

Report 7

Reports of the Commissioner of the Environment and Sustainable Development to the Parliament of Canada

Protecting Aquatic Species at Risk



Independent Auditor's Report | 2022



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Introduction

Background

Aquatic species in Canada

7.1 Canadian waters are home to more than 2,000 aquatic species. All are important to biodiversity—that is, the variety of species, ecosystems, and ecological processes—and the health of aquatic ecosystems in Canada, Canada’s social and economic prosperity, and the livelihoods of many Canadians.

7.2 Globally, biodiversity loss has reached crisis proportions on land and in both freshwater and marine (saltwater) environments. Canada, along with its international partners, has recognized the urgent need to halt and reverse the loss of biodiversity. However, some aquatic species are already extinct, while the populations of many others are declining. These declining species are at risk and in need of protection. Timely action is key to the recovery of these species. Delaying action means that future generations of Canadians will face higher risks of aquatic species loss or higher costs of helping to recover aquatic species populations.

7.3 There are 2 main federal laws for conserving and protecting biodiversity in Canada’s waters ([Exhibit 7.1](#)):

- The *Species at Risk Act*, which came fully into force in 2004, aims to prevent animals, plants, and other organisms (except bacteria or viruses) in Canada from disappearing, by listing species to be protected. The act contributes to the federal government’s commitments under the United Nations’ Convention on Biological Diversity. It also supports federal commitments made under the national Accord for the Protection of Species at Risk to prevent wildlife species in Canada (including aquatic species) from becoming extinct as a result of human activity.
- The *Fisheries Act* is the main federal law governing fisheries in Canada. It provides for the management and control of fisheries, as well as the conservation and protection of fish and fish habitat, which includes pollution-prevention provisions. The act applies to all aquatic species, whether or not they are listed as being at risk under the *Species at Risk Act*. The *Fisheries Act* also includes a requirement to rebuild major fish stocks, as prescribed by regulations, when a stock has declined to or below an established threshold. This requirement does not apply to endangered or threatened species listed under the *Species at Risk Act*.

Exhibit 7.1—Key prohibitions to protect aquatic species under the *Species at Risk Act* and the *Fisheries Act*

Protection for	<i>Species at Risk Act</i> *	<i>Fisheries Act</i>
	Prohibits (with some exceptions)	
Fish	<ul style="list-style-type: none"> • killing, harming, harassing, capturing, or taking fish • possessing, collecting, buying, selling, or trading fish 	<ul style="list-style-type: none"> • death of fish other than through permitted fishing
Habitat and residence	<ul style="list-style-type: none"> • destroying any part of critical habitat • damaging or destroying residence 	<ul style="list-style-type: none"> • harmful alteration, disruption, or destruction of fish habitat

* These prohibitions do not apply to species of special concern (the lowest-risk category in the act).

Source: Based on the *Species at Risk Act* and the *Fisheries Act*

Committee on the Status of Endangered Wildlife in Canada

7.4 The *Species at Risk Act* gives the Committee on the Status of Endangered Wildlife in Canada the authority to assess and classify wildlife species according to their risk status ([Exhibit 7.2](#)). The committee is an independent advisory panel of wildlife experts that provides information to the Minister of Environment and Climate Change on the status of wildlife species in Canada. After species have been assessed as being at risk by the committee, the legal protection under the *Species at Risk Act* starts when species assessed as threatened, endangered, or extirpated have been listed under Schedule 1 (List of Wildlife Species at Risk) of the act. The level of legal protection for species listed as being of special concern is lower than for other listed species.

Exhibit 7.2—Risk status of aquatic species we examined as at November 2021, as assessed by the Committee on the Status of Endangered Wildlife in Canada



Increasing risk to species					
Not at risk	Special concern	Threatened	Endangered	Extirpated	Extinct
40	36	38	49	3	8
28	27	25	52	0	1
Evaluated and found not to be at risk of extinction given the current circumstances.	May become threatened or endangered because of a combination of biological characteristics and identified threats.	Likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.	Faces imminent extirpation or extinction.	No longer exists in the wild in Canada, but exists elsewhere.	No longer exists.

Data-deficient
22
15
The information that is available about the species is insufficient to be able to assess its risk status.

Source: Adapted from the Committee on the Status of Endangered Wildlife in Canada and information from Environment and Climate Change Canada

[See the long description of Exhibit 7.2—Risk status of aquatic species we examined as at November 2021, as assessed by the Committee on the Status of Endangered Wildlife in Canada](#)

7.5 Since it was established in 2003, the committee has assessed and classified the status of an increasing number of wildlife species, using available information such as scientific, community, and Indigenous traditional knowledge. Once assessed as being at risk by the Committee on the Status of Endangered Wildlife in Canada, most species remained at risk. In some cases, the situation improved or worsened, but none have fully recovered ([Exhibit 7.3](#)).

Exhibit 7.3—Change of the risk status for aquatic species reassessed by the Committee on the Status of Endangered Wildlife in Canada (for species included in the audit scope) as at November 2021

Risk status	Same status	Increasing risk	Decreasing risk
Extirpated	◀ 3	▲ 2	▼ 0
Endangered	◀ 23	▲ 0	▼ 7
Threatened	◀ 5	▲ 10	▼ 3
Special concern	◀ 16	▲ 5	▼ 4
Totals (Percentage of the 78 species included in the audit scope that were reassessed)	◀ 47 (60%)	▲ 17 (22%)	▼ 14 (18%)

Note: A total of 9 species assessed as extinct were also included in the audit scope; 2 of them had become extinct between the first and the last assessments made by the committee.

Source: Analysis of risk assessments prepared by the Committee on the Status of Endangered Wildlife in Canada


Aquatic species descriptions

7.6 Aquatic species can be described in biological terms, but they also have different geographies and risk levels. For purposes of managing or protecting aquatic species, 2 other terms apply:

- **Populations.** Many species include more than 1 population, with the populations being geographically or genetically distinct.
- **Fish stocks.** Fisheries and Oceans Canada refers to the resources it manages as “fish stocks”—1 or several harvested species that are grouped together because of their genetic relationship or geographic distribution, most of which have commercial value and some of which have recreational use.

As an example, under this categorization, Atlantic cod is a single species with 5 populations in Canada ([Exhibit 7.4](#)).

Exhibit 7.4—Describing aquatic species from various perspectives

Species	Population	Risk category	Stock
A group of organisms that have the same main biological characteristics and are able to interbreed. They can be categorized as marine species, freshwater species, or both.	Organisms of the same species that are geographically or genetically distinct.	Species assessed by the Committee on the Status of Endangered Wildlife in Canada and subject to a listing decision under the <i>Species at Risk Act</i> .	One or several harvested species that are grouped together because of their genetic relationship or geographic distribution, and that are managed through the <i>Fisheries Act</i> by Fisheries and Oceans Canada.
 <p>Atlantic cod</p>	Arctic lakes	Special concern (not listed)	None
	Laurentian north	Endangered (not listed)	Atlantic cod, NAFO* 3Ps and NAFO 3Pn4RS
	Laurentian south	Endangered (not listed)	Atlantic cod, NAFO 4TVn
	Newfoundland and Labrador	Endangered (not listed)	Atlantic cod, NAFO 2J3KL
	Southern	Endangered (not listed)	Atlantic cod, NAFO 4X5Y and NAFO 5Zjm

* NAFO: Northwest Atlantic Fisheries Organization, an intergovernmental fisheries science and management organization that brings together various countries involved in fisheries, including Canada

Source: Analysis of information from Fisheries and Oceans Canada and assessments conducted by the Committee on the Status of Endangered Wildlife in Canada

Roles and responsibilities

7.7 Responsibilities for the conservation of species in Canada is shared across federal, provincial, and territorial governments. Wildlife management boards established under land claims agreements also play a role in the implementation of some aspects of the federal *Species at Risk Act*.

7.8 The Minister of Environment and Climate Change is responsible for the overall administration of the *Species at Risk Act*, including recommending to the **Governor in Council**¹ whether to list species under Schedule 1 of the *Species at Risk Act*. The Governor in Council may, on the recommendation of the Minister of Environment and Climate Change, refer a species back to the Committee on the Status of Endangered Wildlife in Canada for further information or consideration. Before

¹ **Governor in Council**—The Governor General, who acts on the advice of Cabinet and, as the formal executive body, gives legal effect to those decisions of Cabinet that are to have the force of law.

making a recommendation to the Governor in Council, the Minister of Environment and Climate Change must consult with the Minister of Fisheries, Oceans and the Canadian Coast Guard for aquatic species under the Minister of Fisheries, Oceans and the Canadian Coast Guard's authority.

7.9 Fisheries and Oceans Canada is responsible for managing fisheries and ocean resources, and for helping to ensure healthy and sustainable aquatic ecosystems through habitat protection and the use of science. This entails several responsibilities:

- The Minister of Fisheries, Oceans and the Canadian Coast Guard is responsible for the conservation of aquatic species under the *Species at Risk Act*. This responsibility does not extend to conservation on federal lands administered by Parks Canada.
- Under the *Fisheries Act*, the department is responsible for implementing measures to maintain prescribed major fish stocks at or above a sustainable level. If a major fish stock has declined to or below the sustainable level, the department is required to implement a plan to rebuild the stock, taking into account the biology of the fish and the environmental conditions. These measures can apply to species included in a major fish stock that were assessed as being at risk and were not listed under the *Species at Risk Act*.
- In cooperation with provinces, territories, Indigenous groups, and external stakeholders, Fisheries and Oceans Canada is also responsible for preparing recovery and management documents, and for implementing the necessary conservation and protection measures for aquatic species.



Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Source: United Nations



Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Source: United Nations

7.10 Responsibility for marine species in Canada falls mainly under Fisheries and Oceans Canada. The responsibility for freshwater species depends on many factors, including

- the locations and types of species
- the types of fisheries (such as commercial, recreational, or ceremonial fisheries) involved
- any agreements and regulations that delegate responsibilities to other levels of government
- whether the species are listed as being at risk

7.11 Environment and Climate Change Canada and Fisheries and Oceans Canada have responsibilities related to the United Nations' Sustainable Development Goal 14 (Life Below Water): "Conserve and sustainably use the oceans, seas and marine resources for sustainable development." The departments also have responsibilities related to Goal 15 (Life on Land), and specifically Target 15.5: "Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species."

Focus of the audit

7.12 This audit focused on whether Fisheries and Oceans Canada, in collaboration with others, protected selected aquatic species assessed as at risk.

7.13 We also looked at how Fisheries and Oceans Canada and Environment and Climate Change Canada addressed the United Nations' Sustainable Development Goal 14 (Life Below Water) and Goal 15 (Life on Land), as they relate to protection of aquatic species at risk.

7.14 This audit is important because once an aquatic species becomes extinct, it is lost forever, depriving future generations of its benefits. Such a loss also has broader effects on ecosystems and communities. Because Canada has the world's longest coastline and abundant freshwater habitats, its stewardship of aquatic species is all the more critical. Where human activity is a factor in species decline, minimizing the effects of commercial, recreational, and other human activities is important to supporting recovery efforts.

7.15 More details about the audit objective, scope, approach, and criteria are in [About the Audit](#) at the end of this report.

Findings and Recommendations

Overall message

7.16 Overall, we found that Fisheries and Oceans Canada's approach to protecting aquatic species assessed as being at risk under the *Species at Risk Act* contributed to significant listing delays and decisions not to list species with commercial value. It also had knowledge gaps for some species that directly affected the actions needed to protect them. Fisheries and Oceans Canada focused its knowledge-building primarily on species of commercial value.

7.17 We found that some department actions resulted in delays in decisions to protect species under the *Species at Risk Act*, especially species that are commercially fished. It had yet to provide listing advice for half of the species assessed as being at risk since the act came fully into force in 2004. Furthermore, the analysis the department used to develop listing advice was sometimes unclear or insufficient.

7.18 We also found that the department did not have enough staff to enforce compliance with the *Species at Risk Act* and the *Fisheries Act*—the 2 main pieces of legislation aimed at conserving and protecting biodiversity—especially in the region that manages most of the freshwater species listed under the *Species at Risk Act*.

7.19 The impact of these delays and gaps is significant because the loss of a species has an effect on ecosystems and communities. Without a change in approach that enables Fisheries and Oceans Canada to collect sufficient information about all the aquatic species it is responsible for, it will be difficult to take appropriate actions to protect many species.

Building knowledge on aquatic species

Fisheries and Oceans Canada focused its knowledge-building on species of commercial value

What we found

7.20 We found that Fisheries and Oceans Canada focused its knowledge-building mostly on the marine species of commercial value that it manages. It collaborated with other jurisdictions to build knowledge about other species, especially freshwater ones, but that collaboration was not always consistent.

7.21 The analysis supporting this finding discusses the following topics:

- [Little knowledge-building on data-deficient species](#)
- [Focus of knowledge-building on fish stocks](#)
- [Inconsistent collaboration with other jurisdictions](#)

Why this finding matters

7.22 This finding matters because knowledge about aquatic species is essential to determining whether populations of species are at risk, which will help determine the appropriate strategies to protect them.

Context

7.23 To help determine the measures needed to protect species at risk, Fisheries and Oceans Canada increases its knowledge about the species and coordinates with other jurisdictions to gather knowledge about the species it does not manage.

7.24 Collecting enough data to understand the health status of aquatic species can be challenging, especially when research capacity is limited, species are distributed over large or remote areas, or the species abundance is very low. The precautionary principle, articulated in the *Species at Risk Act* and department policy, states that a lack of scientific certainty should not be used as a reason for not preventing the reduction or loss of species at risk. More specifically, cost-effective measures to

prevent the reduction or loss of the species should not be postponed for a lack of full scientific certainty to address threats of serious or irreversible damage to a wildlife species.

**Analysis to support
this finding**

Little knowledge-building on data-deficient species

7.25 We found that Fisheries and Oceans Canada had not published any scientific reports for 87% (13 of 15) of the marine species that fall under its direct responsibility and that the Committee on the Status of Endangered Wildlife in Canada had assessed as “data-deficient.” While the department provided evidence of some scientific knowledge-building activities for these marine species, such as results of surveys that had been conducted, these activities were very limited.

7.26 Without this knowledge, the committee, which relies mostly on Fisheries and Oceans Canada to provide scientific knowledge about marine species, would not be able to determine the risk status for data-deficient marine species. Consequently, appropriate actions for species that need protection cannot be taken until knowledge gaps are reduced.

7.27 **Recommendation.** Fisheries and Oceans Canada should address knowledge gaps for marine species assessed as data-deficient by the Committee on the Status of Endangered Wildlife in Canada to make evidence-based decisions about the risk status of these species and how to protect them.

The department’s response. *Agreed.*

See [Recommendations and Responses](#) at the end of this report for detailed responses.

Focus of knowledge-building on fish stocks

7.28 We found that Fisheries and Oceans Canada focused its knowledge-building on fish stocks—commercially valuable or recreationally harvested species that the department manages—and had a good overall understanding of these. Marine species made up 97% of the fish stocks the department managed. The department’s approach to knowledge-building was to use catch and bycatch data reported from several sources, including fish harvesters’ logbooks, dockside monitoring, and at-sea observers. The department also collected data from research, such as surveys and biological sampling of fish. This data was peer-reviewed through the Canadian Science Advisory Secretariat, which facilitated the process and provided scientific advice. The purpose of this advice was to give the department a better understanding of marine fish populations’ characteristics and abundance to inform harvesting decisions.

7.29 Department officials told us that their knowledge-building approach to a species included in a fish stock did not change when the Committee on the Status of Endangered Wildlife in Canada assessed the species as being at risk. The department continued to build its knowledge through its usual fish stock management practices and scientific programs, which it considered sufficient.

Inconsistent collaboration with other jurisdictions

7.30 When Fisheries and Oceans Canada has little knowledge, it needs to rely on information from other jurisdictions. We found that while some of the department's regional offices were able to demonstrate sharing of knowledge and collaboration with their provincial counterparts for freshwater species, this was not always the case. For example, in 1 case, a regional office directed us to the provincial government for information on a species. In our view, given that this freshwater species had been listed under the *Species at Risk Act* since 2013, Fisheries and Oceans Canada should have had the necessary knowledge.

7.31 Once species were listed under the *Species at Risk Act*, the department collaborated with its provincial counterparts to prepare the necessary recovery documents to gather knowledge about the species and identify protection measures. These documents include recovery strategies, action plans, and management plans for species of special concern that detail the recovery measures to be followed. We found that, as of February 2022, the department prepared the mandatory recovery documents within the expected deadlines for 82% (91 of 111) of the species in the audit scope that were listed as being at risk.

7.32 **Recommendation.** Fisheries and Oceans Canada should improve its collaboration with other jurisdictions so that it can make evidence-based decisions, especially about species of low or no commercial value.

The department's response. *Agreed.*

See [Recommendations and Responses](#) at the end of this report for detailed responses.

Deciding how to protect aquatic species

Fisheries and Oceans Canada had yet to develop listing advice for half of the aquatic species assessed as being at risk

What we found

7.33 We found that Fisheries and Oceans Canada had yet to provide listing advice for 50% (116 of 230) of the aquatic species that had been assessed as being at risk since the *Species at Risk Act* came fully into force in 2004. When Fisheries and Oceans Canada developed advice on whether to list species, we found that it took an average of 3.6 years to complete the listing process.

7.34 The analysis supporting this finding discusses the following topic:

- [Slow development of listing advice](#)

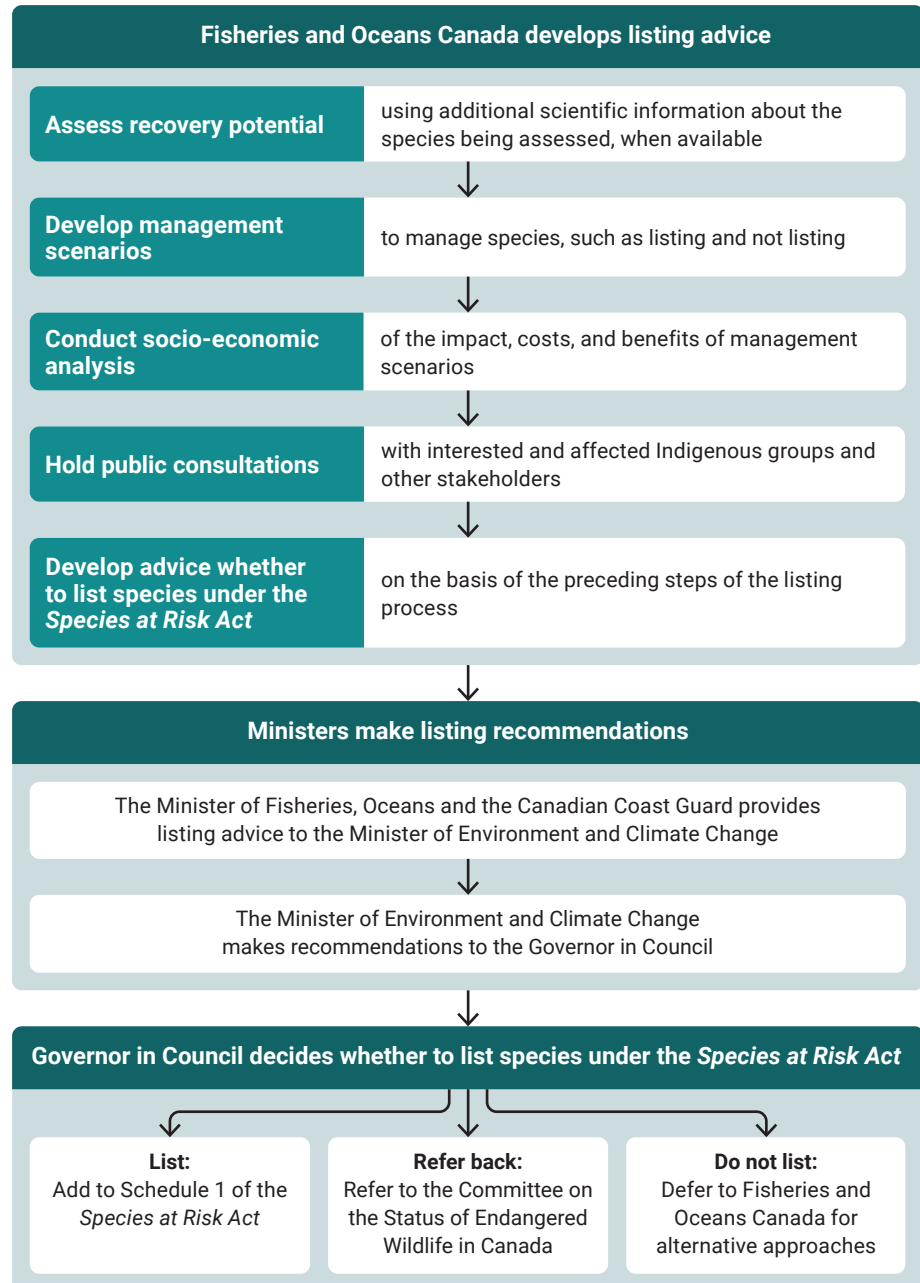
Why this finding matters

7.35 This finding matters because halting or reversing the loss of species in decline or at risk of extinction calls for urgent action by the federal government and other jurisdictions. The *Species at Risk Act* was put in place for this purpose. Delays in providing listing advice contribute to slower decisions on legally protecting many of these vulnerable aquatic species under the *Species at Risk Act*. As time passes, the risks to these species tend to increase and, with them, the difficulties and costs involved in their recovery—a burden that should not be placed on future generations.

Context

7.36 For species assessed as being at risk by the Committee on the Status of Endangered Wildlife in Canada, Fisheries and Oceans Canada's policy is to take precautionary action by default and provide advice to recommend listing a species under the *Species at Risk Act*, unless the department has a compelling reason not to do so ([Exhibit 7.5](#)). Under the *Fisheries Act* and other legislation, Fisheries and Oceans Canada has responsibilities and authorities to protect fish and fish habitat and to manage fisheries, including those affecting species at risk.

Exhibit 7.5—Process for developing listing advice and making recommendations for aquatic species at risk



Source: Based on information provided by Fisheries and Oceans Canada

[See the long description of Exhibit 7.5—Process for developing listing advice and making recommendations for aquatic species at risk](#)

Analysis to support this finding

Slow development of listing advice

7.37 We found that Fisheries and Oceans Canada had yet to provide listing advice for 50% (116 of 230) of the aquatic species that had been assessed as being at risk by the Committee on the Status of Endangered Wildlife in Canada since the *Species at Risk Act* came into force in 2004. However, for 12 of the 116 aquatic species, there was an initial decision not to list, and, at the time of this audit, there was a pending decision following reassessment for these species. For example, this was the case for the Newfoundland and Labrador population of Atlantic cod ([Exhibit 7.6](#)).

Exhibit 7.6—Fisheries and Oceans Canada has still not provided advice on whether to list Atlantic cod

The Newfoundland and Labrador population of Atlantic cod has been subject to a fishing moratorium since 1992 because its numbers had collapsed.

In 2003, the Committee on the Status of Endangered Wildlife in Canada assessed the population as being endangered. Fisheries and Oceans Canada's advice in 2006 was not to list Atlantic cod under Schedule 1, and at the time, the department allowed some inshore and Indigenous fishing.

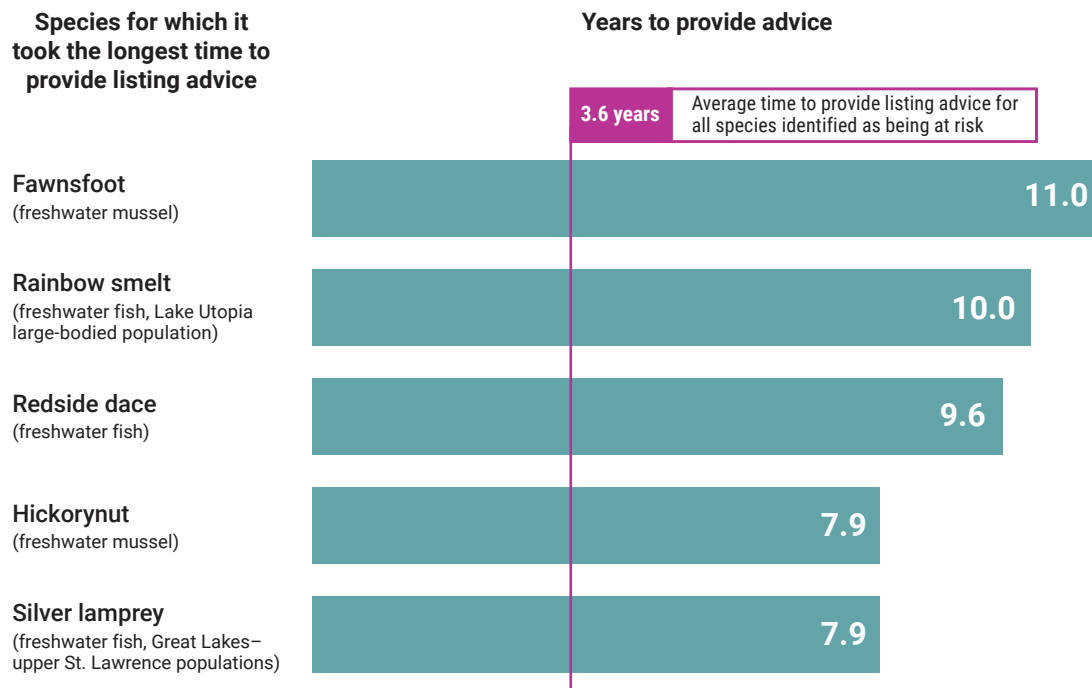
In 2010, the committee reassessed the population as being endangered.

At the time of our audit, Fisheries and Oceans Canada had not yet completed the listing advice for the population. Additionally, the department anticipated a second reassessment of the population by the committee in 2020. This reassessment was not yet scheduled by the time of the audit.

The Minister of Environment and Climate Change needs Fisheries and Oceans Canada's advice in order to put forward the listing recommendation to the Governor in Council, who decides whether to protect the population under the *Species at Risk Act*. Without this decision, there is no legal protection of the population under the *Species at Risk Act*.

7.38 We found that it took an average of 3.6 years to complete the listing process. Some advice took much longer ([Exhibit 7.7](#)). In November 2017, Environment and Climate Change Canada put a policy in place calling for a Governor in Council decision on whether to list aquatic species under the *Species at Risk Act* within 2 to 3 years. We also found that the listing decision process should have been completed for 44 species at risk within the required time frame, but it was completed for only 5 species.

Exhibit 7.7—Fisheries and Oceans Canada took a long time to develop listing advice for several aquatic species



Source: Based on information provided by Fisheries and Oceans Canada

[See the long description of Exhibit 7.7—Fisheries and Oceans Canada took a long time to develop listing advice for several aquatic species](#)

7.39 We found that Fisheries and Oceans Canada undertook work to streamline its listing process and address continuing delays in completing listing advice. At the time of the audit, the department had not completed this work.

7.40 Department officials told us that for marine fish stocks, the department continued to use measures in the *Fisheries Act* for fishery management and the protection of fish and fish habitat while it was developing listing advice. The act and its regulations also include a requirement to rebuild major fish stocks when a stock has declined to or below an established threshold. The department has discretion in how it sets harvesting levels within these plans. The department had taken actions to reduce threats to 1 fished species we looked at (Atlantic bluefin tuna) while it was in the process of developing listing advice.

7.41 Departmental officials told us that the department had made adjustments to respond to the committee's assessments and to help protect species. For example, during the committee's assessment of British Columbia's Thompson River population of steelhead trout as being endangered, the department made modifications to related fisheries, such as closing them for a longer period of time when this

population was migrating through an area where other species were being commercially fished.

7.42 **Recommendation.** Fisheries and Oceans Canada should reduce delays in providing advice on whether to list aquatic species at risk. This would allow the Governor in Council to make listing decisions under the *Species at Risk Act* sooner, which could make additional protection measures available.

The department's response. *Agreed.*

See [Recommendations and Responses](#) at the end of this report for detailed responses.

Fisheries and Oceans Canada's analysis to support listing advice was sometimes unclear or insufficient

What we found

7.43 We found that Fisheries and Oceans Canada's analysis to support decisions on whether to list species under the *Species at Risk Act* was sometimes unclear or insufficient. In addition, the department's listing advice was not clearly or sufficiently based on scientific information and other supporting assessments. Moreover, we found that Environment and Climate Change Canada and Fisheries and Oceans Canada had not formally clarified their roles and responsibilities for developing advice on listing aquatic species.

7.44 The analysis supporting this finding discusses the following topics:

- [Listing advice not always supported by clear and sufficient analysis](#)
- [Insufficient data used for gender-based analysis plus](#)
- [Unclear departmental roles and responsibilities for developing listing advice](#)

Why this finding matters

7.45 This finding matters because the Governor in Council needs evidence-based advice in order to make decisions on whether to protect the species that are most at risk under the *Species at Risk Act*.

Context

7.46 The *Species at Risk Act* requires the Minister of Environment and Climate Change to consult the Minister of Fisheries, Oceans and the Canadian Coast Guard, along with applicable wildlife management boards, and to consider the Committee on the Status of Endangered

Wildlife in Canada’s assessment before making an aquatic species listing recommendation to the Governor in Council.

7.47 When aquatic species are listed under the *Species at Risk Act*, Fisheries and Oceans Canada must focus on protecting them from the risk of extirpation or extinction, and help their recovery. A focus of Fisheries and Oceans Canada’s activities under the *Fisheries Act* is to sustainably manage fish stocks.

7.48 Fisheries and Oceans Canada has policies, directives, and guidance for undertaking the work needed to provide advice to the Minister of Environment and Climate Change. Fisheries and Oceans Canada’s step-by-step approach to inform listing advice includes

- optional recovery potential assessments, to determine whether a species can be protected from extinction, and under what circumstances
- management scenarios, to examine options for managing a species, such as listing or not listing it under the *Species at Risk Act*
- socio-economic assessments, comparing the costs and benefits of different management scenarios
- public consultations with groups that could be affected by a listing decision
- risk assessments, weighing the ecological, socio-economic, and departmental risks of scenarios for managing the species
- species assessments, summarizing the inputs and analyses from previous steps

7.49 When Fisheries and Oceans Canada recommends that a species not be listed under the *Species at Risk Act*, its 2013 departmental policy requires it to provide a compelling rationale, as well as an expected outcome and an alternative management approach. The department must also prepare a work plan before it undertakes additional activities under the approach.

7.50 Under the Cabinet Directive on Regulation, the department is also required to undertake **gender-based analysis plus**² for *Species at Risk Act* listing advice, because protection of aquatic species, and of fish stocks in particular, could have different effects on diverse groups of people—including Indigenous and other communities that depend on fishing, both economically and for sustenance.

2 Gender-based analysis plus—An analytical process that provides a rigorous method for the assessment of systemic inequalities, as well as a means to assess how diverse groups of women, men, and gender-diverse people may experience policies, programs, and initiatives. The “plus” acknowledges that gender-based analysis goes beyond biological (sex) and socio-cultural (gender) differences and considers many other identity factors, such as race, ethnicity, religion, age, and mental or physical ability.

Source: Adapted from Women and Gender Equality Canada

**Analysis to support
this finding****Listing advice not always supported by clear and sufficient analysis**











7.51 In a departmental review of the process of developing listing advice on whether to protect species under the *Species at Risk Act*, Fisheries and Oceans Canada assessed the following issues, some of which we also assessed in our sample review:



- unclear departmental roles and responsibilities, including oversight, to ensure the quality and consistency of the inputs and the analysis completed in each step
- unclear guidance, such as guidance on steps to be taken when there is no consensus among regions about listing advice
- inadequate training for staff, and the need to prioritize and assign regional staff to work on listings
- gaps in tracking and documenting key steps in the process, leaving staff less prepared to carry work forward

In our opinion, these issues could impede the timely and well-grounded development of listing advice.

7.52 For the 12 species we examined in detail, the department's advice was not to list any of the species that had significant commercial value ([Exhibit 7.8](#)).

Exhibit 7.8—Fisheries and Oceans Canada’s advice was not to list aquatic species that had significant commercial value for the 12 species we examined in detail

Species (population)		Marine or freshwater	Fisheries and Oceans Canada’s listing advice	Significant commercial value
Atlantic cod (Newfoundland and Labrador population)		Marine	Do not list (2006 decision)	Yes
Steelhead trout (Thompson River population)		Marine	Not applicable* (2019 decision)	Yes
Chinook salmon (Okanagan population)		Marine	Do not list (2010 decision)	Yes
Yellowmouth rockfish		Marine	Do not list (2017 decision)	Yes
Atlantic bluefin tuna		Marine	Do not list (2017 decision)	Yes
Misty Lake threespine stickleback		Freshwater	List	No
Hickorynut		Freshwater	List	No
Black redhorse		Freshwater	List	No
Lake sturgeon (Southern Hudson Bay-James Bay populations)		Freshwater	List	No
Rainbow smelt (Lake Utopia large-bodied population)		Freshwater	List	No

Species (population)		Marine or freshwater	Fisheries and Oceans Canada's listing advice	Significant commercial value
Loggerhead sea turtle		Marine	List	No
Wavy-rayed lampmussel		Freshwater	Downlist from endangered to special concern	No

* Fisheries and Oceans Canada did not advise on whether the species should be listed when the decision was being made under an emergency order, as occurred in this case. The department did provide the analysis used for decision making.

Source: Based on information provided by Fisheries and Oceans Canada

7.53 The department has the discretion to consider a range of factors in developing listing advice. We found that the types of reasons and factors that it presented in the advice differed for species that were commercially valuable.

7.54 We found that when Fisheries and Oceans Canada advised that a species be listed, the species had no significant commercial value, and the department usually provided the following reasons:

- It is important to provide advice that aligns with the principle of the department's Species at Risk Program that a species should be listed if it has been assessed to be at risk by the Committee on the Status of Endangered Wildlife in Canada.
- Listing supports existing federal and provincial protection mechanisms.
- Listing strengthens and supports a species' ecological benefits and its intrinsic existence value.

7.55 We found that when Fisheries and Oceans Canada advised that a species not be listed, these were marine species with significant commercial value, and it usually provided the following reasons:

- It is sufficient or preferable to use only the *Fisheries Act* and fishery management measures and not include measures under the *Species at Risk Act* to protect the species.
- The quantified costs of listing were significantly higher than the unquantified non-user benefits and ecological benefits of listing.

7.56 We found that Fisheries and Oceans Canada's analysis supporting listing advice for some of the species was unclear or insufficient for some of the species we examined in detail ([Exhibit 7.9](#)).

Exhibit 7.9—The analysis for some aquatic species was not always clearly supported by scientific information and socio-economic assessments

Type of unclear or insufficient analysis	Species
<p>Scientific assessments were not clear on population abundance and other important scientific information.</p>	<p>Steelhead trout.* The recovery potential assessment noted data uncertainties (such as exploitation, productivity, age structure, and causes for decline) but did not specify whether or how missing information could or would be filled.</p> <p>Misty Lake threespine stickleback and rainbow smelt. The recovery potential assessments were unclear about species population estimates, making recovery targets difficult to determine.</p>
<p>Significantly different levels of effort went into analysis of the ecological benefits versus the socio-economic costs of listing species.</p>	<p>Atlantic bluefin tuna and yellowmouth rockfish. For these species, which Fisheries and Oceans Canada advised not to list, there was almost no analysis of the ecological benefits of listing the species under the <i>Species at Risk Act</i>. However, clear and monetized socio-economic costs were provided through a detailed breakdown of jobs and profits that would be lost were the species to be listed.</p> <p>Misty Lake threespine stickleback. For this freshwater species with no commercial value, which the department advised listing, the department conducted a comprehensive cost-benefit analysis.</p>
<p>Results from public consultations did not clearly support advice.</p>	<p>Steelhead trout,* chinook salmon, and Atlantic bluefin tuna. The department did not clearly explain how it considered the results of consultations in developing listing advice.</p> <p>Misty Lake threespine stickleback, chinook salmon, yellowmouth rockfish, lake sturgeon, rainbow smelt, loggerhead sea turtle, and wavy-rayed lampmussel. Documentation on consultations was insufficient or unclear.</p> <p>For the 10 species noted above, the department did not follow its guidance in determining the level of potential effects on stakeholders or the corresponding level of consultation needed.</p>
<p>There was no clear reason for including departmental risks in risk evaluations for listing.</p>	<p>Yellowmouth rockfish, black redhorse, lake sturgeon, hickorynut, rainbow smelt, and loggerhead sea turtle. The department considered risks to its reputation as being as important as ecological and socio-economic risks. It did not explain the relative importance of risks to the department's reputation.</p>

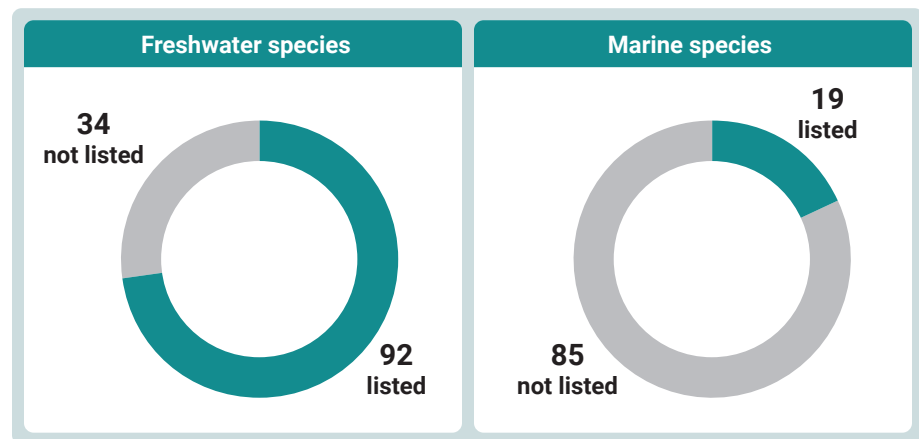
Type of unclear or insufficient analysis	Species
The selected management scenario did not reflect scientific analysis.	Black redhorse and rainbow smelt. Recovery potential assessments did not show whether the species was likely to recover if any harm to it were allowed. However, the department’s management scenario for these species included provisions for permits to catch them.

* Fisheries and Oceans Canada did not advise on whether the species should be listed when the decision was being made under an emergency order, as occurred in this case. The department did provide the analysis used for decision making.

Source: Based on information provided by Fisheries and Oceans Canada

7.57 We found that many aquatic species, especially marine species, that had been assessed as at risk by the Committee on the Status of Endangered Wildlife in Canada and covered by our audit, were not listed under the *Species at Risk Act* ([Exhibit 7.10](#)).

Exhibit 7.10—Species at Risk Act listing status for aquatic species covered by this audit



Note: “Not listed” includes species for which the decision was not to list and species for which the decision to list was pending.

Source: Based on information provided by Fisheries and Oceans Canada

[See the long description of Exhibit 7.10—Species at Risk Act listing status for aquatic species covered by this audit](#)

7.58 From the time Fisheries and Oceans Canada put in place its *Species at Risk Act* Listing Policy and Directive for “Do Not List” Advice in 2013 to the time of our audit, the Governor in Council had made a total of 4 decisions not to list species. Only 2 of these species required a species-focused work plan because the other 2 species followed an emergency listing process and did not require such a plan.

7.59 For Atlantic bluefin tuna, the department prepared and evaluated a work plan and determined that the commitments in the work plan, and the requirements under the department’s listing policy, were fulfilled. For yellowmouth rockfish, the department approved a work plan in

June 2021, 4 years after the Governor in Council made the decision not to list this species, thereby failing to meet the requirements under the department's listing policy. As a result, the department had also not yet formally evaluated the work plan, as required. At the time of our audit, the department was exploring using fish stock rebuilding plans under the *Fisheries Act* instead of a species-focused plan, to meet the requirements of a species-focused work plan in the future.

7.60 **Recommendation.** Fisheries and Oceans Canada should conduct clear and objective analysis that supports *Species at Risk Act* listing advice to improve its support for listing decisions. The department should also prepare, implement, and review species-focused work plans when species are not listed.

The department's response. *Agreed.*

See [Recommendations and Responses](#) at the end of this report for detailed responses.

Insufficient data used for gender-based analysis plus

7.61 We found that Fisheries and Oceans Canada conducted the necessary gender-based analysis plus associated with recent *Species at Risk Act* listing advice. However, in some of the analyses, the department assessed data gaps but did not include plans to fill them. Other analyses did not identify any data sources beyond the *Species at Risk Act* itself. In our view, the department should prepare better-informed analysis so that it can be used to minimize the effects of the department's listing advice on diverse groups of people.

Unclear departmental roles and responsibilities for developing listing advice

7.62 The *Species at Risk Act* requires the Minister of Environment and Climate Change, who is responsible for the overall administration of the act, to consult with the Minister of Fisheries, Oceans and the Canadian Coast Guard on aquatic species before making a recommendation. We found that the departments had not formally defined what form this consultation would take.

7.63 We found that in practice, Environment and Climate Change Canada expected Fisheries and Oceans Canada to

- analyze the Committee on the Status of Endangered Wildlife in Canada's assessments and consideration of wildlife management boards' input to Fisheries and Oceans Canada
- conduct assessments of socio-economic factors, weighing socio-economic, environmental, and departmental credibility risks
- consider additional scientific advice, consult with Indigenous groups and stakeholders, and develop advice and regulatory packages

in support of the Minister of Environment and Climate Change's recommendations to the Governor in Council

This meant that Fisheries and Oceans Canada effectively took all responsibility for providing the advice that informed listing recommendations for aquatic species.

7.64 **Recommendation.** Environment and Climate Change Canada should clearly establish roles and responsibilities with Fisheries and Oceans Canada to support the Minister of Environment and Climate Change in making recommendations on listing aquatic species at risk. These roles and responsibilities should reflect the *Species at Risk Act's* requirement for the Minister of Environment and Climate Change to be primarily responsible for administering the act and for listing aquatic species at risk.

The department's response. *Agreed.*

See [Recommendations and Responses](#) at the end of this report for detailed responses.

Promoting and enforcing species protection

Fisheries and Oceans Canada informed the public about species protection but did not assess the effectiveness of its outreach activities

What we found

7.65 We found that Fisheries and Oceans Canada, along with partners, organized a variety of activities to raise public awareness about species listed for protection under the *Species at Risk Act* and about the public's roles and responsibilities toward them. However, the department did not assess the effectiveness of these outreach activities.

7.66 The analysis supporting this finding discusses the following topics:

- [Public communications and outreach activities undertaken](#)
- [No assessment of the effectiveness of outreach activities](#)

Why this finding matters

7.67 This finding matters because public awareness about people's responsibilities toward species at risk, and about government measures and activities to preserve species and their habitat, are critical to protecting aquatic species that are listed under the *Species at Risk Act*. Moreover, assessing the effectiveness of outreach activities is vital to refining and improving them.

Context

7.68 Fisheries and Oceans Canada is responsible for enforcing the *Species at Risk Act* to ensure that threatened and endangered species listed under Schedule 1 (List of Wildlife Species at Risk) are protected. The department can also proactively encourage compliance and understanding by educating public groups (through outreach activities, for example) on their roles and responsibilities in protecting listed aquatic species. Responsible groups include people who might interact with aquatic species at risk and their habitat, such as professional and recreational harvesters, Indigenous communities, and industry stakeholders.

Analysis to support this finding

Public communications and outreach activities undertaken

7.69 We found that Fisheries and Oceans Canada developed national communication plans for informing the public about listing decisions for all 14 species that were listed for protection as endangered or threatened under the *Species at Risk Act* between 2017 and 2021. These plans were complemented by news releases, media messages, and social media posts.

7.70 We found that the department, with its partners, conducted outreach activities. Most of these covered several similar species, such as freshwater mussels in Ontario or native trout in Alberta, or covered a variety of species listed in the same region. Some of these activities were conducted by third parties, using funding from the Canada Nature Fund for Aquatic Species at Risk or the Habitat Stewardship Program.

No assessment of the effectiveness of outreach activities

7.71 We found that Fisheries and Oceans Canada did not assess the effectiveness of its outreach activities for the 14 species that were listed for protection as endangered or threatened under the *Species at Risk Act* between 2017 and 2021. Of the department's 3 regional offices involved in the 14 species listed between 2017 and 2021 (Ontario and Prairie, Maritimes, and Quebec regions), only 1 region's officials told us that they regularly used feedback to adapt their outreach approaches. However, they could not demonstrate to us how this was done.

7.72 We also found that when the department delegated outreach activities to third parties, it did not assess the activities' effectiveness. We found evidence of some reporting by the third parties on the activities conducted and their costs. However, we did not see any evidence that the department measured the effects of these activities on the behaviours of people who interact with the 14 species, and we also did not see any

evidence of indicators or measurements to track the effectiveness of the outreach activities.

7.73 **Recommendation.** Fisheries and Oceans Canada should assess the effectiveness of outreach activities conducted for species listed for protection as endangered or threatened under the *Species at Risk Act*, so that future activities maximize public awareness about species listed for protection.

The department's response. *Agreed.*

See [Recommendations and Responses](#) at the end of this report for detailed responses.

Fisheries and Oceans Canada did not have enough capacity to manage enforcement effectively

What we found

7.74 We found that Fisheries and Oceans Canada did not have enough staff to enforce compliance with the *Species at Risk Act* and the *Fisheries Act*. It also did not have dedicated resources to ensure that its enforcement data was accurate and complete.

7.75 The analysis supporting this finding discusses the following topics:

- [Inadequate enforcement capacity](#)
- [Lack of capacity to ensure data quality](#)

Why this finding matters

7.76 This finding matters because without enough enforcement staff, Fisheries and Oceans Canada cannot enforce the *Species at Risk Act* and the fish and fish habitat protection provisions of the *Fisheries Act*. Moreover, without accurate and complete enforcement data, the department cannot provide sound direction on its enforcement activities across Canada.

Context

7.77 Fisheries and Oceans Canada's fishery officers are required, among other things, to enforce compliance with the fish and fish habitat protection provisions of the *Fisheries Act* against works or activities that cause the death of fish by means other than fishing, and that harmfully alter, disrupt, or destroy fish habitat.

7.78 Also, once a species is listed as extirpated, endangered, or threatened under the *Species at Risk Act*, fishery officers are required

to apply the act's general prohibitions. For these species, the general prohibitions forbid

- killing, harming, harassing, capturing, and taking individuals of such species
- possessing, collecting, buying, selling, and trading individuals of such species
- damaging or destroying the residences of individuals of such species

The act also has critical habitat prohibitions that forbid the destruction of any part of certain listed aquatic species' critical habitat—that is, the habitat necessary for their survival or recovery.

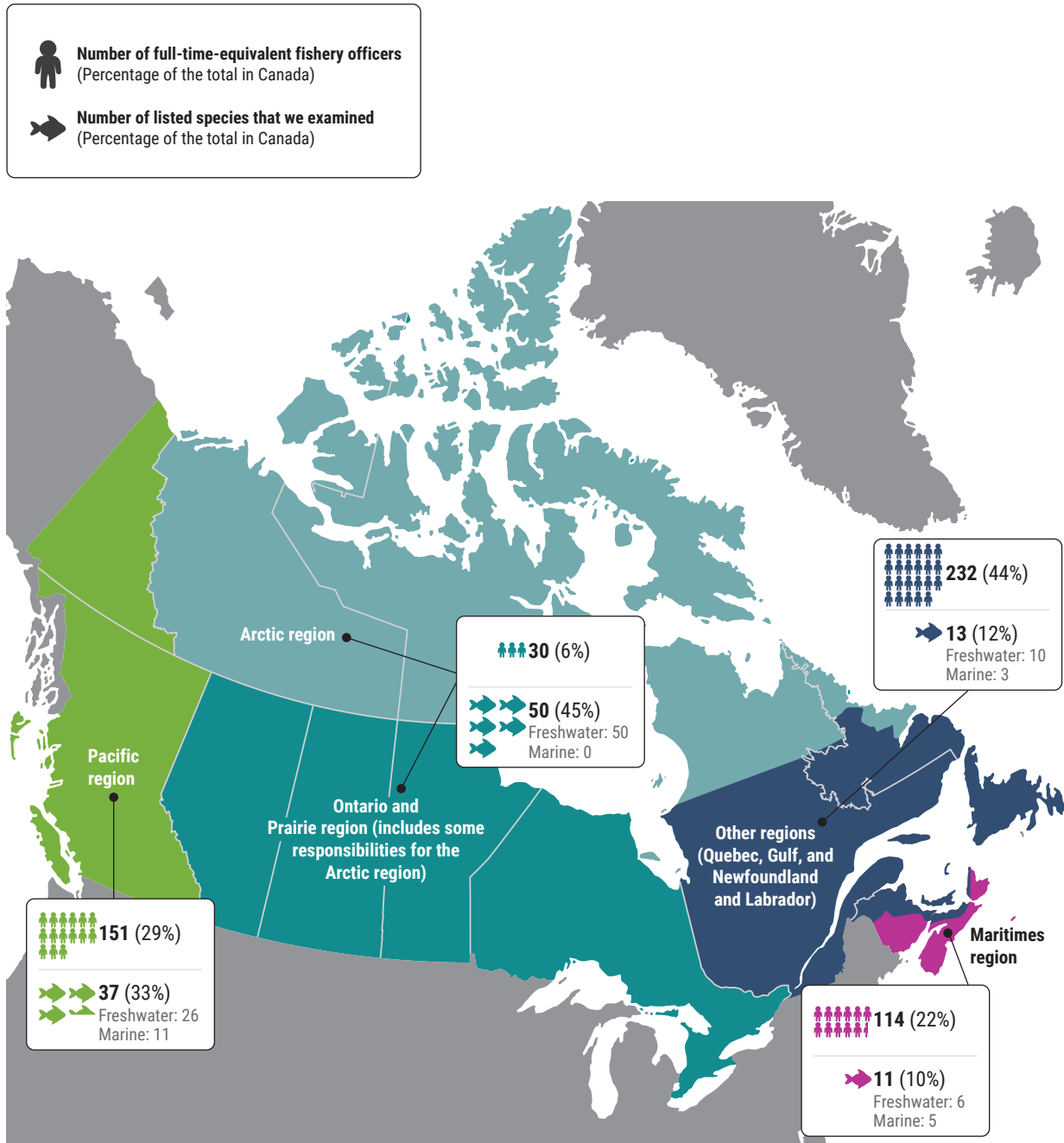
7.79 Enforcing compliance with the *Species at Risk Act* for aquatic species and with the fish and fish habitat protection provisions of the *Fisheries Act* is the responsibility of Fisheries and Oceans Canada's fishery officers. The department established agreements with some provinces to ensure collaboration and the sharing of information about species at risk. However, it did not delegate the responsibility to enforce compliance for marine and freshwater species listed under the *Species at Risk Act*, even though some provinces or territories may have had their own legislation on species at risk.

**Analysis to support
this finding**

Inadequate enforcement capacity

7.80 The department's Ontario and Prairie region delivers the compliance and enforcement program for its region and also for part of the Arctic region. We found that although the Ontario and Prairie region is responsible for managing most of the freshwater species listed under Schedule 1 of the *Species at Risk Act*, it had the lowest number of fishery officers. This region had only 6% (30 of 527) of all the department's fishery officers as at December 2021, managing 45% (50 of 111) of all the listed species under review. All of the species in this region were freshwater species ([Exhibit 7.11](#)).

Exhibit 7.11—Fewer fishery officers were allocated to the Ontario and Prairie region, which is responsible for managing the majority of listed freshwater species



Note: There are 527 full-time-equivalent fishery officers and 111 listed species in the scope of the audit in total.

Source: Based on information provided by Fisheries and Oceans Canada

[See the long description of Exhibit 7.11—Fewer fishery officers were allocated to the Ontario and Prairie region, which is responsible for managing the majority of listed freshwater species](#)

7.81 We acknowledge that Fisheries and Oceans Canada must manage marine species included in fish stocks, in addition to species listed as being at risk. However, in our view, the number of staff dedicated to the enforcement of freshwater species at risk in the large Ontario and Prairie region is low.

7.82 **Recommendation.** Fisheries and Oceans Canada should ensure that enough staff are available to enforce the general prohibitions and critical habitat prohibitions of the *Species at Risk Act*, and the fish and fish habitat protection provisions of the *Fisheries Act*, for all listed marine or freshwater species.

The department's response. *Agreed.*

See [Recommendations and Responses](#) at the end of this report for detailed responses.

Lack of capacity to ensure data quality

7.83 We reviewed the violations recorded between 2017 and 2021 against the general and critical habitat prohibitions of the *Species at Risk Act* and the fish and fish habitat protection provisions of the *Fisheries Act*. We found that some data required by Fisheries and Oceans Canada to track enforcement activities was missing, inconsistent, or inaccurate. The department did not conduct quality assurance on the completeness and accuracy of the enforcement data. Officials stated that they did not have enough staff to perform the required data validation. We also found that many files had been closed, despite the fact that charges for the assessed violations were labelled as pending, indicating that the information had not been properly updated.

7.84 Without complete, accurate, and timely information, the department's ability to get adequate information about its overall enforcement activities across Canada is limited. This also limits its capacity to assess trends, prioritize aspects of its enforcement activities, and identify what should be done differently.

7.85 **Recommendation.** Fisheries and Oceans Canada should ensure that it collects complete, consistent, and accurate data, to support monitoring of compliance with the *Species at Risk Act* and the *Fisheries Act* across the department, in order to protect aquatic species and their habitats.

The department's response. *Agreed.*

See [Recommendations and Responses](#) at the end of this report for detailed responses.

Conclusion

7.86 We concluded that Fisheries and Oceans Canada, in collaboration with others, did not adequately protect selected aquatic species assessed as at risk. For the areas we examined, Environment and Climate Change Canada and Fisheries and Oceans Canada did not adequately contribute to meeting the United Nations' Sustainable Development Goal 14 (Life Below Water) and Goal 15 (Life on Land) as they relate to the protection of aquatic species at risk.

7.87 Fisheries and Oceans Canada's knowledge of some aquatic species was limited. The department did not develop timely listing advice for half of the species, and the listing advice it provided was sometimes poorly informed. Additionally, the department did not have adequate capacity to enforce the protection of species at risk.

7.88 Fisheries and Oceans Canada did put in place some measures to protect aquatic species. It also encouraged compliance with protection measures through public outreach, so that people who interact with species at risk understood their responsibilities. In addition, the department's primary approach was to use the *Fisheries Act* to protect fish and fish habitat while managing fishing opportunities.

About the Audit

This independent assurance report was prepared by the Office of the Auditor General of Canada on the protection of aquatic species at risk. Our responsibility was to provide objective information, advice, and assurance to assist Parliament in its scrutiny of the government's management of resources and programs, and to conclude on whether the protection measures complied in all significant respects with the applicable criteria.

All work in this audit was performed to a reasonable level of assurance in accordance with the Canadian Standard on Assurance Engagements (CSAE) 3001—Direct Engagements, set out by the Chartered Professional Accountants of Canada (CPA Canada) in the CPA Canada Handbook—Assurance.

The Office of the Auditor General of Canada applies the Canadian Standard on Quality Control 1 and, accordingly, maintains a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements.

In conducting the audit work, we complied with the independence and other ethical requirements of the relevant rules of professional conduct applicable to the practice of public accounting in Canada, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality, and professional behaviour.

In accordance with our regular audit process, we obtained the following from entity management:

- confirmation of management's responsibility for the subject under audit
- acknowledgement of the suitability of the criteria used in the audit
- confirmation that all known information that has been requested, or that could affect the findings or audit conclusion, has been provided
- confirmation that the audit report is factually accurate

Audit objective

The objective of this audit was to determine whether Fisheries and Oceans Canada, in collaboration with others, protected selected aquatic species assessed as at risk.

To protect aquatic species assessed as at risk, the department is required to collaborate with Environment and Climate Change Canada, and with provinces, territories, and stakeholders, as appropriate.

Scope and approach

The audit looked at work by Fisheries and Oceans Canada to build knowledge about aquatic species, to analyze and develop *Species at Risk Act* listing advice, and to ensure compliance with protection measures.

The scope of the audit included

- aquatic species assessed as being at risk by the Committee on the Status of Endangered Wildlife in Canada, which we reviewed to determine whether they should be listed under Schedule 1 of the *Species at Risk Act*

- the approach followed by Fisheries and Oceans Canada to engage with partners and educate members of the public on their roles and obligations in protecting aquatic species at risk listed under the *Species at Risk Act*
- the actions and measures taken by Fisheries and Oceans Canada, in collaboration with partners, to enforce selected prohibitions of the *Species at Risk Act* and the *Fisheries Act* to protect aquatic species at risk as well as fish and fish habitat
- the gender-based analysis plus conducted by Fisheries and Oceans Canada in relation to aquatic species at risk and those required for listing decisions

This audit methodology included interviews with department officials, document reviews, and data analysis.

We examined the following sample populations:

- the 230 aquatic species (marine and freshwater fish, aquatic molluscs, and marine turtles) that the Committee on the Status of Endangered Wildlife in Canada had assessed as being at risk and that were of special concern, threatened, endangered, or extirpated
- the 37 species (22 freshwater and 15 marine) that the committee had tried to assess but that were considered data-deficient
- a sample of 12 aquatic species or populations assessed as being at risk, which included a diversity of regions, species types, and resource values, to provide a check on the application of Fisheries and Oceans Canada's *Species at Risk Act* listing process
- 14 species that were listed, from 2017 to 2021, as endangered or threatened, for protection under the *Species at Risk Act*
- national data on selected prohibitions of the *Species at Risk Act* and the *Fisheries Act* from 2017 to 2021, enforced by Fisheries and Oceans Canada's fishery officers
- selected general and critical habitat prohibitions of the *Species at Risk Act*
- selected prohibitions and the fish and fish habitat protection provisions of the *Fisheries Act*
- staffing data of Fisheries and Oceans Canada's Conservation and Protection Branch in 3 regional offices (Ontario and Prairie, Pacific, and Maritimes), as well as data for front-line fishery officers across Canada in 2021

We did not examine

- marine plants, marine mammals and birds, amphibians, reptiles other than marine turtles, or any aquatic species that fell under the responsibility of Environment and Climate Change Canada or Parks Canada
- progress made on recovery strategies and action plans
- stewardship or grants and contributions programs to help stakeholders and local communities support the recovery and protection of aquatic species at risk
- initiatives to monitor fisheries, such as reviews of integrated fisheries management plans, fishery decisions, and catch and bycatch monitoring
- area-based conservation tools for protecting aquatic species, such as marine protected areas, national wildlife areas, and national parks
- recommendations made to refer species back to the Committee on the Status of Endangered Wildlife in Canada

Criteria

Criteria	Sources
<p>We used the following criteria to determine whether Fisheries and Oceans Canada, in collaboration with others, protected selected aquatic species assessed as at risk:</p>	
<p>Fisheries and Oceans Canada uses sufficient and appropriate knowledge to help inform its activities to protect aquatic species under its responsibility, and when there are deficiencies in knowledge, these are assessed and addressed.</p>	<ul style="list-style-type: none"> • National Framework for Species at Risk Conservation, Environment and Climate Change Canada • A Framework for the Application of Precaution in Science-Based Decision Making About Risk, Privy Council Office • Revised Protocol for Conducting Recovery Potential Assessments, Fisheries and Oceans Canada • 2016 Fall Reports of the Commissioner of the Environment and Sustainable Development, Report 2—Sustaining Canada’s Major Fish Stocks—Fisheries and Oceans Canada
<p>Fisheries and Oceans Canada provides the Minister of Fisheries, Oceans and the Canadian Coast Guard with information for the Minister of Environment and Climate Change that fulfills selected requirements related to timeliness, analysis, and consultation to inform listing recommendations under the <i>Species at Risk Act</i>.</p>	<ul style="list-style-type: none"> • <i>Species at Risk Act</i> • Fisheries and Oceans Canada <i>Species at Risk Act</i> Listing Policy and Directive for “Do Not List” Advice, Fisheries and Oceans Canada • Timeline for Amendments to Schedule 1 of the <i>Species at Risk Act</i>, Environment and Climate Change Canada, 2017 • Fisheries and Oceans Canada <i>Species at Risk Act</i> Listing Guidelines for Program Staff, 2013 • Cabinet Directive on Regulation, Treasury Board of Canada Secretariat • <i>Fisheries Act</i>
<p>For species assessed as at risk by the Committee on the Status of Endangered Wildlife in Canada, which Fisheries and Oceans Canada has recommended not to list under the <i>Species at Risk Act</i>, the department protects those species to meet the expected outcomes for that species, primarily under the <i>Fisheries Act</i>.</p>	<ul style="list-style-type: none"> • <i>Species at Risk Act</i> • Fisheries and Oceans Canada <i>Species at Risk Act</i> Listing Policy and Directive for “Do Not List” Advice, Fisheries and Oceans Canada • Timeline for Amendments to Schedule 1 of the <i>Species at Risk Act</i>, Environment and Climate Change Canada • Fisheries and Oceans Canada <i>Species at Risk Act</i> Listing Guidelines for Program Staff, 2013 • Cabinet Directive on Regulation, Treasury Board of Canada Secretariat • <i>Fisheries Act</i>

Criteria	Sources
We used the following criteria to determine whether Fisheries and Oceans Canada, in collaboration with others, protected selected aquatic species assessed as at risk:	
Fisheries and Oceans Canada leads outreach activities in collaboration with partners to raise awareness to help protect aquatic species listed under the <i>Species at Risk Act</i> .	<ul style="list-style-type: none"> • National Framework for Species at Risk Conservation, Environment and Climate Change Canada • <i>Species at Risk Act</i> • Fish and Fish Habitat Protection Policy Statement, Fisheries and Oceans Canada
Fisheries and Oceans Canada enforces general and critical habitat prohibitions of the <i>Species at Risk Act</i> to protect aquatic species at risk and also enforces the fish and fish habitat protection provisions of the <i>Fisheries Act</i> to conserve and protect fish and fish habitat.	<ul style="list-style-type: none"> • National Framework for Species at Risk Conservation, Environment and Climate Change Canada • <i>Species at Risk Act</i> • Fish and Fish Habitat Protection Policy Statement, Fisheries and Oceans Canada

Period covered by the audit

The audit covered the period from 1 January 2012 to 31 March 2022. This is the period to which the audit conclusion applies. However, to gain a more complete understanding of the subject matter of the audit, we also examined certain matters that preceded the start date of this period.

Date of the report

We obtained sufficient and appropriate audit evidence on which to base our conclusion on 2 September 2022, in Ottawa, Canada.

Audit team

This audit was completed by a multidisciplinary team from across the Office of the Auditor General of Canada led by Milan Duvnjak, Principal. The principal has overall responsibility for audit quality, including conducting the audit in accordance with professional standards, applicable legal and regulatory requirements, and the office's policies and system of quality management.

Recommendations and Responses

In the following table, the paragraph number preceding the recommendation indicates the location of the recommendation in the report.

Recommendation	Response
<p>7.27 Fisheries and Oceans Canada should address knowledge gaps for marine species assessed as data-deficient by the Committee on the Status of Endangered Wildlife in Canada to make evidence-based decisions about the risk status of these species and how to protect them.</p>	<p>Fisheries and Oceans Canada's response. Agreed. Fisheries and Oceans Canada recognizes the importance of solid scientific information to support evidence-based decisions on species risk status and how to best protect them. Fisheries and Oceans Canada continues to collect new information on marine species using multiple methods to inform evidence-based decisions. The Committee on the Status of Endangered Wildlife in Canada and the Governor in Council are responsible for assessing species' risk status and making decisions on whether or not to add them to the list, respectively.</p> <p>To support these decision-making processes, Fisheries and Oceans Canada will review marine species currently assessed as "data-deficient" and identify those where new scientific data acquired by Fisheries and Oceans Canada since the last committee assessment would be available to support species reassessments. These data will be provided to the committee for its consideration, in accordance with its reassessment schedule to support its decision making on the risk status of aquatic species. Having better-informed, evidence-based risk statuses will support the development of advice by Fisheries and Oceans Canada to support the Governor in Council's decision making on whether or not to list (that is, whether measures to protect and recover species are realized through the <i>Species at Risk Act</i>, <i>Fisheries Act</i>, or other legislative or regulatory tools). For very rare or infrequently encountered marine species, it may not be possible for Fisheries and Oceans Canada to acquire data to fill identified knowledge gaps.</p> <p>Implementation date: 31 March 2024</p>

Recommendation	Response
<p>7.32 Fisheries and Oceans Canada should improve its collaboration with other jurisdictions so that it can make evidence-based decisions, especially about species of low or no commercial value.</p>	<p>Fisheries and Oceans Canada's response. Agreed. Fisheries and Oceans Canada will meet with provincial and territorial governments, and other jurisdictions as required, to discuss respective roles and responsibilities and to share and gather information to support evidence-based listing recommendations and recovery planning for all aquatic species assessed as at risk, including those with low or no commercial value, many of which fall under the delegated authority of provinces and territories. Through these actions, Fisheries and Oceans Canada will, in collaboration with others, continue to provide protection for aquatic species assessed as at risk.</p> <p>Implementation date: 31 March 2024 (and ongoing)</p>
<p>7.42 Fisheries and Oceans Canada should reduce delays in providing advice on whether to list aquatic species at risk. This would allow the Governor in Council to make listing decisions under the <i>Species at Risk Act</i> sooner, which could make additional protection measures available.</p>	<p>Fisheries and Oceans Canada's response. Agreed. Listing advice development is a complex process which is largely species dependent; therefore, timelines will continue to vary depending on the species under consideration. Fisheries and Oceans Canada will undertake analysis of streamlining strategies in an effort to reduce delays in providing advice on the listing of aquatic species at risk. Fisheries and Oceans Canada will assess and implement these streamlining recommendations where possible, noting that certain elements of the regulatory process are dependent on partner organizations, including consultations with wildlife management boards and meaningful consultations with Indigenous groups, as required under the <i>Species at Risk Act</i>, and will work with provinces and territories that have delegated authority for some aquatic species assessed as at risk.</p> <p>Fisheries and Oceans Canada notes its legal requirements under the <i>Fisheries Act</i> to implement measures to maintain all major fish stocks at or above the level necessary to promote the sustainability of the stock, and to develop rebuilding plans for major stocks that have fallen to or below their limit reference point. These legal protections apply to all major prescribed stocks, including those being considered for listing under the <i>Species at Risk Act</i>, as well as species listed as special concern under the <i>Species at Risk Act</i> or not listed under the <i>Species at Risk Act</i>. Only major stocks listed as endangered or threatened under the <i>Species at Risk Act</i> are exempt from the rebuilding plan requirement under section 6.2(3) of the <i>Fisheries Act</i>; recovery of these species is planned and achieved through the direction of <i>Species at Risk Act</i> recovery strategies and action plans.</p> <p>Implementation date: 31 March 2024 (and ongoing)</p>

Recommendation	Response
<p>7.60 Fisheries and Oceans Canada should conduct clear and objective analysis that supports <i>Species at Risk Act</i> listing advice to improve its support for listing decisions. The department should also prepare, implement, and review species-focused work plans when species are not listed.</p> <p>7.64 Environment and Climate Change Canada should clearly establish roles and responsibilities with Fisheries and Oceans Canada to support the Minister of Environment and Climate Change in making recommendations on listing aquatic species at risk. These roles and responsibilities should reflect the <i>Species at Risk Act's</i> requirement for the Minister of Environment and Climate Change to be primarily responsible for administering the act for listing aquatic species at risk.</p>	<p>Fisheries and Oceans Canada's response. Agreed. Fisheries and Oceans Canada will review guidance related to the listing process and implement strategies to help ensure that analyses in support of <i>Species at Risk Act</i> listing decisions are clear, objective, and well documented.</p> <p>When a Governor in Council decision is made not to list a species assessed as at risk by the Committee on the Status of Endangered Wildlife in Canada, Fisheries and Oceans Canada will continue to provide ongoing protection for the species using other legislative and regulatory tools, such as the <i>Fisheries Act</i>. Fisheries and Oceans Canada will ensure that clear guidance and standard processes are in place to prepare, implement, monitor, and review species-focused work plans in accordance with the Fisheries and Oceans Canada <i>Species at Risk Act</i> Listing Policy and Directive for "Do Not List" Advice in those cases where the alternative approach to listing aquatic species under the <i>Species at Risk Act</i> includes incremental activities for the protection of the species.</p> <p>Implementation date: 31 March 2025 (and ongoing)</p> <p>Environment and Climate Change Canada's response. Agreed. Environment and Climate Change Canada will work with Fisheries and Oceans Canada toward the development of a species-at-risk memorandum of understanding between the departments. The memorandum of understanding will aim to formalize the partnerships, collaboration, and information-sharing activities between the departments, which will support the government's implementation of relevant authorities of the <i>Species at Risk Act</i>. The roles and responsibilities should reflect the act's requirement for Environment and Climate Change Canada as the primary department responsible for administering the act, in particular the listing of aquatic species at risk.</p> <p>Expected completion date: December 2023</p>

Recommendation	Response
<p>7.73 Fisheries and Oceans Canada should assess the effectiveness of outreach activities conducted for species listed for protection as endangered or threatened under the <i>Species at Risk Act</i>, so that future activities maximize public awareness about species listed for protection.</p>	<p>Fisheries and Oceans Canada's response. Agreed. Fisheries and Oceans Canada will conduct a review of its outreach activities to assess their effectiveness and degree to which best practices are integrated. Based on available resources and as appropriate, Fisheries and Oceans Canada will use the findings of the review to help improve its species-at-risk outreach practices for aquatic species listed as endangered or threatened.</p> <p>Implementation date: 31 March 2024</p>
<p>7.82 Fisheries and Oceans Canada should ensure that enough staff are available to enforce the general prohibitions and critical habitat prohibitions of the <i>Species at Risk Act</i>, and the fish and fish habitat protection provisions of the <i>Fisheries Act</i>, for all listed marine or freshwater species.</p>	<p>Fisheries and Oceans Canada's response. Agreed. While fishery officers already do substantial work to enforce multiple pieces of legislation and associated regulations, including administration and enforcement of the general prohibitions and critical habitat protection provisions of the <i>Species at Risk Act</i> for all listed marine and freshwater species, and the fish and fish habitat protection provisions for all species defined as fish under the <i>Fisheries Act</i> (listed or not under the <i>Species at Risk Act</i>), the number of vacancies in fishery officer positions is significant. Challenges associated with training new fishery officers has been exacerbated by the coronavirus disease (COVID-19) pandemic.</p> <p>Fisheries and Oceans Canada will continue to take steps to increase the number of fishery officers to fill nationwide vacancies and expects to train approximately 90 cadets per year to become fishery officers for each of the next 3 fiscal years. The training of new cadets includes training related to the <i>Species at Risk Act</i>, for all listed marine and freshwater species and the fish and fish habitat protection provisions for all aquatic species defined as fish under the <i>Fisheries Act</i> (listed or not under the <i>Species at Risk Act</i>).</p> <p>Fisheries and Oceans Canada continues to develop new tools and protocols and implement internal training programs to support effective management of habitat-related occurrences.</p> <p>Implementation date: 31 March 2024 (and ongoing)</p>

Recommendation	Response
<p>7.85 Fisheries and Oceans Canada should ensure that it collects complete, consistent, and accurate data, to support monitoring of compliance with the <i>Species at Risk Act</i> and the <i>Fisheries Act</i> across the department, in order to protect aquatic species and their habitats.</p>	<p>Fisheries and Oceans Canada’s response. Agreed. Fisheries and Oceans Canada updated its legacy national enforcement data systems Departmental Violation System and Fisheries Enforcement Activity Tracking System with the National Enforcement Tracking System in April 2021. This is one of the first steps toward modernizing the way compliance and enforcement data collection is tracked. Fisheries and Oceans Canada is currently focusing efforts on National Enforcement Tracking System stabilization and ensuring priority functionality items are addressed.</p> <p>Fisheries and Oceans Canada recognizes the importance of high-quality data and will prioritize improved data collection and consistency on reporting of enforcement activities, such as monitoring of compliance with the <i>Species at Risk Act</i> and the <i>Fisheries Act</i>, in a way that aligns with Fisheries and Oceans Canada’s mandates. As part of that work, new data attributes and standardized data-entry processes are being developed nationally to be included as part of the national standards for data collection and reporting.</p> <p>Implementation date: 31 March 2024</p>

Appendix

Exhibit 7.2—Risk status of aquatic species we examined as at November 2021, as assessed by the Committee on the Status of Endangered Wildlife in Canada

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This chart shows the risk status of freshwater and marine aquatic species as at November 2021, as assessed by the Committee on the Status of Endangered Wildlife in Canada. The chart shows how many species are in each risk category and presents the categories in order of increasing risk to species.

Forty freshwater species and 28 marine species were assessed as not at risk—that is, they were evaluated and found not to be at risk of extinction given the current circumstances.

Thirty-six freshwater species and 27 marine species were assessed as of special concern—that is, they may become threatened or endangered because of a combination of biological characteristics and identified threats.

Thirty-eight freshwater species and 25 marine species were assessed as threatened—that is, they are likely to become endangered if nothing is done to reverse the factors leading to their extirpation or extinction.

Forty-nine freshwater species and 52 marine species were assessed as endangered—that is, they face imminent extirpation or extinction.

Three freshwater species were assessed as extirpated—that is, they no longer exist in the wild in Canada, but exist elsewhere. No marine species were assessed as extirpated.

Eight freshwater species and 1 marine species were assessed as extinct—that is, they no longer exist.

Twenty-two freshwater species and 15 marine species were assessed as data-deficient—that is, the information that is available about these species is insufficient to be able to assess their risk status.

Source: Adapted from the Committee on the Status of Endangered Wildlife in Canada and information from Environment and Climate Change Canada

Exhibit 7.5—Process for developing listing advice and making recommendations for aquatic species at risk

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This chart shows the process that Fisheries and Oceans Canada follows to develop listing advice, the process that ministers follow to make listing recommendations, and the process that the Governor in Council follows to decide whether to list species under the *Species at Risk Act*.

Fisheries and Oceans Canada develops listing advice as follows:

- First, the department assesses recovery potential using additional scientific information about the species being assessed, when available.
- Second, the department develops management scenarios to manage species, such as listing and not listing.

- Third, the department conducts socio-economic analysis of the impact, costs, and benefits of management scenarios.
- Fourth, the department holds public consultations with interested and affected Indigenous groups and other stakeholders.
- Finally, the department develops advice whether to list species under the *Species at Risk Act* on the basis of the preceding steps of the listing process.

Ministers then make listing recommendations as follows:

- The Minister of Fisheries, Oceans and the Canadian Coast Guard provides listing advice to the Minister of Environment and Climate Change.
- The Minister of the Environment and Climate Change makes recommendations to the Governor in Council.

The Governor in Council then decides whether to list species under the *Species at Risk Act* as follows:

- If the Governor in Council decides to list, the species is added to Schedule 1 of the *Species at Risk Act*.
- If the Governor in Council decides to refer back, the decision is referred to the Committee on the Status of Endangered Wildlife in Canada.
- If the Governor in Council decides not to list, the decision is deferred to Fisheries and Oceans Canada for alternative approaches.

Source: Based on information provided by Fisheries and Oceans Canada

Exhibit 7.7—Fisheries and Oceans Canada took a long time to develop listing advice for several aquatic species [Back to Exhibit 7.7](#)

This graph shows the number of years that Fisheries and Oceans Canada took to provide listing advice for the species for which it took the longest time to provide advice. The data is presented in descending order as follows:

- It took 11.0 years to provide advice for the fawnsfoot, which is a freshwater mussel.
- It took 10.0 years to provide advice for the Lake Utopia large-bodied population of rainbow smelt, which is a freshwater fish.
- It took 9.6 years to provide advice for the redbside dace, which is a freshwater fish.
- It took 7.9 years to provide advice for the hickorynut, which is a freshwater mussel.
- It took 7.9 years to provide advice for the Great Lakes–upper St. Lawrence populations of the silver lamprey, which is a freshwater fish.

The average time to provide listing advice for all species identified as being at risk was 3.6 years.

Source: Based on information provided by Fisheries and Oceans Canada

Exhibit 7.10—Species at Risk Act listing status for aquatic species covered by this audit [Back to Exhibit 7.10](#)

These 2 pie charts show the listing status for freshwater and marine species.

Thirty-four freshwater species are not listed, and 92 freshwater species are listed.

Eighty-five marine species are not listed, and 19 marine species are listed.

Note: “Not listed” includes species for which the decision was not to list and species for which the decision to list was pending.

Source: Based on information provided by Fisheries and Oceans Canada

Exhibit 7.11—Fewer fishery officers were allocated to the Ontario and Prairie region, which is responsible for managing the majority of listed freshwater species [Back to Exhibit 7.11](#)

This map shows the number of full-time-equivalent fishery officers and the number of listed species that we examined for the following regions in Canada:

- the Pacific region
- the Ontario and Prairie region, which includes some responsibilities for the Arctic region
- the Quebec, Gulf, and Newfoundland and Labrador regions
- the Maritimes region

In the Pacific region, there are 151 full-time-equivalent fishery officers, which is 29% of the total in Canada. There are also 37 listed species that we examined, which is 33% of the total in Canada. The 37 listed species consist of 26 freshwater species and 11 marine species.

In the Ontario and Prairie region, which includes some responsibilities for the Arctic region, there are 30 full-time-equivalent fishery officers, which is 6% of the total in Canada. There are also 50 listed species that we examined, which is 45% of the total in Canada. The 50 listed species are all freshwater species; there are no marine species.

In the Quebec, Gulf, and Newfoundland and Labrador regions, there are 232 full-time-equivalent fishery officers, which is 44% of the total in Canada. There are also 13 listed species that we examined, which is 12% of the total in Canada. The 13 listed species consist of 10 freshwater species and 3 marine species.

In the Maritimes region, there are 114 full-time-equivalent fishery officers, which is 22% of the total in Canada. There are also 11 listed species that we examined, which is 10% of the total in Canada. The 11 listed species consist of 6 freshwater species and 5 marine species.

Note: There are 527 full-time-equivalent fishery officers and 111 listed species in the scope of the audit in total.

Source: Based on information provided by Fisheries and Oceans Canada

