Data

Consistent with our commitment to openness and transparency, we publish [detailed drug and pesticide data](#) that we collect each year.

3.10 Preventing Aquatic Invasive Species

Invasive species are plants and animals (including fish and invertebrates) that are introduced outside their natural habitats. These species can harm our environment and displace native species by competing for food, degrading habitats, and introducing diseases. Aquatic invasive species also contribute to the increasing number of at-risk fish, molluscs, and plants in Canada.

The *Aquatic Invasive Species Regulations*, established under the fish and fish habitat protection and pollution prevention provisions of the Act, help us prevent the introduction and spread of aquatic invasive species and manage the species that have already established themselves in our waterways. These regulations also enable federal, provincial, and territorial officials to take prevention and enforcement actions. Collaboration across jurisdictions is thus a key component of our efforts.

In 2022–23, we continued to develop policies and tools to integrate the *Aquatic Invasive Species Regulations* into the DFO Aquatic Ecosystems regulatory environment to mitigate impacts to fish and fish habitat related to aquatic invasive species. We also continued to foster and further develop relationships with our federal, provincial, and territorial partners through the National Aquatic Invasive Species Committee and the Aquatic Invasive Species International Border Working Group, among others.

In November 2022, the Fall Economic Statement identified new funding of \$36.6 million over five years starting in 2022–23 for the expansion of DFO’s Aquatic Invasive Species National Core Program to protect Canada from the introduction, establishment and spread of aquatic invasive species. The new time-bound funding also provided \$8.75 million in contribution funding to launch the Aquatic Invasive Species Prevention Fund to facilitate on-the-ground action. In addition, eight multi-year projects received a total of \$3.3 million dollars in directed funding starting in 2022–23.

In addition, we continued to promote nationally consistent messaging through the “Don’t Let it Loose” 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.

Over the course of 2022-23, we deployed a sea lamprey assessment and control program throughout the Great Lakes basin. This included working with our partners to put in place all planned physical barriers to sea lamprey migration, operating sea lamprey traps and evaluating spawning runs, evaluating the presence and extent of sea lamprey infestation in over 200 tributaries, and successfully applied lampricide to a number of tributaries, including in American waters in the states of New York and Michigan.

The Asian Carp Program continued early detection surveillance efforts in the Canadian waters of the Great Lakes basin in 2022–23. Sampling was conducted in nearshore and tributary waters that have been identified as being suitable for Asian carp spawning, feeding or nursery habitat. Within those areas a total of 1005 sampling events were completed. The various life stages of Asian carps were targeted by using a variety of fish sampling nets and gear. No Asian carps were collected during the 2022 early detection surveillance season in Canadian waters.

We also issued an authorization for the deposit of a deleterious (harmful) substance as per section 19 of the *Aquatic Invasive Species Regulations* in an attempt to eradicate smallmouth bass in the Miramichi river system in New Brunswick. The proponent, in partnership with a regional working group, deposited rotenone to a 15-kilometer stretch of the Southwest section of the river in September 2022. The Department continues to operate a fish barrier at the Miramichi lake discharge to help contain the spread of smallmouth bass into the Miramichi river system, and will review other proposals that may be submitted under the *Aquatic Invasive Species Regulations* to control smallmouth bass in the watershed.

Success Story:

Addressing the threat of aquatic invasive species at the international border

In Spring 2019, the Commissioner of the Environment and Sustainable Development (CESD) tabled an Audit on aquatic invasive species (AIS) stating that DFO and the Canada Border Services Agency (CBSA) had not taken effective action to address the threat of AIS at the international border. They recommended that DFO should analyze and fill gaps in its enforcement of the *Aquatic Invasive Species Regulations*, including working with the CBSA to address risks associated with watercraft and prohibited imports.

As one of the actions to address the recommendations of the 2019 CESD audit, DFO created and implemented a pilot watercraft inspection and decontamination program in partnership with CBSA at the Emerson, Manitoba Port of Entry (POE) in the Ontario and Prairie region. The pilot was operational between June and October 2022, during which time 607 watercraft inspections and 122 watercraft decontaminations were conducted by DFO. Three invasive mussel fouled watercraft were intercepted during the pilot as well as watercraft containing other high risk AIS such as Eurasian Watermilfoil. Without DFO's physical watercraft inspections at the Emerson POE, boaters with watercraft carrying AIS subject to the importation, possession, transportation and release prohibitions under the *Aquatic Invasive Species Regulations* would have entered Canada and could have resulted in the introduction and spread of AIS.



4

Annex

4.1 Annual report

This annual report summarizes the legislative responsibilities of the Minister of Fisheries, Oceans and the Canadian Coast Guard and the Minister of Environment and Climate Change to report on their efforts to administer and enforce the provisions of the *Fisheries Act* that help us protect fish and fish habitat and prevent pollution from entering waters frequented by fish. It demonstrates the commitment of both Ministers to fulfill their responsibilities and enables readers to learn more about Canada's investments in healthy and sustainable fisheries, oceans, and other water resources.

4.2 *Fisheries Act*

The *Fisheries Act* provides the Minister of Fisheries, Oceans and the Canadian Coast Guard and the Minister of Environment and Climate Change with powers and authorities to conserve and protect fish and fish habitat, including the waterways that sustain fish over the course of their life cycles. The key provisions of the *Act* (pertaining to non-fishing activities) essential to sustaining fish species are the 'fish and fish habitat protection' and the 'pollution prevention' provisions.

Fish and fish habitat protection provisions

The fish and fish habitat protection provisions include, among others:

- a prohibition against carrying on a work, undertaking or activity that results in the death of fish, by means other than fishing (section 34.4(1));
- a prohibition against carrying on a work, undertaking or activity that results in the harmful alteration, disruption or destruction of fish habitat (section 35(1));
- a framework of considerations to guide the Minister's decision-making (section 34.1); and
- ministerial powers to ensure the free passage of fish or the protection of fish or fish habitat with respect to existing obstructions to fish passage (section 34.3).

When applying these provisions, we employ a risk-based approach to determine the likelihood and severity of potential impacts to fish and fish habitat that could result from a given work, undertaking or activity.

4.3 Responsible programs

Fisheries and Oceans Canada

Fish and Fish Habitat Protection Program

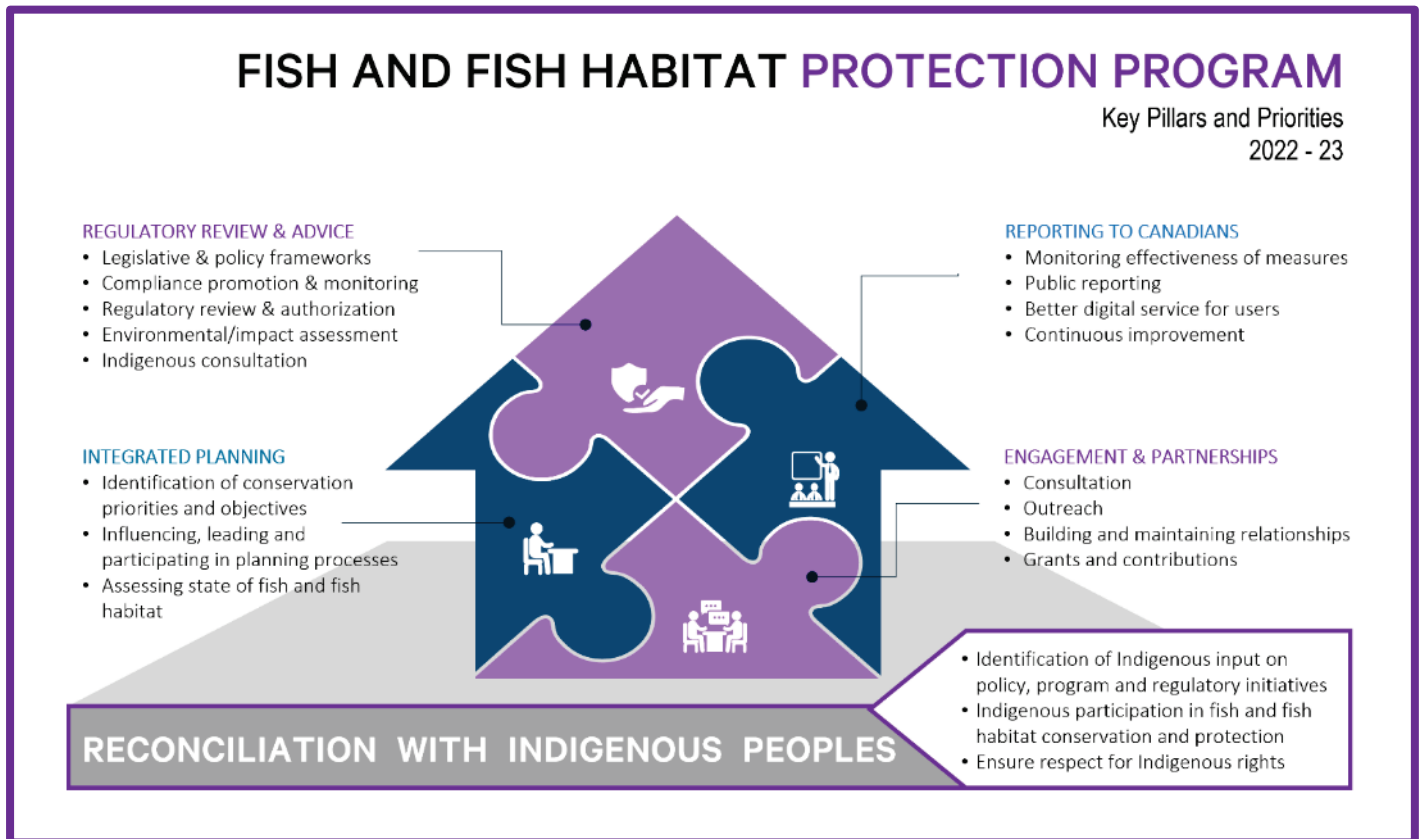
We work to conserve and protect fish and fish habitat for future generations, while supporting sustainable development, by administering the fish and fish habitat protection provisions of the *Fisheries Act*. This contributes to the broader DFO mandate of ensuring that Canada's oceans and other aquatic ecosystems are

protected from negative impacts to ensure healthy biodiversity, prevent the spread of invasive species, protect species at risk and promote sustainable fisheries.

Our team is structured into four areas of work:

- regulatory review and advice;
- integrated planning;
- engagement and partnerships, including with Indigenous Peoples; and
- reporting to Canadians.

For the Fish and Fish Habitat Protection Program, reconciliation with Indigenous Peoples is rooted in a shared interest to conserve and protect fish and fish habitat. We aim to support reconciliation with Indigenous Peoples through integrating actions that support improved relationships and outcomes for Indigenous Peoples across all areas of our work.



Conservation and protection program

We are responsible for monitoring compliance with legislation and regulations set up to conserve and protect fish and fish habitat. Our fishery officers are authorized by the Minister to enforce fisheries regulations, including the fish and fish habitat protection provisions of the *Fisheries Act*. To complete this work, we conduct at-sea and inland patrols in marine and freshwater areas, monitor catches, conduct investigations, and give information to fish harvesters about relevant regulations and conditions of licence. Our fishery officers also devote a lot of time to conserve and protect habitat, as described in Section 2.4.

Conservation and Protection's compliance and enforcement activities are delivered based on an intelligence-led, three-pillar approach:

1. **Education, Shared Stewardship and Stakeholder Engagement** including informal and formal education programs and co-management/partnership agreements.
2. **Monitoring, Control and Surveillance** including activities such as land, sea and air patrols, inspections and compliance monitoring of third-party service providers, and enforcement response to non-compliance.
3. **Major Cases/Special Investigations** including formal intelligence gathering and analysis, forensic audits, and prosecutions.

Environment and Climate Change Canada

Industrial Sectors and Chemicals Directorate

ECCC's Industrial Sectors and Chemicals Directorate leads the administration of the pollution prevention provisions of the *Fisheries Act*. The Directorate is responsible for policy development, the administration of the general prohibition of the Act (subsection 36(3)), and regulatory development and implementation under the provisions.

The *Fisheries Act* is one of the main federal statutes used to protect Canadian fisheries and to prevent water pollution. Therefore, the administration of the pollution prevention provisions of the *Fisheries Act* is a key contributor to the protection and conservation of Canada's water resources.

Two organizations within the Industrial Sectors and Chemicals Directorate focus on different sector expertise and the administration of the Act. The Mining and Processing Division focuses on projects pertaining to metal and diamond mines and the administration of the *Metal and Diamond Mining Effluent Regulations*. The Division is also responsible for the development of *Coal Mining Effluent Regulations* and the current collaborative work with nine Indigenous communities to explore options to manage the accumulation of oil sands process-affected water in existing tailings ponds.

The Forest Products and Fisheries Act Division, meanwhile, works on projects pertaining to substance and effluent deposits from pulp and paper mills, metal and diamond mines, and wastewater treatment plants in Canadian waters. This division is also responsible for the administration of the *Pulp and Paper Effluent Regulations*, the *Wastewater Systems Effluent Regulations*, and the general prohibition of the *Fisheries Act*.

Compliance with the general prohibition of subsection 36(3) of the *Fisheries Act*, which prohibits the deposit of any type of deleterious (harmful) substance in Canadian water bodies frequented by fish, remains at the forefront of our work. We continue to monitor and closely analyze the general prohibition to ensure compliance with the help of ECCC's Environmental Enforcement Directorate.

Environmental Enforcement Directorate

The Enforcement Branch's Environmental Enforcement Directorate supports ECCC's mandate to protect and conserve our natural heritage, and ensure a clean, safe and sustainable environment for present and future generations. We do this by enforcing federal legislation that protects the Canadian environment, including the pollution prevention provisions of the *Fisheries Act* and its associated regulations.

The Directorate consists of environmental enforcement officers that work in five regions across Canada:

- Atlantic Region
- Quebec Region
- Ontario Region
- Prairie and Northern Region
- Pacific and Yukon Region

The Environmental Enforcement Directorate also has teams in the National Capital Region that support the work of environmental enforcement officers by:

- Participating in the review of existing or new legislation to ensure that enforceability issues are identified and addressed, and
- Collaborating with partners and bringing together environmental enforcement officers and other experts to share information, address issues, and develop consistent enforcement approaches

Environmental Protection Operations Directorate

The Environmental Protection Operations Directorate contributes to ECCC's strategic outcomes related to sustainable ecosystems, the sound management of substances and waste, and the promotion of compliance to the Directorate's mandate is centered on policy and program development and implementation in six core areas: environmental assessment, contaminated sites, environmental emergencies, marine programs, compliance promotion, and environmental effects monitoring.

National programs are delivered by staff located in six regions and 17 regional/satellite offices across Canada. These programs support pollution prevention efforts by:

- Responding to notifications through the National Environmental Emergencies Centre
- Supporting the remediation of contaminated sites under the authority of the *Fisheries Act*
- Offering *Fisheries Act*-based information and expertise through compliance promotion, with regional experts promoting awareness and understanding of the *Metal and Diamond Mining Effluent Regulations* and the *Wastewater Systems Effluent Regulations* among regulated communities, and

- Supporting the implementation of *Fisheries Act* regulations by reviewing the environmental effects monitoring information submitted by regulatees

ENVIRONMENT AND CLIMATE CHANGE CANADA

Key roles and responsibilities
Fiscal Year 2022-23

INDUSTRIAL SECTORS AND CHEMICALS DIRECTORATE

FOREST PRODUCTS AND FISHERIES ACT DIVISION

- General prohibition administration (subsection 36(3))
- *Pulp and Paper Effluent Regulations* administration
- *Wastewater Systems Effluent Regulations* administration
- Environmental Effects Monitoring administration for *Fisheries Act* regulations

MINING AND PROCESSING DIVISION

- *Metal and Diamond Mining Effluent Regulations* administration

ENVIRONMENTAL PROTECTION OPERATIONS DIRECTORATE

ENVIRONMENTAL EMERGENCIES DIVISION

National Environmental Emergencies Centre

- Receive notifications, access, and inspect (harmful) substance deposits
- Collect and evaluate relevant information and samples to determine environmental damage or corrective measures and enforcement support

COMPLIANCE PROMOTION DIVISION

- Conduct activities to increase awareness and understanding of *Fisheries Act* instruments among the regulated community

EXPERT SUPPORT

- Assist in implementing *Fisheries Act* regulations by reviewing Environmental Effects Monitoring information submitted by regulatees

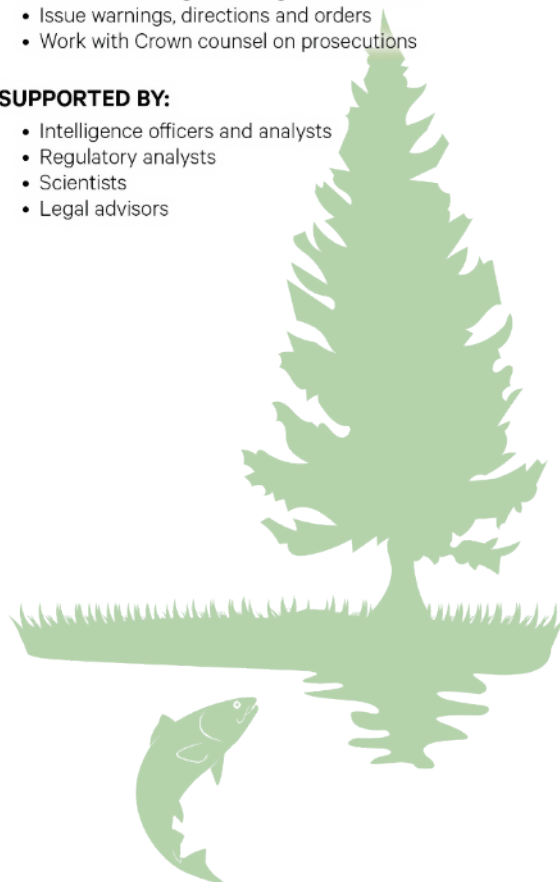
ENVIRONMENTAL ENFORCEMENT DIRECTORATE

One hundred and sixty enforcement officers

- Undertake planned (proactive) and unplanned (reactive) inspections
- Conduct investigations to gather evidence
- Issue warnings, directions and orders
- Work with Crown counsel on prosecutions

SUPPORTED BY:

- Intelligence officers and analysts
- Regulatory analysts
- Scientists
- Legal advisors



4.4 Tables

Fisheries and Oceans Canada

Table 1: Projects Reviewed by the Canada Energy Regulator - Fiscal Year 2022–23

Determination	2022–23
Deemed unlikely to result in requiring a <i>Fisheries Act</i> Authorization	26
Deemed to potentially require a <i>Fisheries Act</i> Authorization and referred to DFO	23
Total	49

Table 2: Projects Monitored by the Canada Energy Regulator - Fiscal Year 2022–23

Determination	2022–23
Deemed to be compliant with the <i>Canada Energy Regulator Act</i> and <i>Fisheries Act</i> requirements for fish and fish habitat protection	163
Non-compliance with the <i>Canada Energy Regulator Act</i> requirements for fish and fish habitat protection addressed by the Canada Energy Regulator	22
Non-compliance with <i>Fisheries Act</i> - notification/discussion with DFO	1
Total	186

Table 3: Summary of Habitat Referrals by Primary Impact - Fiscal Year 2022–23²³

Region	Primary Impact									Total
	Changes in Flows/Water Levels	Deposition of Non-Deleterious Substances	Dredging/Excavating	Fish Mortality	Fish Passage	Infilling/Footprint	Watercourse Alteration	No Potential Impact	Other ²⁴	
Newfoundland and Labrador	11	8	39	0	67	104	8	12	0	249
Maritimes	18	25	32	6	53	151	72	50	11	418
Gulf	11	0	52	6	69	147	8	190	0	483
Quebec	8	3	36	13	55	120	4	115	12	366
Ontario & Prairies and Arctic	67	31	685	54	172	901	43	141	23	2,117 ²⁵
Pacific	59	43	181	25	14	615	116	26	103	1,182
Total	174	110	1,025	104	430	2,038	251	534	149	4,815

Table 4: Advice/Responses Given and Authorizations Issued - Fiscal Year 2022–23

Region	Advice/Response Provided to Proponent or Others ²⁶	Authorizations Issued ²⁷	Total
Newfoundland and Labrador	296	5	301
Maritimes	415	18	433
Gulf	488	11	499
Quebec	441	44	485
Ontario & Prairies and Arctic	1,960	66	2,026
Pacific	1,106	81	1,187
Total	4,706	225	4,931

²³ For reporting purposes, the receipt of a referral by DFO is accounted for in the statistics of the same year that the event actually occurred, while any DFO decisions linked to the referral could occur in a subsequent year and be accounted for separately in the statistics for that year.

²⁴ “Other” includes referrals identified with the primary impact of “To be determined”.

²⁵ For the purpose of this report, Ontario & Prairies and Arctic includes the provinces of Alberta, Saskatchewan, Manitoba, and Ontario, as well as the Northwest Territories and Nunavut. Covering more than 2/3 of Canada, these regions typically report higher numbers.

²⁶ Advice given to others includes: written advice to federal agencies, provincial/territorial/other agencies and boards, letters of advice to proponents, and recommended mitigation measures to permitting agencies. Program responses given through triage and other processes include: best management practices, Codes of Practice, no concerns/no potential effect to fish or fish habitat, partnership/other process in place, measures to protect fish and fish habitat (website) can be used, and regulatory review not required. Advice/Response numbers do not include Impact Assessment advice actions.

²⁷ “Authorization Issued” numbers include both authorizations and amendments issued, so they are higher than the number of files. If a file is issued both an authorization and an amendment in FY 2022-23, it would also be counted as two authorizations issued.

Table 5: Notifications of use of class authorizations and codes of practice - fiscal year 2022–23

Region	Class Authorizations Notifications	Code of Practice Notifications	Total
Newfoundland and Labrador	0	32	32
Maritimes	0	23	23
Gulf	0	9	9
Quebec	0	13	13
Ontario & Prairies and Arctic	124	565	689
Pacific ²⁸	33	136	169
Total	157	778	935

Table 6: Allocation of compliance effort and fishery officer effort by fish habitat sectors - fiscal year 2022–23

Habitat Activities	Hours*	Percentage*
Agriculture	1,446	4%
Aquaculture	97	0%
Death of Fish	1,987	5%
Forestry	1,284	3%
General Patrol	8,258	22%
Hydro	644	2%
Industrial/Commercial	2,699	7%
Mining	1,488	4%
Natural Event	334	1%
Oil/Gas	1,372	4%
Other (Non-Industry)	4,112	11%
Recreational	1,932	5%
Rural/Urban Development	9,035	24%
Transportation	3,019	8%
Total	37,706	100%

²⁸ Number of placer mining applications reviewed for compliance with the watershed class authorizations issued in 2020-21 for specific watersheds in the Yukon. Site specific authorizations issued for placer mines, outside of the class authorization system, are counted in [Table 4](#)

Table 7: Summary of DFO fish habitat enforcement activities - fiscal year 2022–23

Region	Warnings Issued	<i>Fisheries Act</i> Direction	Charges Laid	Alternatives to Prosecution*
Newfoundland and Labrador	1	0	0	0
Maritimes	4	5	0	3
Gulf	0	0	0	0
Quebec	3	1	3	0
Ontario & Prairies and Arctic	13	5	0	0
Pacific	19	8	2	0
Total	40	19	5	3

*Alternatives to prosecution include out of court settlements aimed at restoring fish and fish habitat that have been harmed.

Table 8: Summary of habitat occurrences by region - fiscal year 2022–23

Region	Number of Occurrences
Newfoundland and Labrador	70
Maritimes	65
Gulf	84
Quebec	24
Ontario & Prairies and Arctic	49
Pacific	706
Total	1,001

Table 9: Convictions reported under the fish and fish habitat protection and pollution prevention provisions of the *Fisheries Act* - fiscal year 2022–23

Region	Number of Occurrences
Newfoundland and Labrador	0
Maritimes	0
Gulf	0
Quebec	0
Ontario & Prairies and Arctic	0
Pacific	3
Total	3

Environment and Climate Change Canada

Table 10: Inspections Conducted - Fiscal Year 2022–23²⁹

Instruments	Total	On-Site	Off-Site
<i>Fisheries Act (Grand Total)</i>	2,267	785	1,482
General Prohibition ³⁰	1,047	518	529
<i>Deposit Out of Normal Course of Events Notification Regulations</i>	9	8	1
<i>Meat and Poultry Products Plant Liquid Effluent Regulations</i>	2	2	0
<i>Metal and Diamond Mining Effluent Regulations</i>	788	99	689
<i>Pulp and Paper Effluent Regulations</i>	235	42	193
<i>Wastewater Systems Effluent Regulations</i>	186	116	70

Table 11: Enforcement Measures³¹ - Fiscal Year 2022–23

Instruments	Measure Type			
	No. of Letters	Written Warnings		Directions
		No. of Infractions ³²	No. of Directions	No. of Infractions
<i>Fisheries Act (Grand Total)</i>	249	445	35	41
General Prohibition ³³	116	133	33	39
<i>Metal and Diamond Mining Effluent Regulations</i>	85	158	1	1
<i>Pulp and Paper Effluent Regulations</i>	9	31	-	-
<i>Wastewater Systems Effluent Regulations</i>	39	123	1	1

²⁹ Only those regulations under which an inspection and/or investigation occurred during the time period are listed in this table.

³⁰ Includes all inspections and violations under the pollution prevention provisions of the *Fisheries Act*.

³¹ Enforcement measures are tabulated by number of measures issued at the regulation level. For example, if one warning was issued for two different regulations, the number of warnings would be two. Prior to 2021-22, these were tabulated by the number of files closed during the year that show at least one infraction for which the measure was taken.

³² Infractions are found at the section, subsection or paragraph level of an Act or Regulation. For example, if a written warning is sent to one person, but the alleged violations relate to three sections of the *Fisheries Act*; the number of written warnings in this column would be three, even though just one letter was sent.

³³ Includes all inspections and violations under the pollution prevention provisions of the *Fisheries Act*.

Table 12: Investigations Breakdown - Fiscal Year 2022–23

Instruments	Started before the fiscal year and ongoing after the fiscal year	Started in the fiscal year	Ended in the Fiscal year
<i>Fisheries Act</i> (Grand Total)	56	13	30
General Prohibition	39	10	28
<i>Metal and Diamond Mining Effluent Regulations</i>	14	0	1
<i>Pulp and Paper Effluent Regulations</i>	3	2	1

Table 13: Prosecutions and Penalties - Fiscal Year 2022–23

Instruments	Prosecutions		Penalties	
	Convicted Subjects ³⁴	Guilty Counts ³⁵	Environmental Damages Fund	Total Penalty Amount
<i>Fisheries Act</i> (Grand Total)	10	105	\$21,600,000	\$21,800,000
General Prohibition ³⁶	7	10	\$6,400,000	\$6,600,000
<i>Metal and Diamond Mining Effluent Regulations</i>	3	95	\$15,200,000	\$15,200,000

³⁴ Convicted subjects are the number of persons (individuals or organizations) sentenced during the reporting period.

³⁵ Counts are the number of sections of legislation or regulations for which there was a conviction during the reporting period. For example, in a case where a regulatee is found guilty of one count of violating ss. 36(1) and two counts of violating ss. 36(3), it would be considered one conviction against the subject and three counts.

³⁶ Includes all prosecutions under the pollution prevention provisions of the *Fisheries Act*.

4.5 Year-over-year comparative statistics

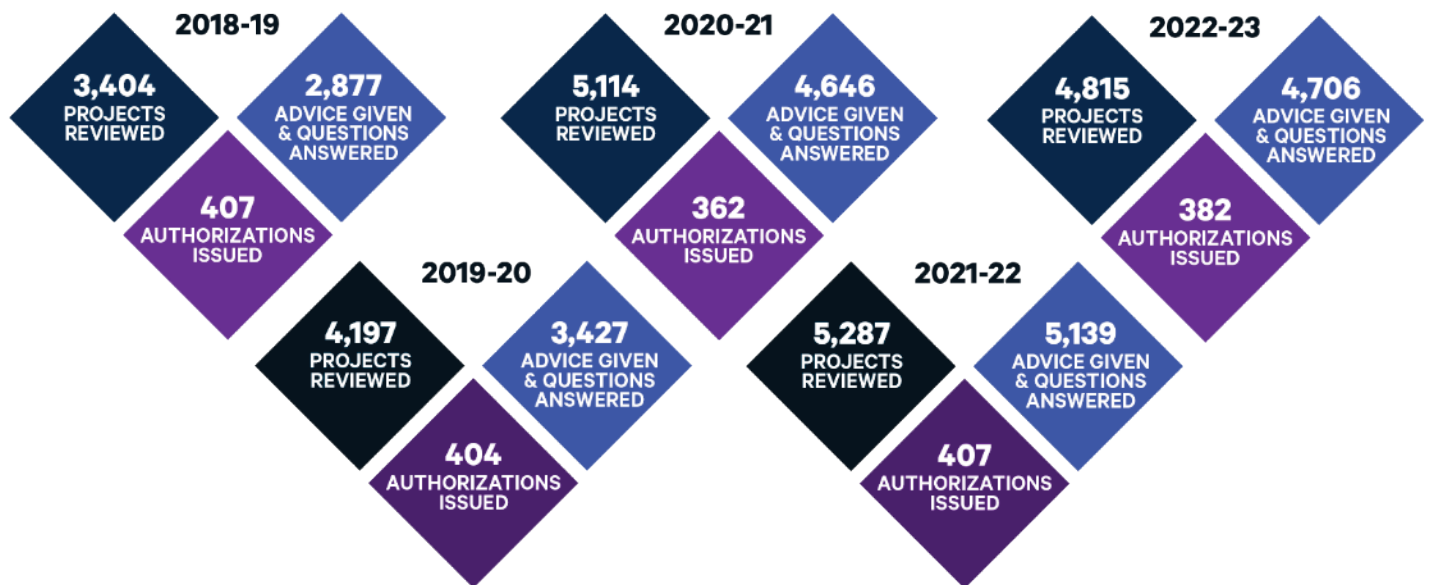
In the past two annual reports, we presented comparative data sets from consecutive fiscal years to enable additional analyses and understanding about the ongoing results of our efforts. For this report, we illustrated the data of the past five fiscal years as well as interpretive text to explain this data.

The following tables and infographics showcase year-over-year statistics for:

- Administering the Fish and Fish Habitat Protection Program – DFO (FY2018-19 – FY2022–23)
- Enforcement Measures for the *Fisheries Act* – ECCC (FY2018-19 – FY2022–23)
- Monitoring Water Quality for Shellfish – ECCC (FY2018-19 to FY2022–23)
- Self-reported Effluent Data Analysis – ECCC (FY2018-19 to FY2022–23)
- Environmental Emergencies Notifications – ECCC (FY2020-21 to FY2022–23)

ADMINISTERING THE FISH AND FISH HABITAT PROTECTION PROGRAM

Fiscal Years 2018-19 to 2022-23



In 2022–23, the number of on-site inspections conducted under the *Fisheries Act* increased compared to the previous year mostly due to the implementation of projects related to the *Wastewater Systems Effluent Regulations*. The amount in penalties also increased in 2022–23 because the number of convicted subjects and the number of guilty counts were higher than the previous year.

ENFORCEMENT MEASURES

for the *Fisheries Act*

Fiscal Years 2018-19 to 2022-23

	2018-19	2019-20	2020-21	2021-22	2022-23
INSPECTIONS					
OFF-SITE	961	1,123	1,266	1,147	1,482
ON-SITE	777	974	381	417	785
ENFORCEMENT MEASURES					
WRITTEN WARNINGS	186	196	170	149	249
DIRECTIONS	20	27	15	12	35
INVESTIGATIONS					
STARTED BEFORE THE FISCAL YEAR & ONGOING AFTER THE FISCAL YEAR	117	74	55	48	56
STARTED IN THE FISCAL YEAR	28	29	13	8	13
ENDED IN THE FISCAL YEAR	31	68	44	25	30
PROSECUTIONS					
CONVICTED SUBJECTS	8	8	8	5*	10
GUILTY COUNTS	10	11	13	4	105
PENALTIES	\$4,237,500	\$8,825,000	\$63,085,000	\$2,985,000	\$21,800,000

*Number of convicted subjects includes those who reached an alternative measures agreement. Changes were dismissed after all measures outlined in the agreement were completed.

MONITORING WATER QUALITY FOR SHELLFISH

Fiscal Years 2018-19 to 2022-23



- MARINE WATER QUALITY SAMPLES
- ENVIRONMENTAL EMERGENCIES LINKED TO HARVEST AREAS
- SAMPLE STATIONS
- COMPREHENSIVE ASSESSMENTS OF WASTEWATER SYSTEMS

2018-19	29,200 6,800 2,363 14	2019-20	26,500 6,380 2,907 33	2020-21	15,671 5,295 1,547 2
2021-22	23,664 5,772 2,642 4	2022-23	27,242 5,831 2,271 8		

Marine water quality samples are collected at sample stations each year to classify shellfish harvest areas along the coasts of the Atlantic and Pacific Oceans and the St. Lawrence Estuary. The year-to-year variability is due to additions for newly approved classified sites, and removals of unclassified sites due to a lack of harvesting interest. In rare circumstances, sampling numbers may also vary considerably due to external factors that limit the ability for samples to be collected, such as the COVID-19 pandemic, as seen in the 2020-21 sampling numbers.

Environmental emergencies linked to harvest areas represent the number of assessments conducted for potential impacts from contamination to harvesting areas, with interannual variability due to differences in the number of extreme weather events within a year as well as any unforeseeable event that could contaminate shellfish harvesting areas (e.g., wastewater or chemical spills). Comprehensive assessments of wastewater systems help redefine established classifications of shellfish harvesting areas located close to wastewater treatment plants. The number of assessments will vary each year depending on the cyclical review of existing systems as well as any new system that may be identified of concern.

SELF-REPORTED EFFLUENT DATA ANALYSIS

in terms of compliance with regulations

Fiscal Years 2018-19 to 2022-23



PULP AND PAPER MILLS

COMPLIANCE WITH	2018-19	2019-20	2020-21	2021-22	2022-23
EFFLUENT QUALITY LIMITS	99%	99%	99%	99%	99%
EFFLUENT NON-LETHAL (rainbow trout)	98.3%	97.8%	97.4%	97.4%	97.4%
ENVIRONMENTAL EFFECTS MONITORING REQUIREMENTS	100%	96%	96%	86%	86%

COMPLIANCE WITH	2018-19	2019-20	2020-21	2021-22	2022-23
CONCENTRATION LIMITS (suspended solids and nickel)*	98%	97.8%	96.7%	98%	98%
CONCENTRATION LIMITS (all remaining substances)*	99.9%	99%	99%	99%	99%
EFFLUENT NON-LETHAL (fish)	97%	99%	—	—	99%
ENVIRONMENTAL EFFECTS MONITORING REQUIREMENTS	88%	94%	93%	—	92%



METAL AND DIAMOND MINE FACILITIES



WASTEWATER FACILITIES

COMPLIANCE WITH	2018-19	2019-20	2020-21	2021-22	2022-23
CONCENTRATION LIMITS (CBOD and suspended solids)	78%	79%	77%	77%	77%
EFFLUENT NON-LETHAL (rainbow trout)	91%	92%	91%	88%	90%

Only systems with an average daily effluent volume greater than 2,500m³ per day are required to perform acute lethality tests.






Information on data³⁷ reported by owners and operators of metal and diamond mines under the *Metal and Diamond Mining Effluent Regulations*, as well as annual reports prepared by ECCC is available [here](#). The annual reports present a summary of the performance of Canadian mines with respect to the prescribed limits and requirements of the regulations. These reports also include information on mines subject to the regulations, effluent data, compliance performance and water bodies designated as tailings impoundment areas.

³⁷ [Metal mining effluent quality - Canada.ca](https://www.ec.gc.ca/effluents/2018/00000000-0000-0000-0000-000000000000/Metal_mining_effluent_quality_-_Canada.ca)

The indicator above uses compliance data provided by metal and diamond mines to Environment and Climate Change Canada under section 22 of the *Metal and Diamond Mining Effluent Regulations*. This is calculated by measuring the percentage of reported test results for all metal and diamond mines that are within limits authorized for the reported year for deleterious substances, pH levels and fish toxicity. For each substance, this is done by dividing the number of monthly mean results that meet the authorized limits by the total number of monthly mean results reported in a given year. For pH, this is done by dividing the number of pH measurements that are within the allowable pH range by the total number of pH measurements reported in a given year. For fish toxicity, this is done by dividing the number of non-lethal fish toxicity test results by the total number of fish toxicity test results reported in a given year.

ENVIRONMENTAL EMERGENCIES NOTIFICATIONS

related to the *Fisheries Act*
Fiscal Years 2020-21 to 2022-23

	2020-21	2021-22	2022-23
 NOTIFICATIONS OF INCIDENT	6,300	6,911	7,052
 ACTIVATIONS OF DUTY OFFICER NATIONAL ENVIRONMENTAL EMERGENCIES CENTRE	1,060	1,010	1,110
 HEADS-UP TO SENIOR MANAGEMENT	215	185	169
 ADVISORY OF SCIENCE INFORMATION TO OTHERS	89	54	68
 DEPLOYMENT OF ENVIRONMENTAL EMERGENCY OFFICERS	2	4	13

Incident notifications related to the *Fisheries Act* have been increasing over the past three reporting years. This is consistent with the increasing in all notifications received by ECCC over the same period. Any number of contributing factors may influence the number of notifications received each year or over time. The number of National Environmental Emergencies Centre duty officer activations related to the *Fisheries Act* is stable, with some fluctuations expected from one year to the next. The Heads-up communication products issued to senior management have decreased in the last years. This can be partially explained by changes in triggers for such products. Over time, these communication products are expected to track more closely with duty officer activations rather than *Fisheries Act* notifications received. The number of Advisory communication products issued varies from one year to the next and is related to the services requested of ECCC by the lead government agency. Environmental emergency officer deployments have been increasing since a low during the first year of the COVID-19 pandemic. Deployments should stabilize but with spikes in any given year.