



Government
of Canada

Gouvernement
du Canada

2020-21

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 environment in ways that benefit future generations while supporting today’s growing economy. This means actively working 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. Our efforts include the support and collaboration of Indigenous groups, stakeholders, other governments and the international community

This annual report summarizes the administration, enforcement, and other activities undertaken by the Departments between April 1, 2020 and March 31, 2021 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 ministers of Fisheries and Oceans Canada (DFO) and Environment and Climate Change Canada (ECCC) report to Parliament on their efforts to administer and enforce the fish and fish habitat protection and pollution prevention provisions of the *Fisheries Act*. This has been a legislative requirement since 1990.

This report covers activities from April 1, 2020 through March 31, 2021: an unprecedented year for Canadians and for the world with the COVID-19 pandemic effectively changing the ways we lived, worked, and socialized. Three waves of the pandemic during this time triggered regional lockdowns, travel restrictions, and closures of non-essential businesses.

Despite these abrupt changes, Canadians proved their resilience and governments continued to deliver services and fulfill their responsibilities. This includes our responsibilities to protect fish and fish habitat from harm and pollution. We also found new ways to carry out these responsibilities and to communicate with each other and our partners while doing so.

This annual report highlights examples of the unique ways in which we carried out our responsibilities during the height of the pandemic, including in collaboration with our partners. We also continue to showcase key results or success stories so you can see what we are accomplishing to protect fish and fish habitat and to prevent pollution from entering fish-bearing waterways. This includes communicating key statistical information using infographics.

Detailed information about the *Fisheries Act*, and the way our departments are organized to administer its provisions, are located in the annex at the end of this report. The annex also features tables on complete statistics on what we do to protect fish and fish habitat and to prevent pollution for the 2020-21 reporting year.

1.1 Collaboration

Canada's fish and fish habitat are shared resources that benefit us in social, economic, and ecological ways. Fish and fish habitat are also finite and vulnerable resources, so they must be protected and conserved for future generations. These outcomes are best achieved when governments, partners and stakeholders work together.

DFO and ECCC collaborate each year to put this publication together. We also work together throughout the year to prevent pollution from entering waterways that can harm fish and their habitat. In addition, DFO also collaborates with the Canada Energy Regulator and the Canadian Nuclear Safety Commission to reduce overlaps when they are reviewing the same projects to ensure fish and fish habitat are protected.

Co-operation and partnership with Indigenous peoples are key features of the *Fisheries Act*, including provisions that allow us 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 legislation.¹ For example, in 2020-21, ECCC launched a Crown–Indigenous working group to collaboratively develop recommendations to prevent pollution through the Oil Sands Mining

¹ Section 4.1.

Effluent Regulations. We also consult Indigenous peoples when a decision may affect their rights and, when necessary, accommodate them as a result.

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, and their laws and actions have the potential to complement or reduce the effectiveness of 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, to reduce regulatory duplication and streamline administration related to these provisions. The Canadian Council of Fisheries and Aquaculture Ministers and the Canadian Council of Ministers of the Environment are key venues that we use to advance these partnerships.

Our collaborations extend to industry and other proponents² involved in or considering a project near water or those involved in sectors that have the potential to affect waterways, as well as to 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 our collaboration with these stakeholders, along with Indigenous Peoples and other partners.

² A person, company or corporation that has submitted, or plans to submit, a development proposal.

2



PROTECTING FISH &
FISH HABITAT

DFO conducts research, participates in and conducts its own environmental and impact assessments, and completes regulatory reviews of development projects to protect fish and fish habitat across Canada. We also educate and provide advice to help proponents follow the *Fisheries Act* and its regulations.

2.1 Educating, Engaging and Providing Advice

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* when we administer the program.

These guidance documents also serve to guide proponents considering or undertaking a project near water. For example, our Offsetting Policy³ describes how a proponent must offset adverse effects on fish and fish habitat using step-by-step procedures to:

- select appropriate measures
- determine the extent of measures needed, and
- ensure monitoring and reporting

In addition, our interim codes of practice help proponents with projects near water that involve:

- beaver dam removal
- culvert maintenance
- end-of-pipe fish protection screens for small water intakes in freshwater
- routine maintenance dredging
- temporary cofferdams and diversion channels
- temporary stream crossings

A key part of our program involves educating proponents about our guidance materials which are featured on the [Project Near Water](#) website to ensure that they understand how to comply with the *Fisheries Act* and its regulations. We also remain available to proponents to provide advice and answer their questions. Over 2020-21, we gave advice to proponents and answered their questions on 4,646 occasions ([Table 4](#)). These activities were collected, shared and reported on our internal Program Activity Tracking for Habitat system, including data on our review of referrals.

We also updated the [Projects Near Water](#) website with new information, such as posting the [Interim Policy for Establishing Fish Habitat Banks to Support the Administration of the Fisheries Act and the Species at Risk Act](#) in February 2021.

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. In 2020-21, we finalized our engagement framework to enable us to engage in meaningful, consistent, and predictable ways. We also launched the online “Talk Fish Habitat” platform, and conducted the first

³ Policy for applying measures to offset adverse effects on fish and fish habitat under the *Fisheries Act*

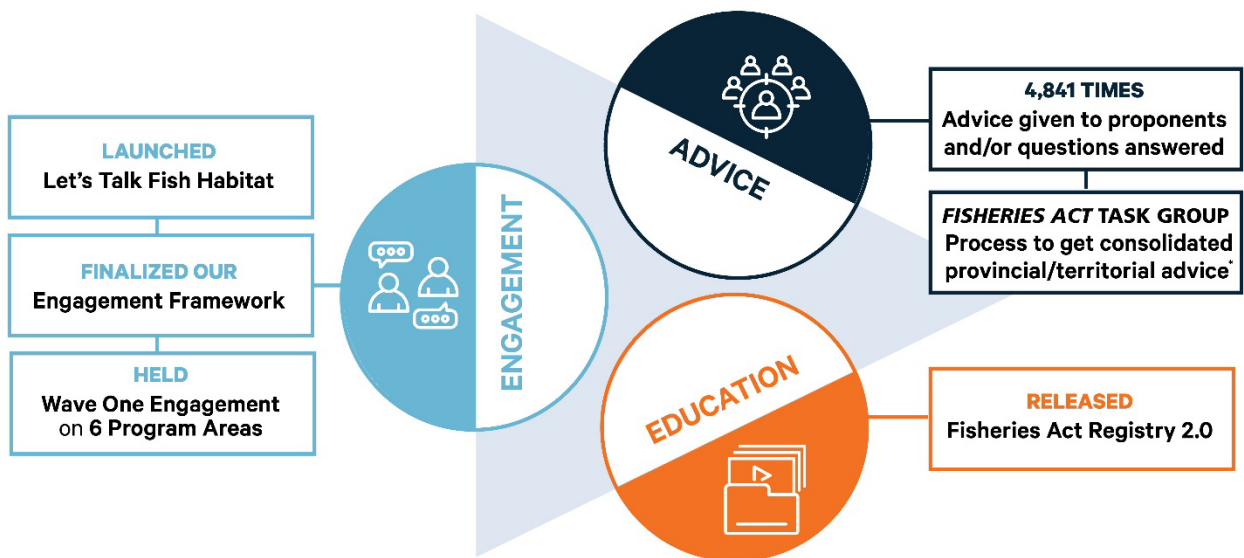
wave of external engagement with Indigenous Peoples, partners, and stakeholders on six program areas:

- Offsetting and Habitat Banking Policies
- Guidance on Considering Cumulative Effects on Fish and Fish Habitat
- *Fisheries Act* Registry
- Proposed Prescribed Works and Waters Regulations
- Interim Codes of Practice, and
- Engagement Framework

In addition, we attended virtual workshops and meetings held by partner and stakeholder groups to educate them on the *Fisheries Act* and discuss our engagement topics.

EDUCATION, ENGAGEMENT AND ADVICE

2020-21



* Canadian Council of Fisheries and Aquaculture Ministers

The Canadian Council of Fisheries and Aquaculture Ministers *Fisheries Act* Task Group convened five meetings in 2020-21. Work this year focussed on the refinement and implementation of a process the group devised to contribute consolidated provincial/territorial advice on *Fisheries Act* implementation tools, policies, and other products that we are developing. As always, the meetings offered an opportunity to share information amongst jurisdictions on emerging or priority issues as well as new strategies or approaches related to the management of fish and fish habitat.

KEY RESULT

Releasing Information on Authorizations in the Open Data Portal

In 2020-21, we released version 2.0 of the [Fisheries Act Registry](#) to enhance its search, content and mapping features. This online registry, which includes project-specific information on authorizations that have been issued since the amended *Fisheries Act* came into force on August 28, 2019, is available through the [Government of Canada's Open Data portal](#) to make information about permit and authorization decisions accessible to Canadians.

2.2 Reviewing Proposed Works and Activities

The [Projects Near Water website](#) includes our recommended best practices to help proponents avoid harming fish and fish habitat: *Measures to Avoid Causing Harm to Fish and Fish Habitat*. There are also project-specific criteria to help proponents determine if we need to review their project so it will avoid harming fish and fish habitat. This step in the process helps us focus our site-specific review and advice process on the highest-risk projects.

When a proponent's project falls into certain categories, such as those which require specific measures to combat invasive species, or the proponent is unable to meet the criteria to avoid harmful alteration, disruption or destruction of fish habitat and death of fish, they must complete a *Request for Review* form and submit it to us for review. In addition, any time an aquatic species at risk may be affected by a proponent's proposed works, a review must be requested. As part of our review process, our officials must also verify whether 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 are taken by the proponent, if the project can go forward.

The Minister may consider issuing an "authorization" pursuant to paragraph 34.4(2)(b) or 35(2)(b) of the *Fisheries Act* for a project if the harmful alteration, disruption or destruction of fish habitat or death of fish cannot be avoided.

If an aquatic species at risk or its protected critical habitat is implicated by a proposed project, a SARA-compliant *Fisheries Act* authorization may be required. This authorization would outline the measures required for the project to be compliant with both Acts. A SARA-compliant authorization is issued under paragraph 35(2)(b) of the *Fisheries Act* to act as an authorization under both statutes.

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.

If the project is subject to an environmental or impact assessment, we cannot consider an 'authorization' until the assessment has concluded and it has been determined that the project may proceed.

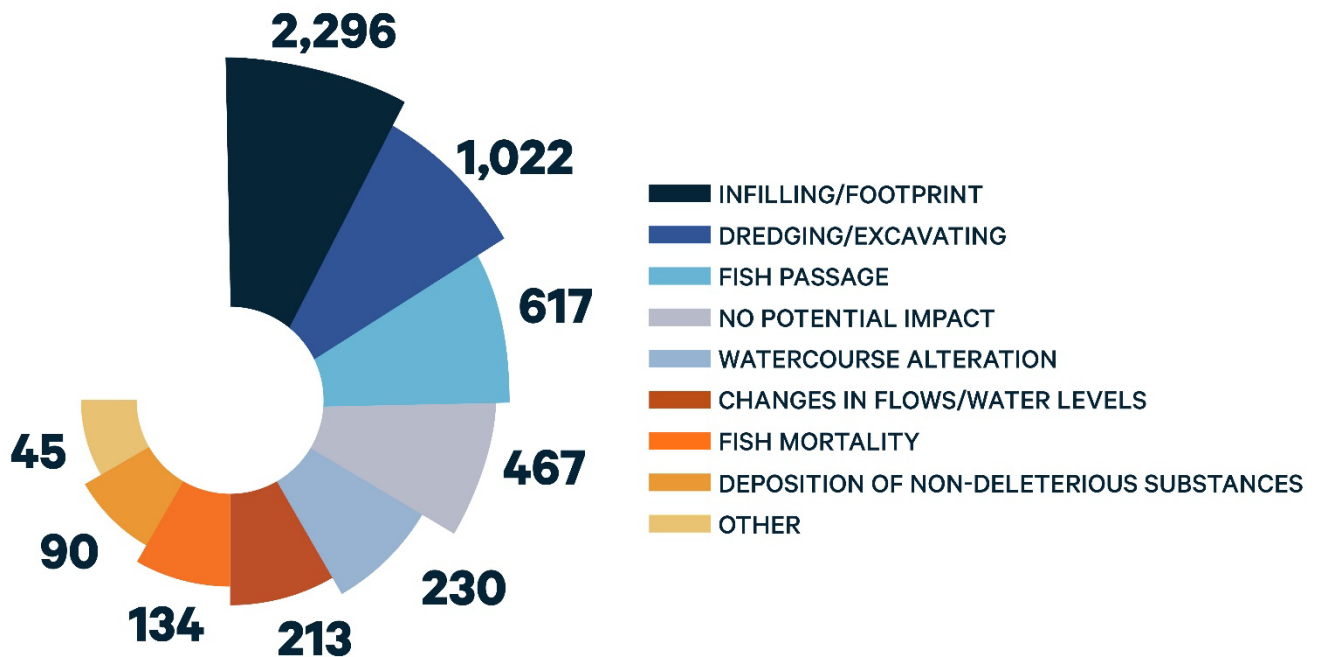
The *Applicant's Guide Supporting the "Authorizations Concerning Fish and Fish Habitat Protection Regulations"* is available to guide proponents through the process of applying for an authorization.

Between April 1, 2020 and March 31, 2021, we reviewed 5,114 development proposals (referrals) and issued 204 authorizations.⁴ We also achieved a 92 per cent compliance rate with our service delivery standards to process applications for authorizations within the regulated 60-day time limit and a 99 per cent compliance rate for processing these applications within the 90-day time limits.

In addition to the project-specific authorizations, 158 agricultural municipal drain class authorizations were permitted for maintenance activities in southern Ontario in 2020-21, as shown in [Table 5](#). These types of authorizations use a standard approach to eliminate the need for site-specific reviews, but they are still tracked and reported because they authorize works, undertakings or activities which may result in the death of fish (by means other than by fishing) and the harmful alteration, disruption or destruction of fish habitat.

SUMMARY OF HABITAT REFERRALS

by primary impact
2020-21



⁴ Habitat referrals by primary impact are shown in [Table 3](#) in the annex, while [Table 4](#) shows the number of authorizations issued by DFO Region.

2.3 Environmental and Impact Assessments

Some projects that require an authorization under the *Fisheries Act* and/or a permit under the *Species at Risk Act* may first require an impact assessment. This assessment may be undertaken under the authority of the *Impact Assessment Act* or another federal legislation depending on the jurisdiction. There may also be situations where a project is undergoing an assessment under the *Canadian Environmental Assessment Act, 2012* (the predecessor to the *Impact Assessment Act*).

When an impact assessment is being carried out, advice from multiple programs and sectors across DFO is collected to help us validate potential project impacts and required mitigation as it relates to the Department's mandated responsibilities. The type of advice we seek is based on our analysis of the project's impacts to fish and fish habitat, including any aquatic species at risk and their habitat, as well as any effects on the rights of Indigenous peoples. Departmental advice is provided to the party leading the impact assessment for consideration and to inform decision making.

When a *Fisheries Act* authorization and/or *Species at Risk Act* permit is required for a project to proceed, we undertake an environmental assessment to identify any potential significant effects. We also provide advice on potential impacts to fish and fish habitat and mitigation to federal partners that are required to undertake an environmental assessment under section 82.

When projects require both an impact assessment and a regulatory approval (or an environmental assessment and a regulatory approval), we coordinate with federal partners to consult Indigenous peoples as required by the Duty to Consult. These consultations are carried out during the impact assessment as well as the regulatory phase. We are prohibited from issuing an authorization under the *Fisheries Act* or a permit under the *Species at Risk Act* until the environmental or impact assessment has concluded and it has been determined that the project may proceed to the regulatory phase.

2.4 Monitoring and Enforcing Compliance

Monitoring to ensure proponent compliance with the fish and fish habitat protection provisions helps Canada conserve and protect fish and fish habitat, including aquatic species at risk. Enforcing compliance is also key to achieving these outcomes.

Our fishery officers devote a lot of time to monitor and enforce compliance by:

- conducting habitat patrols, inspections and investigations
- working with habitat biologists 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 bring an individual into compliance. If warranted, they may also undertake investigations and lay charges.

These enforcement actions follow a three-pillar approach starting first with education, shared stewardship, and stakeholder engagement, which constitutes most of the compliance effort. This stage is followed by monitoring, control and surveillance, and lastly, major cases and special investigations.

During fiscal year 2020-21, fishery officers:

- spent 38,667 hours verifying compliance with and enforcing fish and fish habitat provisions
- issued 36 warnings
- issued 40 directions, and
- laid 15 charges

DEDICATED HOURS TO VERIFY COMPLIANCE

& enforce fish and fish habitat protection provisions
2020-21

15 CHARGES LAID



Agricultural Sector

40 DIRECTIONS ISSUED

36 WARNINGS ISSUED

38,667 HOURS

Our habitat protection compliance efforts largely focused on rural and urban development, and agriculture- and transportation-related activities. All 15 charges that were laid during 2020-21 related to non-compliance in the agriculture sector. Approximately 12 per cent of all occurrences resulted in compliance enforcement, from warnings, directions, charges laid, and charges that are still under review.

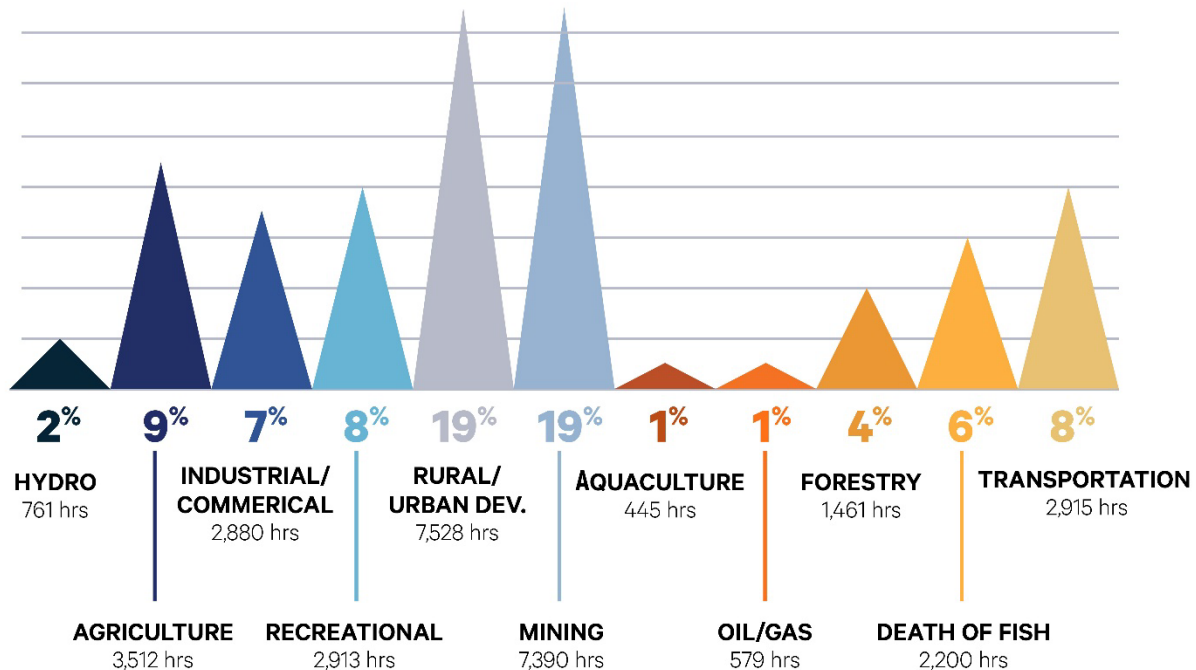
KEY RESULT

More Monitoring and Enforcement of Fish and Fish Habitat Compliance

When the *Fisheries Act* was modernized in 2019, fishery officers became more involved in habitat issues across the country. New work elements were also added in the Conservation & Protection 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 work while in the office, and leveraging general patrols to do habitat-related compliance and enforcement work. As shown in [Table 6](#), the hours spent by fishery officers to do habitat-related work increased by 10,760 hours compared to the 2019-20 fiscal year.

ALLOCATION OF COMPLIANCE EFFORT BY HABITAT SECTOR

2020-21



⁵Success Story: Raising awareness of aquatic species at risk during Fisheries Act authorization inspections

In July 2020, one of our fishery officers was assigned to look at the mussel survey and large-scale mussel relocation that were required by the community of Caledonia in Ontario before they could construct a new bridge on the Grand River. This officer is a subject matter expert in inspecting aquatic species at risk-related *Fisheries Act* habitat authorizations and *Species at Risk Act* permits.

A number of mussel species in the Grand River location are listed under the *Species at Risk Act* as either endangered, threatened or of special concern. The conditions of our work permit therefore required that the mussels be relocated from the area of impact in order to keep the mussels alive while the bridge was being built. Twenty-three species of mussels were identified during the relocation, 17 of which are common species and six species-at-risk:

- Round Pigtoe (endangered)
- Fawnsfoot (endangered)
- Wavyrayed Lampmussel (special concern)
- Threehorned Wartyback (threatened)

⁵ As shown in Table 6 in Annex 4.4, compliance efforts were also conducted for non-industry reasons (2,085 hours or 5%, natural events (319 hours or 1%), and as general patrols (3,681 hours or 10%).

- Mapleleaf (special concern), and
- Rainbow (special concern)

This was the largest mussel relocation to date in Canada. The project’s visibility thus drew a lot of public interest in the community; especially, with more people working from home during COVID-19 and walking the shores of the Grand River during breaks.

We decided to take the opportunity to raise awareness amongst the community about the importance of freshwater mussels in the Grand River system: both the abundant species and species at risk. Two outreach sessions were held with approximately 100 residents on the shores of the Grand River within visible distance from the consultants doing the mussel relocation in the river. During the sessions, residents were given up-to-date statistics and other information on the relocation’s progress. For example, in the prescribed search area (totalling 15,104 square meters), 167,595 mussels were found and, of these, 1.6 per cent (2,639) were listed aquatic species at risk.

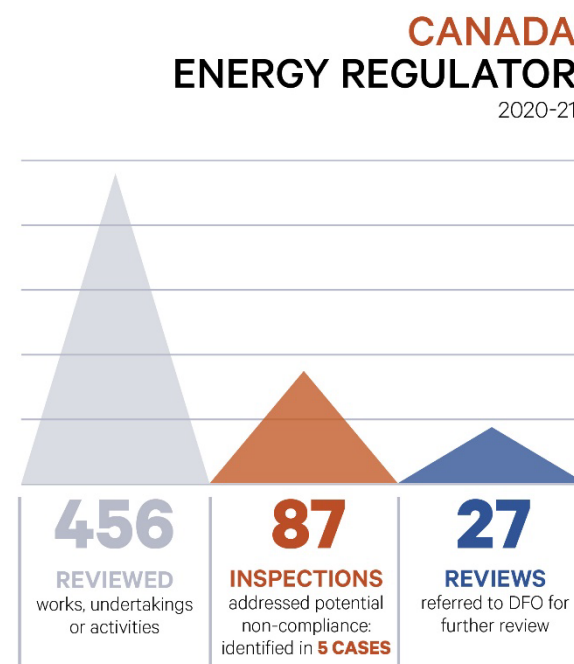
2.5 Monitoring and Reviewing Energy Projects

DFO has memoranda of understanding with the Canadian Nuclear Safety Commission (CNSC) and the Canada Energy Board (CER) to reduce overlap when these federal entities are reviewing the same projects, while still ensuring fish and fish habitat are protected. Both of these entities have fisheries experts to review applications for projects under their respective legislation.

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 the installation or maintenance of pipeline watercourse crossings.

When impacts to fish and fish habitat cannot be avoided during these nuclear energy or energy infrastructure review activities, DFO officials become involved. The Minister of Fisheries and Oceans also remains responsible for decisions on the issuance of *Fisheries Act* authorizations and conditions of authorization and permits under the *Species at Risk Act*.



In 2020-21, DFO and CNSC continued to collaborate to ensure the protection of fish and fish habitat near nuclear facilities. During this reporting period, no new *Fisheries Act* authorizations were issued to nuclear generating stations in Canada. The CNSC reviews the fish and fish habitat protection monitoring reports required of nuclear generating stations that have been issued a Fisheries Act authorization. In 2019-20, a fish impingement monitoring report of one station showed that several large impingements had occurred when a Fish Diversion Station was not in place. As a result of improvements, in 2020-21, the CNSC found that the biomass of all fish species and ages impinged at this nuclear generating station was the lowest since 2016. Overall, there were no reports by CNSC or DFO 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 during this reporting period.

Over the same time frame, the CER reviewed 456 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. Twenty-seven of these activities were referred to us for further review. The CER also inspected 87 projects that involved fish and fish habitat and, as a result, found and addressed five instances of potential non-compliance with the *Canadian Energy Regulator Act* or the *Canada Energy Regulator Onshore Pipeline Regulations*.

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 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 permitting conditions under SARA can be met. If it is possible, the authorization we would issue to allow the work would also act as a *Species at Risk Act* permit. This includes imposing certain pre-conditions and requirements on the permitted work. 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 or harming species listed as threatened, endangered and extirpated
- any damage or destruction of a species' residence, and
- destruction of critical habitat for species at risk (once this critical habitat has been identified)

We report to Parliament on our activities to administer the provisions of the *Species at Risk Act* that apply to aquatic species at risk every year, in a publication⁶ that is produced by Environment and Climate Change Canada. This includes highlighting key results and success stories.

⁶ [Species at Risk Act Annual Report to Parliament for 2020](#).

2.7 Researching and Providing Scientific Advice

Aquatic ecosystems include interdependent plants, animals, and microbes. Our aquatic ecosystem scientists help fisheries managers and others understand the impacts of multiple human activities undertaken in and around the same aquatic ecosystem by doing research 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.

The scope of science advice also ranges from informing policy development to advising on a specific project. Examples of the research products and scientific advice our ecosystem scientists provided in 2020-21 included:

- [Science advice on revisiting Pathways of Effects diagrams in support of Fish and Fish Habitat Protection Program risk assessment](#)
- [A review of the change in timing of impoundment for a hydropower development project](#)
- [Guidance on the identification of critical habitat in the riparian zone for freshwater species at risk](#)
- [Science advice on the impact of a proposed coal project on Westslope Cutthroat Trout](#)

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
- during scientific workshops and briefings, and/or personal consultations

Our scientific work is very hands-on, so it was significantly impacted by COVID-19 restrictions. However, by leveraging strong connections and co-management collaborations with partners and stakeholders, we successfully devised ways for communities (especially in the North and Arctic) to lead and carry out research and monitoring work in the field. This resulted in the safe continuation of important science in the Arctic in 2020-21.

Success Story: Canada's First Set of Environmental DNA Guidelines

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

2.8 Restoring Fish and Fish Habitat

The goal of fish habitat restoration is to rebuild a healthy and functioning ecosystem that supports fish throughout its lifecycle. This includes healthy water levels and temperatures, aquatic plants, appropriate shade along the shore, and many other ecosystem factors. 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 through the \$1.5 billion Oceans Protection Plan. The \$75-million [Coastal Restoration Fund](#), for example, is supporting 60 collaborative projects that are:

- developing and implementing coastal restoration plans and projects
- addressing threats and stressors to marine species, and
- building the capacity of Indigenous groups and communities to undertake and monitor projects

The Coastal Restoration Fund is also contributing to the objectives set for the [United Nations Decade on Ecological Restoration](#); namely, targets related to ecosystem restoration contained in the 2030 Agenda for Sustainable Development, the Aichi Biodiversity Targets 10, and the post-2020 global biodiversity framework.

KEY RESULT

Coastal Restoration Fund Covid-19 Payment Flexibility

We developed payment flexibility protocols during COVID-19 so recipients of the Coastal Restoration Fund could continue to complete the deliverables of their projects despite delays caused by travel restrictions and other pandemic requirements.

Over the first four years of the program, the Coastal Restoration Fund facilitated more than 1,300 partnerships (including 610 Indigenous partnerships), provided training for close to 2,000 people, and created over 1,000 new jobs. The program also leveraged more than \$20 million from other sources.

The program prioritized projects being led by, and involving, Indigenous groups and communities. Almost 100 per cent of projects involve Indigenous partners and 37 per cent of projects are Indigenous led.

RESTORING FISH AND FISH HABITAT

through the Coastal Restoration Fund
2020-21



610
INDIGENOUS PARTNERSHIPS



37%
INDIGENOUS LED

TRAINING
CLOSE TO **2,000** PEOPLE

CREATING
MORE THAN **1,000** NEW JOBS

LEVERAGING
MORE THAN **\$20** MILLION
FROM OTHER SOURCES

3



PREVENTING
POLLUTION

ECCC educates and promotes compliance to help the industries and communities we regulate follow the *Fisheries Act* and its pollution prevention provisions. We also work with these partners to develop, improve, and streamline pollution prevention-related regulations.

Throughout the year, our enforcement officers conduct both planned and unplanned inspections to verify compliance and respond to incidents, and carry out investigations to gather evidence required to prosecute offenses.

Staff at ECCC also analyze self-reported effluent data from regulated industries, monitor shellfish growing areas for pollution, and respond to emergencies to prevent pollution from harming fish and fish habitat across Canada.

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

3.1 Educating and Promoting Compliance

We increase awareness and understanding about the importance of preventing pollution from entering fish-bearing waterways and the consequences of non-compliance among the industries and communities that we regulate, including the:

- Pulp and paper sector
- Metal and diamond mining sector, and
- Wastewater systems run by most federal, provincial and municipal governments and First Nations communities⁷

We share this information via email and website postings, in letters, as brochures or other documents, and during site visits and information sessions.

While there were fewer site visits in 2020-21 due to COVID-19 restrictions, we continued to educate and promote compliance virtually. For example, we helped First Nations communities and their supporting agencies determine if communities are subject to the *Wastewater Systems Effluent Regulations* and increased their capacity to conduct ongoing sampling and reporting to comply with these regulations. We also developed a [guidance document on sampling procedures and analysis coordination](#) to help these communities overcome barriers preventing compliance.

⁷ We do not regulate wastewater systems in the Northwest Territories, Nunavut or communities north of the 54th parallel in Quebec or Newfoundland and Labrador.

KEY RESULT

Helping the Mining Industry assess alternatives for mining waste disposal

In 2020-21, we provided information directly to mining proponents to help them assess mine waste disposal alternatives when they are considering using a water body frequented by fish as a tailings impoundment area. Assessing these alternatives is required by the *Metal and Diamond Mining Effluent Regulations*.

We also developed three *Mine Tip* fact sheets to help industry understand all of their requirements under these regulations, and to explain what information they need to report to us and how to prepare a notification that identifies each final discharge point. The fact sheets are prominently displayed on our newly created *Metal and Diamond Mining Effluent Regulations* website as:

- [Mine Tip 1: General Overview: New Metal or Diamond Mines](#)
- [Mine Tip 2: Reporting Information](#)
- [Mine Tip 3: Final Discharge Points](#)

The *Mine Tip* fact sheets and our new website were shared with the mining industry in March 2021 via ECCC's virtual booth during the Prospectors and Developers Association of Canada conference. We also reference the website in our direct correspondence with mining proponents or the regulated community.

3.2 Modernizing and Developing Pollution Prevention Regulations

Eight regulations have been developed to date to help us administer and enforce the compliance of impacted industries, governments, and communities with the pollution prevention provisions of the *Fisheries Act*. To ensure that these regulations remain effective as industries and governments change over time, we regularly initiate regulatory updates and strive to simplify provisions to reduce the burden on industry, while improving our administrative efficiency.

For example, we have been working to modernize the *Pulp and Paper Effluent Regulations* since 2017. During 2020-21, we continued to analyze the input of stakeholders gathered during consultations that we held in the summer of 2019 after a consultation document was published. No additional public engagement took place during this time due to COVID-19.

Over 2020-21, we worked to advance the development of three new pollution prevention regulations:

- Alton Natural Gas Storage Cavern Development Activities Regulations⁸
- Coal Mining Effluent Regulations
- Oil Sands Mining Effluent Regulations

⁸ This set of regulations is no longer being pursued (effective November 2021).

For example, we received written comments from, and held discussions with, industry, provinces, Indigenous groups, and other interested parties on the proposed approach for the Coal Mining Effluent Regulations that were published in February 2020. We used this feedback to refining the proposed approach.

We also successfully initiated a Crown–Indigenous Working Group with nine Indigenous communities in the oil sands region, along with experts from other federal departments, to potentially develop Oil Sands Mining Effluent Regulations under the *Fisheries Act*. Involved Indigenous communities are committed to inform the Crown about how they have been impacted by historical industrial activity in the oil sands region and how a potential regulation may mitigate or contribute to further impacts to Aboriginal and Treaty rights.

During 2020-21, we also re-initiated policy analysis to inform the development of a separate regulatory framework for wastewater systems in the North, which would include the Northwest Territories, Nunavut, and north of the 54th parallel in Quebec and Newfoundland and Labrador.

KEY RESULT

Amending *Wastewater Systems Effluent Regulations* Authorizations

In June 2020, we published a notice of intent to amend the transitional and temporary authorizations of the *Wastewater Systems Effluent Regulations*. Following publication, we launched a consultation website that opened for comments on June 27, 2020 and will remain open until December 31, 2022. We also began broad outreach activities with regulated groups, including Indigenous communities and organizations, as well as provinces and stakeholders, to ensure that they are aware of the proposed amendments and have an opportunity to provide their feedback. In addition, we published a Discussion Document on December 6, 2021 to seek input from the public over a 90-day timeframe.

3.3 Analyzing Self-Reported Effluent Data

Every year, we analyze the effluent data reported by facilities subject to *Fisheries Act* regulations; namely, pulp and paper mills, metal and diamond mines, and wastewater facilities. The most recent year for which data has been pooled, tabulated, and analyzed at an aggregate level is 2019.

Our analysis of the 2019 monitoring data that was self-reported by the 77 pulp and paper mills subject to regulations shows that facilities continue to report high rates of compliance with effluent quality limits:

- over 99 per cent for total suspended solids and biochemical oxygen demand, and
- 97.8 per cent for the requirement that effluent not be lethal to rainbow trout

The compliance rate with environmental effects monitoring requirements in 2020-21 was also high at 96 per cent.

Our analysis of the 2019 data self-reported by 140 metal and five diamond mine facilities subject to regulations shows that companies continue to report high rates of compliance⁹ with the monthly mean concentration limits:

- 96.7 per cent for total suspended solids
- above 98 per cent for nickel and zinc, and
- above 99 per cent for all remaining substances

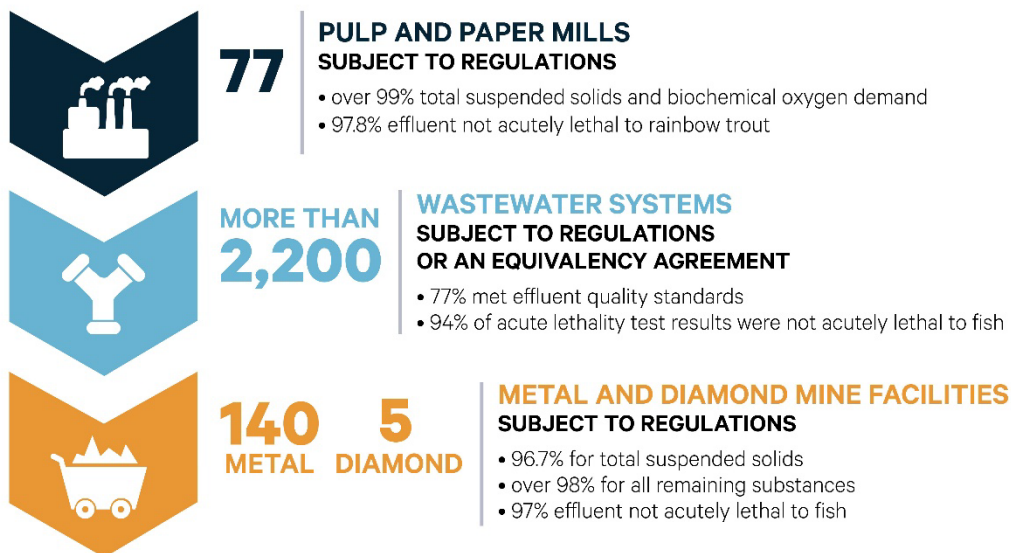
The 2019 compliance rate for the requirement that effluent not be lethal to fish was 97 per cent. The compliance rate for environmental effects monitoring was about 94 per cent in 2019-20 and 93 per cent in 2020-21.

We analyze self-reported data on effluent quality results and the volumes deposited by more than 2,200 wastewater systems¹⁰ that are subject to regulations or are under an equivalency agreement. Medium and large wastewater systems are also required to conduct lethality tests. In 2020, our analysis of the reports from regulatees shows that:

- 77 per cent met their effluent quality standards, and
- 94 per cent of the lethality test results were not lethal to fish

ANALYSIS OF SELF-REPORTED EFFLUENT DATA

in terms of Compliance Rates
2020-21



⁹ <https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/metal-diamond-mining-effluent-quality.html#shr-pg0>

¹⁰ Twenty-six owned by federal departments, 230 located in Indigenous communities, and 650 in Quebec and Yukon.

3.3.1 Transitional Authorizations

Under the *Wastewater Systems Effluent Regulations*, owners or operators of a wastewater system that is subject to regulations and not designed 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) in order 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, 15 systems have completed upgrades. Of the remaining 45:

- 7 transitional authorizations expired on December 31, 2020¹¹
- 10 must complete upgrades by December 31, 2030, and
- 28 must complete complete upgrades by December 31, 2040

KEY RESULT

New wastewater treatment facility in Gander significantly reduces pollutants in the local environment

In 2020, the Town of Gander in Newfoundland and Labrador finished building a new secondary treatment plant to replace two underperforming treatment plants. The new facility increases the performance and capacity of Gander's wastewater treatment system so it now meets the *Wastewater Systems Effluent Regulations* effluent quality standards.

3.4 Enforcing the Pollution Prevention Provisions

3.4.1 Enforcement Priorities

The [Compliance and Enforcement Policy for Habitat Protection and Pollution Prevention Provisions of the Fisheries Act](#) guides the enforcement activities that we take to ensure compliance with the pollution prevention provisions of the *Fisheries Act*. In 2020-21, we also continued to use a risk- and evidence-based framework to inform, plan, and allocate resources to our enforcement activities. This includes initiating a series of threat and risk assessments to determine the risk of non-compliance in order to inform our enforcement planning and priority-setting process.

For example, we used the results of a threat risk assessment on toxic substances that was completed in 2019-20 to inform enforcement projects targeting high-risk substances and sectors that we carried out in 2020-21. These projects included inspections to assess industry compliance with the pollution prevention provisions of the *Fisheries Act* and/or regulations for the sectors of

¹¹ 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.

metallurgy, textile mill effluent, and wood treatment and installations using toxic substances such as ammonia.

We also undertook other risk assessments to inform future decision-making and to better align enforcement actions and resources to address the areas that pose the highest risk to the environment and human health.

3.4.2 Enforcement Activities

In 2020-21, there were approximately 138 fishery officers designated by the Minister of Environment and Climate Change under the *Fisheries Act*. ECCC's 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.

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

Environmental enforcement officers issue enforcement measures to address alleged violations. These measures include warnings, directions, and orders. Enforcement officers can also recommend files for prosecution. Information collected by enforcement officers may also 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 violators are brought into compliance with the *Fisheries Act*, and to discourage future non-compliance. For example, a direction is issued when immediate action is necessary to halt or prevent an unauthorized deposit of harmful substance into water frequented by fish.

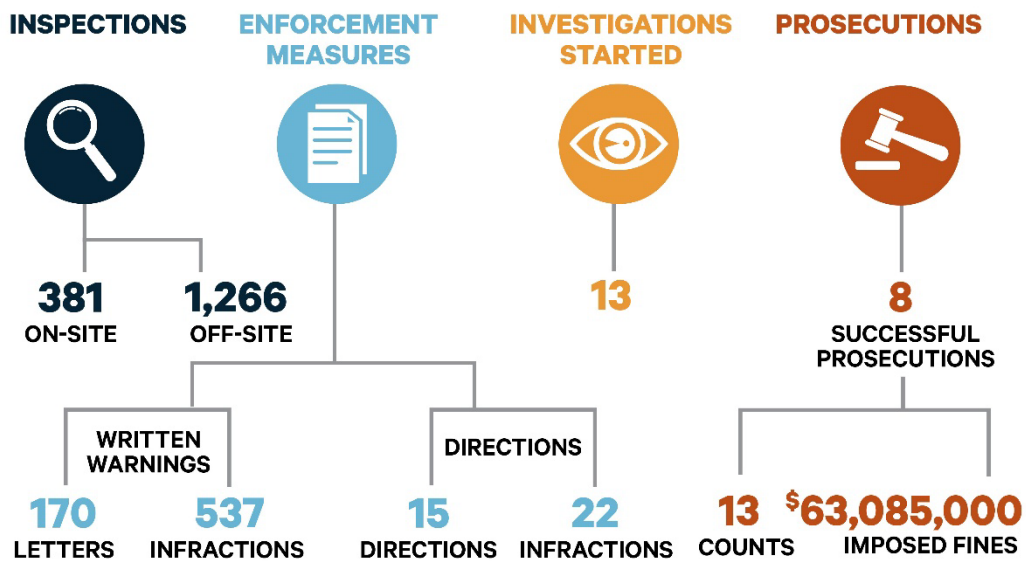
During fiscal year 2020-21, our enforcement officers undertook the following activities and measures to enforce the pollution prevention provisions of the *Fisheries Act*:¹²

¹² [Table 10](#) in the Annex details these enforcement activities and measure as they relate to the *General Prohibition* and specific regulations of the *Fisheries Act*.

- conducted 1,647 inspections (381 on-site and 1,266 off-site)
- initiated 13 investigations
- issued 170 written warning letters to address 537 infractions
- issued 15 directions to address 22 infractions, and
- concluded eight successful prosecutions, which resulted in the conviction of eight subjects on 13 counts and a total of \$63,085,000 in imposed fines.

INVESTIGATIONS AND ENFORCEMENT MEASURES

2020-21



Complete information on our enforcement activities in 2020-21 is included in the following tables in the Annex:

- [Table 8](#) – Inspections Conducted in Fiscal Year 2020-21
- [Table 9](#) – Enforcement Measures in Fiscal Year 2020-21
- [Table 10](#) – Investigations Breakdown for Fiscal Year 2020-21
- [Table 11](#) – Prosecutions and Penalties in Fiscal Year 2020-21

KEY RESULT

Major successes result from enforcement actions

In 2020-21, we imposed \$63 million in fines to offenders convicted of offences under the pollution prevention provisions. The majority 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 highlights include the following:

- On September 22, 2020, the **Town of Baie Verte** pleaded guilty to two counts under the *Fisheries Act* in the Provincial Court of Newfoundland and Labrador in Grand Falls–Windsor and was ordered to pay a total fine of \$50,000. The counts relate to the discharge of water containing elevated levels of chlorine from the town’s potable-water system into the Baie Verte River. The first count relates to the release of a deleterious substance into water frequented by fish; the second, to a failure to comply with a *Fisheries Act* direction that ordered the town to take action to remedy the situation or prevent future occurrences.
- On December 10, 2020, the **Régie intermunicipale du centre de valorisation des matières résiduelles du Haut-Saint-François et de Sherbrooke**, also known as **Valoris**, pleaded guilty to one count of violating the *Fisheries Act* related to the release of a deleterious (harmful) substance into waters frequented by fish in the Sherbrooke, Quebec courthouse. Between March 13, 2014 and October 12, 2016, Valoris released effluent containing ammonia nitrogen, which is lethal to rainbow trout, from its landfill site’s leachate-treatment system and from its composting platform, into the Bégin stream, a tributary to the Saint-François River. The court ordered Valoris to pay a fine of \$500,000 and to ensure its water-treatment system is more closely monitored.
- On January 21, 2021, the **Compagnie d’Arrimage de Québec Ltée** pleaded guilty to one count of contravening the *Fisheries Act* in the Court of Quebec. The court ordered the company to pay a fine of \$100,000 as well as an additional \$575,000 to the Environmental Damages Fund. On December 10, 2017, while unloading a ship at the Port of Québec, the Compagnie d’Arrimage de Québec Ltée failed to take all necessary measures to prevent the discharge of an estimated 500 kilograms of fertilizer into the St. Lawrence River.
- On March 18, 2021, **Gibson Energy ULC and GEP ULC** (operating in partnership as **Gibson Energy Partnership**) was ordered by the Provincial Court of Alberta to pay a fine of \$1.5 million directed to the Environmental Damages Fund and to make a presentation to industry within Strathcona County about the danger of chlorinated water. The companies were found guilty of two counts of violating the *Fisheries Act*. The first count related to the release of a deleterious substance into water frequented by fish and the second involved failing to take

all reasonable measures to prevent, counteract, mitigate or remedy adverse effects that result from the release.

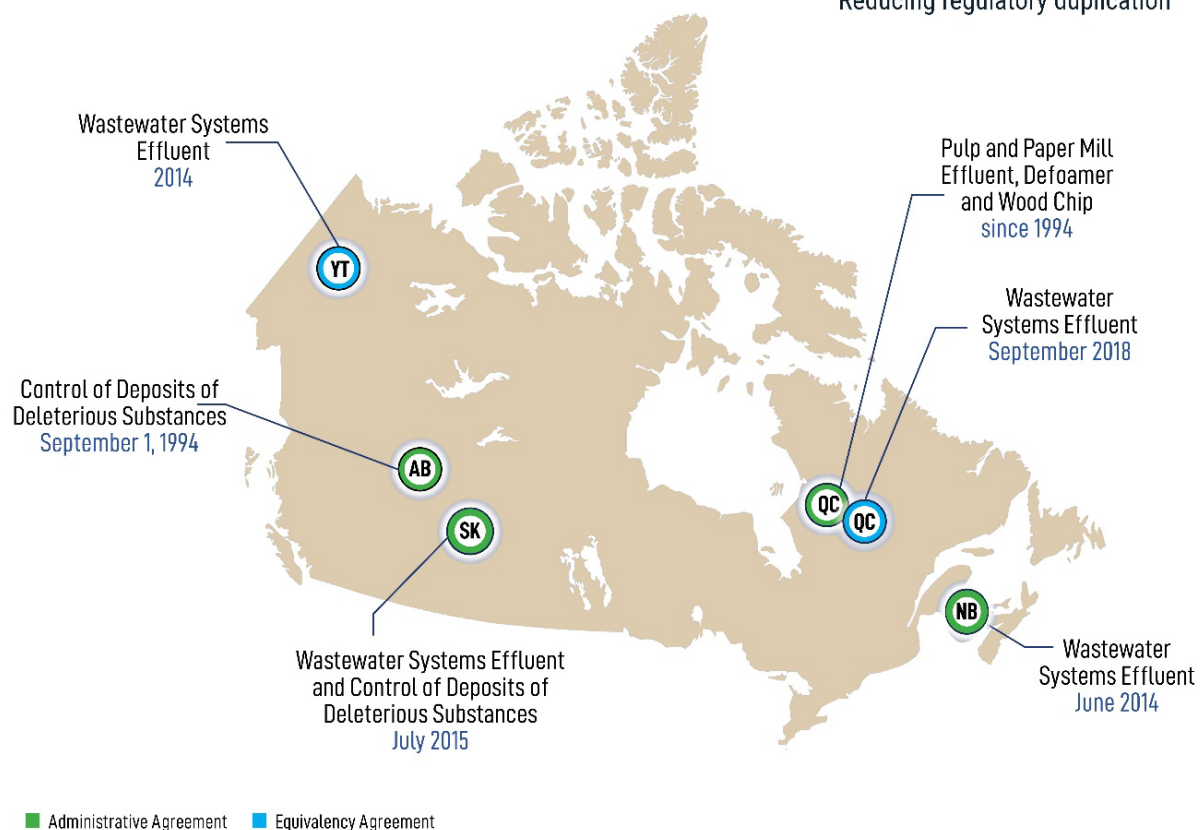
- On March 26, 2021, **Teck Coal Limited** was ordered to pay \$60 million in fines and monetary court orders after a guilty plea was entered on two counts related to the release of a deleterious substance into water frequented by fish. The company must also comply with a *Fisheries Act* Direction. This sentence is the highest ever imposed by a court for pollution in violation of the *Fisheries Act*. The Environmental Damages Fund will receive \$58 million of the fine, while the Receiver General for Canada will receive the remaining \$2 million. The charges, laid on March 24, 2021, resulted from a comprehensive investigation which revealed that Teck Coal Limited's operations were depositing deleterious coal mine waste rock leachate into the upper Fording River in British Columbia.

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 have been determined to be equivalent. These agreements reduce regulatory duplication, streamline administration, facilitate co-operation, and enhance communications amongst Canada's regulators.

EQUIVALENCY 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 equivalency 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 three wastewater systems (in the City of Whitehorse, City of Dawson, and the Village of Haines Junction) that are subject to the *Agreement on the Equivalency of Laws Applicable to Wastewater Systems Located in Yukon*.

In the 2020 reporting year, the three municipalities submitted the required reports. Due to COVID-19, Yukon's Environmental Compliance Officers were asked to limit travel to communities, which resulted in no inspections in 2020 at the Dawson and the Haines Junction facilities. While the City of Whitehorse's licence expired on May 1, 2020, they continued to operate the system and committed to report and operate the system respecting the conditions of the expired licence. None of the wastewater systems run by these communities exceeded the effluent quality standards for the 2020 calendar year.

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

In July 2015, 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 conducted inspections and corresponded with 72 members of the regulated community in order to promote and verify compliance with the *Wastewater Systems Effluent 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 2020, 81 per cent of these facilities met the effluent quality standards that are equivalent to the federal standards. Quebec's *Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques* conducted 90 inspections in the 2020 calendar year and issued 74 notices of non-compliance and four administrative monetary penalties.

In 2020, Quebec amended its regulatory regime for wastewater. We assessed the changes and determined that our agreement needed to be amended for the regimes to remain equivalent. Our work in this area will be reflected in the 2021-22 annual report.

New Brunswick

In June 2014, 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. This agreement was renewed in February 2018. Under the renewed agreement, provincial officials had 41 interactions with the regulated community to promote and verify compliance, and they shared information with us on these interactions.

3.6 Monitoring Marine Water Quality for Shellfish

ECCC is one of three federal partners in the Canadian Shellfish Sanitation Program. We 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 then used by another partner in the program, DFO, to manage the harvesting areas based on the *Management of Contaminated Fisheries Regulations*.

While COVID-19 significantly disrupted field and laboratory operation in 2020-21, we still collected more than 15,671 marine water quality samples from nearly 5,295 marine sites in order to classify shellfish harvest areas along the coasts of the Atlantic and Pacific Ocean and the St. Lawrence Estuary.

KEY RESULT

Protecting Canadians from Consuming Contaminated Shellfish

Federal partners in the Canadian Shellfish Sanitation Program have been working together to raise awareness among 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, 1,547 environmental incidents with potential impacts to shellfish areas were reported in 2020-21, including discharges from wastewater treatment plants and their associated collection systems.

We also completed two comprehensive assessments of wastewater systems in 2020 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 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 Operations 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

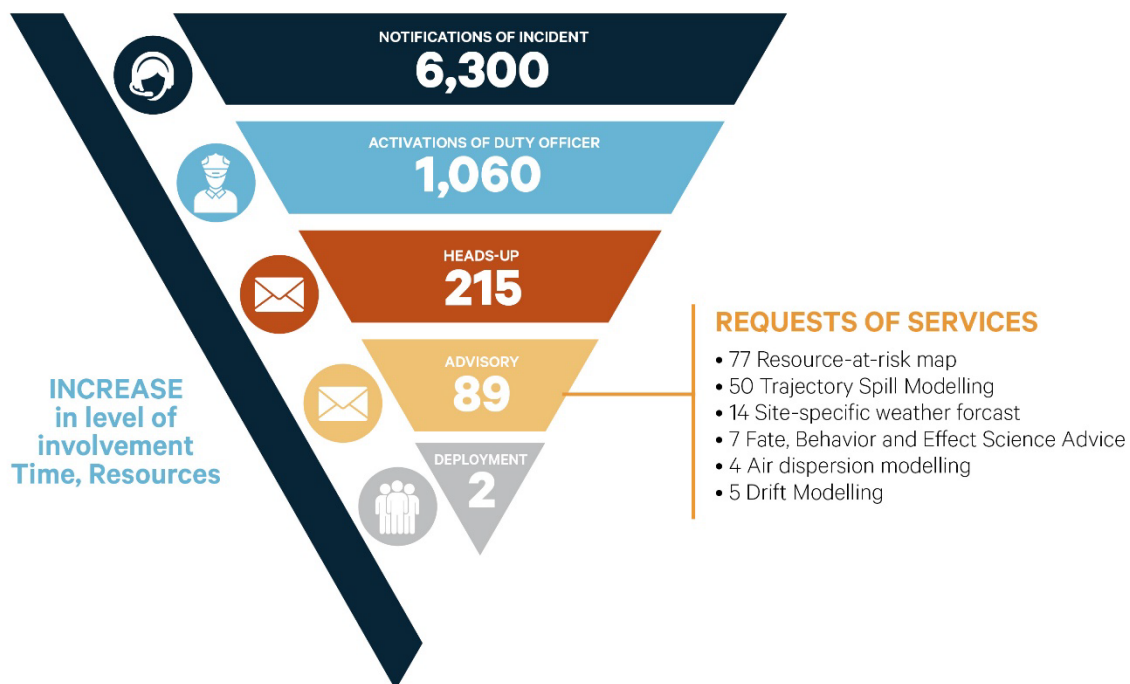
- support enforcement activities

In 2020-21, the National Environmental Emergencies Operations Centre recorded 6,300 notifications involving the *Fisheries Act*. Of these notifications,

- 1,060 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.
- 215 incidents resulted in specific communication with senior management (i.e., “Heads-up”) and 89 incidents resulted in scientific information being provided to the agency leading the response 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
- Two incidents resulted in virtual deployments of environmental emergency officers to support the agency leading the response to the incident.

NATIONAL ENVIRONMENTAL EMERGENCIES CENTRE

Incident Statistics related to the *Fisheries Act*
2020 - 2021



Success Story: Example of an Environmental Emergency Response

In April 2020, a transfer pump on a logging barge in Dinan Bay, Haida Gwaii in British Columbia was left unattended and approximately 4,500 liters of diesel fuel was released into the marine environment as a result.

The National Environmental Emergencies Centre supported the response to the incident, coordinating calls addressing environmental concerns and providing coordinated scientific and technical advice on behalf of ECCC to other response partners. This includes the Haida Nation, Canadian Coast Guard, and British Columbia Ministry of Environment and Climate Change Strategy.

The Centre's scientific and technical advice included resource-at-risk mapping, spill trajectory modeling, product fate and behavior, sampling advice, and site-specific weather forecasts. In addition, the Centre reviewed a number of contingency plans to ensure appropriate action was taken to protect the environment.

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 most cases, provincial and territorial laws also require notification of an environmental emergency or occurrence. To reduce duplication, we have entered into [environmental occurrences notification agreements](#) with the governments of Alberta, British Columbia, Manitoba, the Northwest Territories, Ontario, Saskatchewan, and Yukon. While these agreements expired in March 2021, ongoing renewal procedures began in 2020-21.¹³ In the interim, we continued to implement previous notification agreements by establishing management committees and developing standard operating procedures for collecting and processing notifications of environmental occurrences.

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.

¹³ Expired notification agreements are currently being updated.

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 harmful substances that may be deposited in waters frequented by fish, under any conditions:

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

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.

The deposit of these substances is restricted to avoid, minimize, and mitigate any potential detriments to fish and fish habitat. The *Aquaculture Activities Regulations* also require industry to annually report on the deposit of drugs and pesticides in terms of frequency and quantity, as well as their intent to deposit pest control products. In addition, aquaculture operators must consider measures to be taken to avoid needing to use these substances and to mitigate their impacts.

If the use of drugs or pesticides cause or are suspected to have caused morbidity or death of fish within the 96 hours following their deposit, the owner or operator of the aquaculture facility must report the event to 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 311 inspections our fishery officers conducted on aquaculture operations in 2020-21, 14 resulted in charges being laid, with an overall compliance rate of 95%.

In 2020-21, we started to develop a comprehensive monitoring program which aims to address the potential impacts of the deposit of deleterious (harmful) substances at marine finfish aquaculture sites on wild fish and fish habitat. This includes taking into account and measuring the cumulative effects of repeated deposits. We also started engaging First Nations groups on our post-deposit monitoring program and continued to work with provincial and territorial partners through the Canadian Council of Fisheries and Aquaculture Ministers to ensure aquaculture regulatory regimes are aligned.

KEY RESULT

Peer-review Process Strengthens Environmental Monitoring at Aquaculture Sites

The March 2020 Canadian Science Advisory Secretariat¹⁴ peer-review process helped us refine and further strengthen our pesticide and drug environmental monitoring at aquaculture sites, which is required by the *Aquaculture Activities Regulations*.

DFO also publicly reports on the [farm-level usage of drugs and pesticides on an annual basis](#). This supports the Canada's commitment to openness and transparency.

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* help us prevent the introduction and spread of aquatic invasive species, and manage the species that have already established 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 2020-21, we developed policies and tools to integrate the *Aquatic Invasive Species Regulations* into the DFO Aquatic Ecosystems regulatory environment. We also continued to foster and further develop relationships with our federal, provincial, and territorial partners through the National Aquatic Invasive Species Committee.

In addition, we continued to address the recommendations of the Commissioner of the Environment and Sustainable Development. For example, 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 2020-21, we worked with our partners to put in place all planned physical barriers to sea lamprey migration and successfully applied lampricide to a number of tributaries, including two significant sea lamprey nursery streams: the St. Mary's River and the Garden River. We also issued the first two authorizations for the deposit of a deleterious (harmful) substance as per section 19 of the *Aquatic Invasive Species Regulations* to control phragmites in Lake Erie, Ontario and to successfully eradicate smallmouth bass in Piper Lake, Nova Scotia. In addition, we continued to work with partners to leverage existing resources and fund partnership projects that address the threat of aquatic invasive species.

¹⁴ [Science Advisory Report 2021](#)

Success Story: Managing an Infestation of Invasive Zebra Mussels

Zebra mussels are native to the Black and Caspian seas region in southeastern Europe and it is illegal to import them under the *Aquatic Invasive Species Regulations*. Zebra mussels procreate very rapidly to compete with native mussels, affect water quality, and cause millions of dollars in damage every year by clogging intake structures in power stations and water treatment plants, as well as damaging watercrafts.

Despite challenges related to COVID-19, we quickly addressed a new introduction of the invasive zebra mussel in March 2021 that was traced back to imported aquarium moss balls. The Incident Command System was used to effectively and efficiently respond to and stabilize the incident to prevent new spread of this species. A sustained action plan and enforcement plan also continues to help safeguard Canada from this threat through retailer spot checks and importer monitoring with the Canada Border Services Agency.

4



ANNEX

4.1 Annual Report

This annual report summarizes the legislative requirements 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. 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 and oceans.

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. The key provisions essential to sustaining fish species are the 'fish and fish habitat protection' and the 'pollution prevention provisions.'

Fish and Fish Habitat Provisions

The fish and fish habitat protection provisions include:

- a prohibition against causing the death of fish, by means other than fishing (section 34.4(1))
- a prohibition against causing the harmful alteration, disruption or destruction of fish habitat (section 35(2))
- a framework of considerations to guide the Minister's decision-making functions (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 (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.

Pollution Prevention Provisions

The pollution prevention provisions serve to protect fish by prohibiting pollution that could be deleterious (harmful) to fish. They are found in sections 34 to 40 of the *Fisheries Act* with subsection 36(3) considered to be the key pollution prevention provision as it prohibits the deposit of all deleterious substances:

- into water frequented by fish, or
- to any place, under any conditions, where it may enter water frequented by fish

This provision applies to all deposits, whether they are made directly into water frequented by fish or indirectly, such as a roadside ditch that flows into water frequented by fish.

A deposit of a deleterious substance is only authorized pursuant to, and in a manner consistent with, a *Fisheries Act* regulation or by a regulation made under another federal legislation.

ECCC administers and enforces key regulations made under the pollution prevention provisions for a number of sectors including pulp and paper, metal and diamond mining and wastewater. DFO administers the pollution prevention provisions and regulations for subject matters related to aquaculture facilities and any resulting effects of those activities on the waters frequented by fish, as well as to control or eradicate any aquatic invasive or other species that constitute a pest to fisheries.

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

Following the modernization of the *Fisheries Act*, our team was structured into four areas of work:

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

Advancing reconciliation with Indigenous peoples is a foundational theme for our work. Integrated planning has also been re-introduced to address a recommendation from the Standing Committee on Fisheries and Oceans: *“that Fisheries and Oceans Canada take an ecosystem approach to protection and restoration of fish habitats so that the entire food web is preserved for fish by:*

1. *Adopting key sustainability principles.*
2. *Protecting the ecological integrity of fish habitat.*
3. *Protecting key areas of fish habitat.”*

REGULATORY REVIEW & ADVICE

- Legislative & policy frameworks
- Compliance promotion & monitoring
- Regulatory review & authorization
- Environmental/impact assessment
- Indigenous consultation

INTEGRATED PLANNING

- Identification of conservation priorities and objectives
- Influencing, leading and participating in planning processes
- Assessing state of fish and fish habitat



REPORTING TO CANADIANS

- Monitoring effectiveness of measures
- Public reporting
- Better digital service for users
- Continuous improvement

ENGAGEMENT & PARTNERSHIPS

- Consultation
- Outreach
- Building and maintaining relationships
- Grants and contributions

RECONCILIATION WITH INDIGENOUS PEOPLES

In 2020-21, our Integrated Planning unit planned to work in collaboration with provinces and territories and stakeholders, and Indigenous peoples, to establish management priorities, identify sensitive habitats, and understand the needs and objectives of resources users.

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 the 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 above.

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

The Industrial Sector and Chemicals Directorate within ECCC is the departmental lead on 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 pollution prevention 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* contributes to the protection and conservation of Canada's water resources.

Within the Industrial Sector and Chemicals Directorate, there are two organizations which focus on different sector expertise and the administration of the *Act*. The Mining and Processing Division focusses on projects pertaining to metal and diamond mines and the administration of the *Metal and Diamond Mine and Effluent Regulations*. The Forest Products and *Fisheries Act* Division 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, has always been 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 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 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 several teams in the National Capital Region that support the work of enforcement officers by:

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

INDUSTRIAL AND CHEMICALS SECTOR 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 Mine Effluent Regulations administration

ENVIRONMENTAL ENFORCEMENT DIRECTORATE

More than 120 enforcement officers

- Planned (proactive) and unplanned (reactive) inspections
- 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

NATIONAL ENVIRONMENTAL EMERGENCIES CENTRE

Environmental Emergencies Officers:

- Receive notifications of deleterious (harmful) substance deposits
- Access and inspect deposit sites
- Collect and evaluate relevant information and samples to determine environmental damage and corrective measures
- Support enforcement activities

4.4 Tables

Fisheries and Oceans Canada

Table 1
Projects Reviewed by the Canada Energy Regulator
Fiscal Year 2020-21

Determination	2020-21
Deemed unlikely to result in harmful alteration, disruption or destruction of fish habitat or death of fish as company proposed to use DFO's "Measures to protect fish and fish habitat" or "Codes of Practice"	268
Deemed unlikely to result in harmful alteration, disruption or destruction of fish habitat or death of fish after additional review/input from the Canada Energy Regulator	161
Deemed likely to result in harmful alteration, disruption or destruction of fish habitat or death of fish and referred to DFO	27
Total	456

Table 2
Projects Monitored by the Canada Energy Regulator
Fiscal Year 2020-21

Determination	2020-21
Deemed to be compliant with the <i>Canada Energy Regulator Act</i> and <i>Fisheries Act</i> requirements for fish and fish habitat protection	82
Non-compliance with the <i>Canada Energy Regulator Act</i> requirements for fish and fish habitat protection addressed by the Canada Energy Regulator	5
Non-compliance with <i>Fisheries Act</i> - notification/discussion with DFO	0
Total	87

Table 3
Summary of Habitat Referrals by Primary Impact
Fiscal Year 2020-21¹⁵

Region	Changes in Flows/Water Levels	Deposition of Non-Deleterious Substances	Dredging/Excavating	Fish Mortality	Primary Impact Fish Passage	Infilling/Footprint	Watercourse Alteration	No Potential Impact	Other ¹⁶	Total
Newfoundland and Labrador	4	8	19	0	69	78	0	53	4	235
Maritimes	36	9	37	6	99	164	34	90	10	485
Gulf	9	5	50	7	96	117	12	120	1	417
Quebec	12	5	37	14	67	138	7	50	7	337
Ontario & Prairies and Arctic	126	54	713	83	264	918	74	135	13	2,380
Pacific	26	9	166	24	22	881	103	19	10	1,260
Total	213	90	1,022	134	617	2,296	230	467	45	5,114

Table 4
Advice/Responses Given and Authorizations Issued
Fiscal Year 2020-21

Region	Advice/Response Provided to Proponent or Others ¹⁷	Authorizations Issued	Total
Newfoundland and Labrador	242	2	244
Maritimes	400	15	415
Gulf	395	25	420
Quebec	375	58	433
Oceans & Prairies and Arctic	2,156	63	2,219
Pacific	1,078	41	1,119
Total	4,646	204	4,850

Advice/Response numbers do not include any Impact Assessment advice actions as they were excluded last year

“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 2020-21, it would also be counted at two)

¹⁵ Note: For reporting purposes, the receipt of a referral by DFO is accounted for in the statistics of the same year that 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.

¹⁶ “Other” includes referrals identified with the primary impact of “To be determined”.

¹⁷ Advice given to others includes: written advice to federal agencies, provincial/territorial/other agencies and boards, letters of advice to proponents, and mitigation measures to permitting agencies. Program responses given through triage and other processes include: best management practices, 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, regulatory review not required, no specialist advice to provide, and Yukon Environmental and Socio-economic Assessment Board-DFO not a Decision Body.

Table 5
Notifications of Use of Class Authorizations
Fiscal Year 2020-21

Region	Class Authorizations Notifications	Total
Newfoundland and Labrador	0	0
Maritimes	0	0
Gulf	0	0
Quebec	0	0
Ontario & Prairies and Arctic	110	110
Pacific ¹⁸	48	48
Total	158	158

Table 6
Allocation of Compliance Effort and Fishery Officer Effort by Fisheries Habitat Sectors
Fiscal Year 2020-21

Habitat Activities	Hours	Percentage
Agriculture	3,512	9%
Aquaculture	445	1%
Death of Fish	2,200	6%
Forestry	1,461	4%
General Patrol	3,681	10%
Hydro	761	2%
Industrial/Commercial	2,880	7%
Mining	7,390	19%
Natural Event	319	1%
Oil/Gas	579	1%
Other (Non-Industry)	2,085	5%
Recreational	2,913	8%
Rural/Urban Dev.	7,528	19%
Transportation	2,915	8%
Total	38,667	100%

¹⁸ 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 Habitat Occurrences by Region
Fiscal Year 2020-21

Region	Number of Occurrences
Newfoundland and Labrador	114
Maritimes	106
Gulf	43
Quebec	22
Ontario & Prairies and Arctic	53
Pacific	768
NHQ	1
Total	1,107

Environment and Climate Change Canada

Table 8
Inspections conducted
Fiscal Year 2020-21¹⁹

Instruments	Total	On-Site	Off-Site
<i>Fisheries Act</i> (Grand Total)	1,647	381	1,266
General Prohibition ²⁰	698	265	433
Deposit Out of Normal Course of Events Notification Regulations	1	1	-
Metal and Diamond Mining Effluent Regulations	483	43	440
Petroleum Refinery Liquid Effluent Regulations	22	-	22
Pulp and Paper Effluent Regulations	234	18	216
Wastewater Systems Effluent Regulations	209	54	155

¹⁹ Only those regulations under which an inspection and/or investigation occurred during the time period are listed in this table.

²⁰ Includes all inspections and violations under the pollution prevention provisions of the *Fisheries Act*.

Table 9
Enforcement Measures²¹
Fiscal Year 2020-21

Instruments	Measure Type			
	No. of Letters	Written Warnings No. of Infractions ²²	No. of Directions	Directions No. of Infractions
<i>Fisheries Act (Grand Total)</i>	170	537	15	22
General Prohibition ²³	58	140	11	18
Deposit Out of Normal Course of Events Notification Regulations	1	7	-	-
Metal and Diamond Mining Effluent Regulations	47	102	-	-
Pulp and Paper Effluent Regulations	19	43	3	3
Wastewater Systems Effluent Regulations	45	245	1	1

Table 10
Investigations Breakdown
Fiscal Year 2020-21

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 (Grand Total)</i>	55	13	44
General Prohibition	44	11	31
Deposit Out of Normal Course of Events Notification Regulations	-	-	2
Metal and Diamond Mining Effluent Regulations	8	1	2
Pulp and Paper Effluent Regulations	2	1	6
Wastewater Systems Effluent Regulations	1	-	3

²¹ 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. This is different from previous years where it was tabulated by the number of files closed during the year that show at least one infraction for which the measure was taken.

²² 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.

²³ Includes all inspections and violations under the pollution prevention provisions of the *Fisheries Act*.

Table 11
Prosecutions and Penalties
Fiscal Year 2020-21

Instruments	Prosecutions		Penalties
	Convicted Subjects ²⁴	Guilty Counts ²⁵	Environmental Damages Fund
<i>Fisheries Act</i> (Grand Total)	8	13	\$63,085,000.00
General Prohibition ²⁶	8	13	\$63,085,000.00

4.5 Year-over-year Comparative Statistics

We are always looking for ways to improve how we report on the work that we carry out to administer the provisions of the *Fisheries Act* and regulations for which we are responsible.

This section presents two comparative data sets from the past three fiscal years (2018-19, 2019-20 and 2020-21) regarding our activities to:

- Administer the fish and fish habitat protection program
- Enforce the pollution prevention provisions of the *Fisheries Act*

We will continue to populate this section in future years and to add comparative data on other activities that we undertake.

ADMINISTERING THE FISH AND FISH HABITAT PROTECTION PROGRAM

2018-19, 2019-20 and 2020-21



²⁴ Convicted subjects are the number of persons (individuals or organizations) sentenced during the reporting period.

²⁵ 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), this is considered one conviction against the subject and three counts.

²⁶ Includes all prosecutions under the pollution prevention provisions of the *Fisheries Act*.

COMPARATIVE STATISTICS OF ENFORCEMENT ACTIVITIES

related to the Pollution Prevention Provisions
FISCAL YEARS 2018-19, 2019-20 AND 2020-21



The number of inspections declined in 2020-21 due to COVID-19 restrictions and there were fewer on-site and more off-site inspections.