

# Canada and the U.S. MMPA Imports Rule<sup>1</sup>

## January 27, 2022

### I. Executive Summary

Canada is one of the world's largest exporters of fish and fish products. The United States imports more than \$3 billion worth of these products annually, the top products being lobster, salmon, and crab. Canada's waters are home to four endangered and two critically endangered species of marine mammals, as well as many other marine mammals whose ranges overlap with commercial fishing activity. The most used gear types in Canada's commercial fisheries as listed in the List of Foreign Fisheries (LOFF) include trawls, gillnets, pots/traps, and longlines. These gear types are known to present a threat to marine mammals, but data on these interactions is lacking.

Under the U.S. Marine Mammal Protection Act (MMPA), the U.S. government "shall ban" all seafood imports caught with fishing gear that kills or seriously injures marine mammals "in excess of United States standards."<sup>2</sup> To implement the requirement, NMFS issued the MMPA Imports Rule,<sup>3</sup> setting out standards that nations must demonstrate to continue exporting fish to the United States after December 31, 2022. Under the Rule, Canada must apply for and receive a "comparability finding" from NMFS, which is essentially a determination that Canada's bycatch and bycatch program meet U.S. standards.<sup>4</sup>

This report provides a brief assessment of Canada's export fisheries, its marine mammal populations, potential bycatch issues, and Canada's legal regime related to bycatch, as applied to the MMPA Imports Rule. Many requirements for Canada's fisheries vary by fishery and region, and license conditions for each fishery do not appear to be publicly available. Canada will need to provide substantial, additional information to NMFS to justify a comparability finding.

We conclude that it is unlikely that Canada has the necessary measures in place to meet all MMPA Imports Rule requirements for all export fisheries. While Canada seems to ban the intentional killing of marine mammals and requires reporting of marine mammal bycatch, publicly available data are lacking to fully assess whether fisheries meet the other requirements. The information available to our organizations suggests that requirements for marine mammal stock assessments, monitoring, and bycatch mitigation measures may not exist for every fishery. Where measures do exist, they do not appear to be sufficient for calculating or ensuring bycatch is below Potential Biological Removal (PBR) or its equivalent. Given the variation in management across fisheries and regions, we strongly urge NMFS to thoroughly assess all of Canada's commercial fisheries that export to the U.S. to ensure that the monitoring of marine mammal populations and monitoring and mitigation of bycatch required of each fishery meets U.S. standards.

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<sup>2</sup> 16 U.S.C. § 1371(a)(2).

<sup>3</sup> 81 Fed. Reg. 54,415 (Aug. 16, 2016).

<sup>4</sup> 50 C.F.R. § 216.24(h)(6).



Figure 1. Map of Canada. Extracted from Nations Online Project.<sup>5</sup>

## II. Canada’s Export Fisheries

Canada is the 8<sup>th</sup> largest exporter of fish and fish products by volume globally.<sup>6</sup> The country’s fish and seafood exports valued \$6.4 billion in 2020.<sup>7</sup> According to National Oceanic and Atmospheric Administration (NOAA) Fisheries, the United States (U.S.) imported 2.89 million kg of fish products from Canada in 2020 with a value of \$3.03 billion. In 2019, the U.S. imported 3.05 million kg with a value of \$3.41 billion (Table 1).<sup>8</sup> Data from Fisheries and Oceans Canada (DFO) show that Canada’s fish and seafood exports to the U.S. valued \$4.56 billion in 2019, which accounted for 61 percent of Canada’s total fish and seafood exports that

<sup>5</sup> Administrative Map of Canada, Nations Online Project.

<https://www.nationsonline.org/oneworld/map/canada-administrative-map.htm>

<sup>6</sup> GLOBEFISH - Information and Analysis on World Fish Trade,” FAO. <https://www.fao.org/in-action/globefish/countries/countries/can/canada-trade/en/>

<sup>7</sup> “Fisheries and Oceans Canada.” Canada’s Fisheries Fast Facts 2020. Economic Analysis and Statistics Fisheries and Oceans Canada. <https://waves-vagues.dfo-mpo.gc.ca/Library/40958036.pdf?>

<sup>8</sup> US Trade in Fishery Products. NOAA Fisheries. <https://www.fisheries.noaa.gov/foss>.

year.<sup>9</sup> Canada's top exports to the United States include lobster, salmon, and crab. These products make up close to 80 percent of the total fish and seafood export value from Canada to the U.S.<sup>10</sup> According to DFO, the value of Canada's lobster, salmon, and crab exports in 2019 was \$1.64 B, \$0.96 B, and \$1.02 B, respectively.<sup>11</sup> Other main exports include halibut (\$128 M), scallop (\$100 M), and herring (\$60 M).<sup>12</sup>

Canada's commercial fisheries operate in six regions including the Pacific, Central and Arctic, Quebec, Gulf (Northeast Nova Scotia, Eastern Nova Scotia, Prince Edward Island), Maritimes (Southern New Brunswick, Southwest Nova Scotia, Eastern Nova Scotia), and Newfoundland and Labrador.<sup>13</sup> The Atlantic component of Canada's commercial fisheries is the most significant, making up about 81 percent of total capture production.<sup>14</sup> In 2019, the most licenses were issued in Nova Scotia (5,195) followed by Newfoundland (3,409) and Prince Edward Island (2,486).<sup>15</sup>

The 2020 List of Foreign Fisheries (LOFF) includes 159 fisheries exporting from Canada to the U.S. More than 60 of the fisheries cover some combination of groundfish including American plaice (*Hippoglossoides platessoides*), American angler (*Lophius americanus*), Atlantic cod (*Gadus morhua*), Atlantic halibut (*Hippoglossus hippoglossus*), and others. Lobster is included in 26 of the fisheries listed. Only three salmon fisheries are listed in the LOFF including two Atlantic salmon (*Salmo salar*) fisheries that use aquaculture facilities and one Pacific fishery that uses gillnets and entangling nets to catch a variety of species including Chinook salmon (*Oncorhynchus tshawytscha*), Chum salmon (*Oncorhynchus keta*), Coho salmon (*Oncorhynchus kisutch*), Pink salmon (*Oncorhynchus gorbuscha*), Sockeye salmon (*Oncorhynchus nerka*), and other Pacific salmon (*Oncorhynchus* spp). Species of crab are included in 38 fisheries listed in the LOFF, the majority being Atlantic rock crab (*Cancer irroratus*), green crab (*Carcinus maenas*), Jonah crab (*Cancer borealis*), and snow crab (*Chionoecetes opilio*). It is difficult to determine the size of each of the listed fisheries because the data is not consistent. Some fisheries have the number of vessels listed while others have the number of licenses or participants.

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<sup>9</sup> Canada's Fish and Seafood Trade with the United States of America, 2019. Fisheries and Oceans Canada, May 20, 2021. <https://www.dfo-mpo.gc.ca/ea-ae/economic-analysis/Canada-USA-Fish-Seafood-trade-commerce-poisson-fruits-de-mer-eng.html>.

<sup>10</sup> Canada's Fish and Seafood Trade with the United States of America, 2018. Economic Policy and Research, Economic Analysis and Statistics Directorate, Strategic Policy Sector, Fisheries and Oceans Canada. <https://publications.gc.c>

<sup>11</sup> Canada's Fish and Seafood Trade with the United States of America, 2019. Fisheries and Oceans Canada, May 20, 2021. <https://www.dfo-mpo.gc.ca/ea-ae/economic-analysis/Canada-USA-Fish-Seafood-trade-commerce-poisson-fruits-de-mer-eng.html>.

<sup>12</sup> Canada's Fish and Seafood Trade with the United States of America, 2018. Economic Policy and Research, Economic Analysis and Statistics Directorate, Strategic Policy Sector, Fisheries and Oceans Canada. <https://publications.gc.c>

<sup>13</sup> Fisheries and Oceans Canada Commercial Fisheries, January 10, 2022. <https://www.dfo-mpo.gc.ca/stats/commercial-eng.htm>

<sup>14</sup> FAO Fisheries and Aquaculture - Country Profile Canada. Food and Agriculture Organization of the United Nations (FAO) Fisheries and Aquaculture Division, May 2013. <https://www.fao.org/fishery/facp/CAN/en#CountrySector-ProductionSector>.

<sup>15</sup> Fishers Information. Fisheries and Oceans Statistical Services, April 13, 2021. <https://www.dfo-mpo.gc.ca/stats/commercial/licences-permis/fishers-pecheurs/fp19-eng.htm>.

Table 1. Total fish products imported to the U.S. from Canada from 2016-2020.<sup>16</sup>

Year	Volume (kg)	Value (USD)
2020	288,784,485	3,032,638,270
2019	305,420,605	3,411,766,223
2018	304,740,106	3,288,007,094
2017	333,902,581	3,301,497,477
2016	351,693,881	3,238,160,270

### III. Marine Mammals

There are 51 species of marine mammals in Canada whose statuses have been assessed by the International Union for Conservation of Nature (IUCN) (Table 2). There is no recent population abundance data recorded in the IUCN assessments for many of these species, but population modeling has been used to estimate current populations. One species, the North Atlantic right whale (*Eubalaena glacialis*), is listed as critically endangered. Four others, the sei whale (*Balaenoptera borealis*), blue whale (*Balaenoptera musculus*), sea otter (*Enhydra lutris*), and North Pacific right whale (*Eubalaena japonica*), are listed as endangered. Several of the IUCN reports on critically endangered and endangered marine mammals found in Canada list entanglement in fishing gear as a threat to the species. These include the North Atlantic right whale,<sup>17</sup> sei whale,<sup>18</sup> and North Pacific right whale.<sup>19</sup>

Canada assesses the statuses of several of its marine mammal species through the Species at Risk Act (SARA). Of the 91 species, subspecies, and populations of marine mammals recognized through SARA, 12 are currently listed as endangered and 6 are considered threatened (Table 3).<sup>20</sup> The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) has recognized 14 additional species as special concern, threatened, or endangered that currently have no SARA status (Table 4).

Some species of marine mammals found in Canada are particularly vulnerable to entanglement due to foraging behavior or other characteristics. Baleen whales have been found to be susceptible to entanglement in longline and pot/trap gear in the Maritimes which may be due to their bulk foraging behavior involving skimming and lunging, though entanglement is likely wherever there is overlap.<sup>21</sup> Minke whales (*Balaenoptera acutorostrata*), harbor porpoises (*Phocoena phocoena*), and other species that exhibit a spinning behavior when trying to avoid entanglement in gillnets are particularly vulnerable because this behavior often leads to further

<sup>16</sup> US Trade in Fishery Products. NOAA Fisheries. <https://www.fisheries.noaa.gov/foss>.

<sup>17</sup> Cooke, Justin G. “*Eubalaena Glacialis*.” IUCN Red List of Threatened Species 2020, January 1, 2020. <https://www.iucnredlist.org/species/41712/178589687>.

<sup>18</sup> Cooke, Justin G. “*Balaenoptera Borealis*.” IUCN Red List of Threatened Species 2018, June 25, 2018. <https://www.iucnredlist.org/species/2475/130482064>.

<sup>19</sup> Clapham, Phillip J, and Justin G Cooke. “*Eubalaena Japonica*.” IUCN Red List of Threatened Species 2018, December 19, 2017. <https://www.iucnredlist.org/species/41711/50380694>.

<sup>20</sup> Species at Risk Registry. Government of Canada. <https://species-registry.canada.ca/index-en.html#/species?taxonomyId=5&sortBy=commonNameSort&sortDirection=asc&pageSize=10>.

<sup>21</sup> Nemiroff, Leah, Tonya Wimmer, Pierre-Yves Daoust, and Donald F. McAlpine. "Cetacean strandings in the Canadian maritime provinces, 1990-2008." *The Canadian Field-Naturalist* 124, no. 1 (2010): 32-44.

entanglement.<sup>22</sup> Additionally, some species may be more likely to face mortality after becoming entangled. For example, in one study 60 percent of entanglements lead to death for minke whales but only 16 percent of entanglements led to death in humpback whales (*Megaptera novaeangliae*).<sup>23</sup>

Table 2. International Union for Conservation of Nature (IUCN) Red List categories for marine mammal species found in Canada.

<b>Common Name</b>	<b>Scientific Name</b>	<b>IUCN Red List Category</b>
North Atlantic right whale	<i>Eubalaena glacialis</i>	Critically Endangered
Sei whale	<i>Balaenoptera borealis</i>	Endangered
Blue whale	<i>Balaenoptera musculus</i>	Endangered
Sea otter	<i>Enhydra lutris</i>	Endangered
North Pacific right whale	<i>Eubalaena japonica</i>	Endangered
Fin whale	<i>Balaenoptera physalus</i>	Vulnerable
Northern fur seal	<i>Callorhinus ursinus</i>	Vulnerable
Hooded seal	<i>Cystophora cristata</i>	Vulnerable
Walrus	<i>Odobenus rosmarus</i>	Vulnerable
Polar bear	<i>Ursus maritimus</i>	Vulnerable
Sperm whale	<i>Physeter macrocephalus</i>	Vulnerable
Steller sea lion	<i>Eumetopias jubatus</i>	Near Threatened
Northern bottlenose whale	<i>Hyperoodon ampullatus</i>	Near Threatened
Stejneger's beaked whale	<i>Mesoplodon stejnegeri</i>	Near Threatened
False killer whale	<i>Pseudorca crassidens</i>	Near Threatened
Bowhead whale	<i>Balaena mysticetus</i>	Least Concern
Common minke whale	<i>Balaenoptera acutorostrata</i>	Least Concern
Baird's Beaked Whale	<i>Berardius bairdii</i>	Least Concern
Beluga whale	<i>Delphinapterus leucas</i>	Least Concern
Common dolphin	<i>Delphinus delphis</i>	Least Concern
Bearded seal	<i>Erignathus barbatus</i>	Least Concern
Gray whale	<i>Eschrichtius robustus</i>	Least Concern
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>	Least Concern
Long-finned pilot whale	<i>Globicephala melas</i>	Least Concern
Risso's dolphin	<i>Grampus griseus</i>	Least Concern
Gray seal	<i>Halichoerus grypus</i>	Least Concern
Pygmy sperm whale	<i>Kogia breviceps</i>	Least Concern
Dwarf sperm whale	<i>Kogia sima</i>	Least Concern
Atlantic white-sided dolphin	<i>Lagenorhynchus acutus</i>	Least Concern

<sup>22</sup> Kastelein, R. A., D. De Haan, and C. Staal. "Entanglement of harbour porpoises (*Phocoena phocoena*) in fishing nets." In *Harbour porpoises-laboratory studies to reduce bycatch*, pp. 91-156. De Spil Publishers, 1995.

<sup>23</sup> Benjamins, Steven, J. A. C. K. Lawson, and Garry Stenson. "Recent harbour porpoise bycatch in gillnet fisheries in Newfoundland and Labrador, Canada." *J. Cetacean Res. Manage* 9, no. 3 (2007): 189-199.

White-beaked dolphin	<i>Lagenorhynchus albirostris</i>	Least Concern
Pacific white-sided dolphin	<i>Lagenorhynchus obliquidens</i>	Least Concern
Northern right whale dolphin	<i>Lissodelphis borealis</i>	Least Concern
Humpback whale	<i>Megaptera novaeangliae</i>	Least Concern
Sowerby's beaked whale	<i>Mesoplodon bidens</i>	Least Concern
Blainville's beaked whale	<i>Mesoplodon densirostris</i>	Least Concern
True's beaked whale	<i>Mesoplodon mirus</i>	Least Concern
Northern elephant seal	<i>Mirounga angustirostris</i>	Least Concern
Narwhal	<i>Monodon monoceros</i>	Least Concern
Harp seal	<i>Pagophilus groenlandicus</i>	Least Concern
Spotted seal	<i>Phoca largha</i>	Least Concern
Harbor seal	<i>Phoca vitulina</i>	Least Concern
Harbor porpoise	<i>Phocoena phocoena</i>	Least Concern
Dall's porpoise	<i>Phocoenoides dalli</i>	Least Concern
Ringed seal	<i>Pusa hispida</i>	Least Concern
Striped dolphin	<i>Stenella coeruleoalba</i>	Least Concern
Atlantic spotted dolphin	<i>Stenella frontalis</i>	Least Concern
Common bottlenose dolphin	<i>Tursiops truncatus</i>	Least Concern
California sea lion	<i>Zalophus californianus</i>	Least Concern
Cuvier's beaked whale	<i>Ziphius cavirostris</i>	Least Concern
Hubbs' beaked whale	<i>Mesoplodon carlhubbsi</i>	Data Deficient
Killer whale	<i>Orcinus orca</i>	Data Deficient

Table 3. Species at Risk Act (SARA) statuses of marine mammals in Canada.

<b>Common name</b>	<b>Scientific name</b>	<b>COSEWIC population</b>	<b>SARA status</b>
Beluga Whale	<i>Delphinapterus leucas</i>	St. Lawrence Estuary population	Endangered
Blue Whale	<i>Balaenoptera musculus</i>	Atlantic population	Endangered
Blue Whale	<i>Balaenoptera musculus</i>	Pacific population	Endangered
Harbour Seal Lacs des Loups Marins subspecies	<i>Phoca vitulina mellonae</i>		Endangered
Killer Whale	<i>Orcinus orca</i>	Northeast Pacific southern resident population	Endangered
North Atlantic Right Whale	<i>Eubalaena glacialis</i>		Endangered
North Pacific Right Whale	<i>Eubalaena japonica</i>		Endangered
Northern Bottlenose Whale	<i>Hyperoodon ampullatus</i>	Scotian Shelf population	Endangered

Sei Whale	<i>Balaenoptera borealis</i>	Pacific population	Endangered
Bowhead Whale	<i>Balaena mysticetus</i>	Eastern Arctic population	Endangered
Right Whale	<i>Eubalaena glacialis</i>		Endangered
Beluga Whale	<i>Delphinapterus leucas</i>	Cumberland Sound population	Threatened <sup>24</sup>
Killer Whale	<i>Orcinus orca</i>	Northeast Pacific northern resident population	Threatened
Killer Whale	<i>Orcinus orca</i>	Northeast Pacific offshore population	Threatened
Killer Whale	<i>Orcinus orca</i>	Northeast Pacific transient population	Threatened
Fin Whale	<i>Balaenoptera physalus</i>	Pacific population	Threatened
Harbor Porpoise	<i>Phocoena phocoena</i>	Northwest Atlantic population	Threatened
Bowhead Whale	<i>Balaena mysticetus</i>	Bering-Chukchi-Beaufort population	Special Concern
Fin Whale	<i>Balaenoptera physalus</i>	Atlantic population	Special Concern
Harbor Porpoise	<i>Phocoena phocoena vomerina</i>	Pacific Ocean population	Special Concern
Humpback Whale	<i>Megaptera novaeangliae</i>	North Pacific population	Special Concern
Sea Otter	<i>Enhydra lutris</i>		Special Concern
Sowerby's Beaked Whale	<i>Mesoplodon bidens</i>		Special Concern
Steller Sea Lion	<i>Eumetopias jubatus</i>		Special Concern
Humpback Whale	<i>Megaptera novaeangliae</i>	Western North Atlantic population	Special Concern
Gray Whale	<i>Eschrichtius robustus</i>	Eastern North Pacific population	Special Concern
Blue Whale	<i>Balaenoptera musculus</i>		No Legal Status
Fin Whale	<i>Balaenoptera physalus</i>		No Legal Status
Beluga Whale	<i>Delphinapterus leucas</i>	Ungava Bay population	No Legal Status
Gray Whale	<i>Eschrichtius robustus</i>	Pacific Coast Feeding Group population	No Legal Status

<sup>24</sup> The Cumberland Sound population of beluga whale was assessed by COSEWIC as endangered but is still legally listed as threatened. It is currently under consideration to be legally changed to endangered.; Species at Risk Registry. Government of Canada. <https://species-registry.canada.ca/index-en.html#/species/130-276>

Gray Whale	<i>Eschrichtius robustus</i>	Western Pacific population	No Legal Status
Sei Whale	<i>Balaenoptera borealis</i>	Atlantic population	No Legal Status
Beluga Whale	<i>Delphinapterus leucas</i>	Eastern Hudson Bay population	No Legal Status
Northern Fur Seal	<i>Callorhinus ursinus</i>		No Legal Status
Atlantic Walrus	<i>Odobenus rosmarus rosmarus</i>	Central / Low Arctic population	No Legal Status
Atlantic Walrus	<i>Odobenus rosmarus rosmarus</i>	High Arctic population	No Legal Status
Beluga Whale	<i>Delphinapterus leucas</i>	Eastern High Arctic - Baffin Bay population	No Legal Status
Bowhead Whale	<i>Balaena mysticetus</i>	Eastern Canada-West Greenland population	No Legal Status
Killer Whale	<i>Orcinus orca</i>	Northwest Atlantic / Eastern Arctic population	No Legal Status
Narwhal	<i>Monodon monoceros</i>		No Legal Status
Northern Bottlenose Whale	<i>Hyperoodon ampullatus</i>	Davis Strait-Baffin Bay-Labrador Sea population	No Legal Status
Ringed Seal	<i>Pusa hispida</i>		No Legal Status
Atlantic White-sided Dolphin	<i>Lagenorhynchus acutus</i>		No Legal Status
Baird's Beaked Whale	<i>Berardius bairdii</i>		No Legal Status
Beluga Whale	<i>Delphinapterus leucas</i>	Eastern Beaufort Sea population	No Legal Status
Beluga Whale	<i>Delphinapterus leucas</i>	James Bay population	No Legal Status
Beluga Whale	<i>Delphinapterus leucas</i>	Western Hudson Bay population	No Legal Status
Blainville's Beaked Whale	<i>Mesoplodon densirostris</i>		No Legal Status
California Sea Lion	<i>Zalophus californianus</i>		No Legal Status
Common Bottlenose Dolphin	<i>Tursiops truncatus</i>		No Legal Status
Common Minke Whale North Atlantic subspecies	<i>Balaenoptera acutorostrata acutorostrata</i>		No Legal Status
Common Minke Whale North Pacific subspecies	<i>Balaenoptera acutorostrata scammonii</i>		No Legal Status



Cuvier's Beaked Whale	<i>Ziphius cavirostris</i>		No Legal Status
Dall's Porpoise	<i>Phocoenoides dalli</i>		No Legal Status
False Killer Whale	<i>Pseudorca crassidens</i>		No Legal Status
Gray Seal	<i>Halichoerus grypus</i>		No Legal Status
Gray Whale	<i>Eschrichtius robustus</i>	Northern Pacific Migratory population	No Legal Status
Harbor Seal Atlantic and Eastern Arctic subspecies	<i>Phoca vitulina concolor</i>		No Legal Status
Harbor Seal Pacific subspecies	<i>Phoca vitulina richardsi</i>		No Legal Status
Hooded Seal	<i>Cystophora cristata</i>		No Legal Status
Hubbs' Beaked Whale	<i>Mesoplodon carlhubbsi</i>		No Legal Status
Long-finned Pilot Whale	<i>Globicephala melas</i>		No Legal Status
Northern Elephant Seal	<i>Mirounga angustirostris</i>		No Legal Status
Northern Right Whale Dolphin	<i>Lissodelphis borealis</i>		No Legal Status
Pacific White-sided Dolphin	<i>Lagenorhynchus obliquidens</i>		No Legal Status
Pygmy Sperm Whale	<i>Kogia breviceps</i>		No Legal Status
Risso's Dolphin	<i>Grampus griseus</i>		No Legal Status
Short-beaked Common Dolphin	<i>Delphinus delphis</i>		No Legal Status
Short-finned Pilot Whale	<i>Globicephala macrorhynchus</i>		No Legal Status
Sperm Whale	<i>Physeter macrocephalus</i>		No Legal Status
Stejneger's Beaked Whale	<i>Mesoplodon stejneri</i>		No Legal Status
Striped Dolphin	<i>Stenella coeruleoalba</i>		No Legal Status
True's Beaked Whale	<i>Mesoplodon mirus</i>		No Legal Status
White-beaked Dolphin	<i>Lagenorhynchus albirostris</i>		No Legal Status

Atlantic Walrus	<i>Odobenus rosmarus rosmarus</i>		No Legal Status
Atlantic Walrus	<i>Odobenus rosmarus rosmarus</i>	Eastern Arctic population	No Legal Status
Beluga Whale	<i>Delphinapterus leucas</i>	Western Hudson Bay population, original designation	No Legal Status
Beluga Whale	<i>Delphinapterus leucas</i>	Western Hudson Bay population, 2004 designation	No Legal Status
Bowhead Whale	<i>Balaena mysticetus</i>	Davis Strait-Baffin Bay population	No Legal Status
Bowhead Whale	<i>Balaena mysticetus</i>	Eastern and Western Arctic populations	No Legal Status
Bowhead Whale	<i>Balaena mysticetus</i>	Hudson Bay-Foxe Basin population	No Legal Status
Humpback Whale	<i>Megaptera novaeangliae</i>	Western North Atlantic and North Pacific populations	No Legal Status
Killer Whale	<i>Orcinus orca</i>	North Pacific resident populations	No Legal Status
Northern Bottlenose Whale	<i>Hyperoodon ampullatus</i>		No Legal Status
Bearded Seal	<i>Erignathus barbatus</i>		No Legal Status
Dwarf Sperm Whale	<i>Kogia simus</i>		No Legal Status
Atlantic Walrus	<i>Odobenus rosmarus rosmarus</i>	Nova Scotia - Newfoundland - Gulf of St Lawrence population	No Legal Status
Sea Mink	<i>Mustela macrodon</i>		No Legal Status
Atlantic Walrus	<i>Odobenus rosmarus rosmarus</i>	Northwest Atlantic population	Extirpated
Gray Whale	<i>Eschrichtius robustus</i>	Atlantic population	Extirpated

Table 4. Marine mammal species and populations that have been assessed as Endangered, Threatened, or Special Concern by the Committee on the Status of Endangered Species in Canada (COSEWIC) and do not yet have protections under the Species at Risk Act (SARA).

<b>Common name</b>	<b>Scientific name</b>	<b>COSEWIC population</b>	<b>COSEWIC status</b>	<b>SARA status</b>
Beluga Whale	<i>Delphinapterus leucas</i>	Ungava Bay population	Endangered	No Legal Status
Gray Whale	<i>Eschrichtius robustus</i>	Pacific Coast Feeding Group population	Endangered	No Legal Status
Gray Whale	<i>Eschrichtius robustus</i>	Western Pacific population	Endangered	No Legal Status
Sei Whale	<i>Balaenoptera borealis</i>	Atlantic population	Endangered	No Legal Status

Beluga Whale	<i>Delphinapterus leucas</i>	Eastern Hudson Bay population	Threatened	No Legal Status
Northern Fur Seal	<i>Callorhinus ursinus</i>		Threatened	No Legal Status
Atlantic Walrus	<i>Odobenus rosmarus rosmarus</i>	Central / Low Arctic population	Special Concern	No Legal Status
Atlantic Walrus	<i>Odobenus rosmarus rosmarus</i>	High Arctic population	Special Concern	No Legal Status
Beluga Whale	<i>Delphinapterus leucas</i>	Eastern High Arctic - Baffin Bay population	Special Concern	No Legal Status
Bowhead Whale	<i>Balaena mysticetus</i>	Eastern Canada-West Greenland population	Special Concern	No Legal Status
Killer Whale	<i>Orcinus orca</i>	Northwest Atlantic / Eastern Arctic population	Special Concern	No Legal Status
Narwhal	<i>Monodon monoceros</i>		Special Concern	No Legal Status
Northern Bottlenose Whale	<i>Hyperoodon ampullatus</i>	Davis Strait-Baffin Bay-Labrador Sea population	Special Concern	No Legal Status
Ringed Seal	<i>Pusa hispida</i>		Special Concern	No Legal Status

#### IV. Bycatch in Canada's Fisheries

Although Canada has made international and domestic commitments to limit fishery bycatch to sustainable levels, bycatch in the country remains a concern.<sup>25</sup> Canada has been identified by researchers as a nation with known bycatch problems where the Marine Mammal Protection Act (MMPA) Import Provision prohibitions may apply.<sup>26</sup> Negative impacts on nontarget species are occurring in essentially all of Canada's fisheries, with the only exceptions being fisheries that use specific methods such as dive fisheries or harpoons.<sup>27</sup> It is difficult to find recent reliable data on bycatch in Canada, which may be due to low observer coverage or lack of transparency. For a few countries, bycatch data are reported to the International Whaling Commission (IWC) (though almost never completely), but as of 1982 Canada is no longer a member.

<sup>25</sup> "Collateral Damage: How to Reduce Bycatch in Canada's Commercial Fisheries." Oceana Canada, 2017. [https://www.oceana.ca/sites/default/files/bycatch\\_summary\\_final\\_en.pdf](https://www.oceana.ca/sites/default/files/bycatch_summary_final_en.pdf).

<sup>26</sup> Calderan, Susannah, and Russell Leaper. "Investigations of Countries Exporting Seafood to the US Which May Be Subject to Regulation under the MMPA Bycatch Rule with Respect to Cetaceans," April 10, 2017. <https://wwfint.awsassets.panda.org/downloads/invest>

<sup>27</sup> Baum, Julia K, and Susanna D Fuller. "Canada's Marine Fisheries: Status, Recovery Potential and Pathways to Success." University of Victoria, Oceana Canada, May 2016. <https://www.oceana.ca/en/publications/reports/canadas-marine-fisheries-status-recovery-p>

The most common gear types listed for Canada’s export fisheries in the LOFF include trawls (40), gillnets (37), pots/traps (31), and longlines (20). All of these gear types pose a risk to marine mammals. Gillnets, traps, and pots are typically the cause of large whale entanglements.<sup>28</sup> One study of large whales along the east coast of the U.S. and Canada found that, where gear was successfully identified, 89 percent of whale entanglements could be attributed to gillnet and pot fisheries.<sup>29</sup> Additionally, traps and pots used to catch crab, lobster, and other benthic species have historically caused high rates of large whale entanglement in the Bay of Fundy.<sup>30</sup>

#### **A. Bycatch Data Reported in the LOFF Is Lacking and Likely Underestimates Bycatch**

Gillnet fisheries are known to have high occurrences of marine mammal bycatch,<sup>31</sup> yet of the 37 Canadian fisheries listed in the LOFF that use gillnets, 26 of them have “0” listed as the average annual mortality estimate for every marine mammal species listed. Three other fisheries using gillnets do not have any mortality estimates provided for marine mammals. Eight fisheries using gillnets provided average annual mortality estimates higher than “0” for at least one of the marine mammals listed. A 2007 study estimated that incidental catches of small cetaceans in Newfoundland gillnet fisheries were 862 cetaceans in 2001, 1,428 in 2002, and 2,228 in 2003.<sup>32</sup> Additionally, there is recorded evidence globally of at least 75 percent of odontocete species, 64 percent of mysticetes, 66 percent of pinnipeds, and all sirenians and marine mustelids getting caught in gillnets as bycatch somewhere in the world.<sup>33</sup> Listing no marine mammal mortality or “no data provided” for almost 80 percent of gillnet fisheries in the LOFF is evidence that Canada’s reporting to NMFS is likely erroneous, monitoring is inadequate, and more observer coverage or other monitoring is necessary to produce reliable bycatch estimates.<sup>34</sup>

When the LOFF does provide more information, the species with the highest annual mortality estimates in gillnet fisheries include the harp seal (*Pagophilus groenlandicus*), harbor seal (*Phoca vitulina*), and harbor porpoise (*Phocoena phocoena*) (Newfoundland population), with total estimates of 40, 20, and 20 individuals, respectively. Species with an estimated average of four mortalities per year in the LOFF from fisheries using gillnets include the Atlantic white-sided dolphin (*Lagenorhynchus acutus*), harbor porpoise (*Phocoena phocoena*) (Gulf of St. Lawrence and Scotian Shelf population), and unspecified seals. Several species were estimated to have an average of two mortalities each year from gillnet fisheries including

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<sup>28</sup> Johnson, A., Salvador, G., Kenney, J., Robbins, J., Kraus, S., Landry, S., & Clapham, P. (2005). Fishing gear involved in entanglements of right and humpback whales. *Marine Mammal Science*, 21(4), 635-645.

<sup>29</sup> Johnson, et al., Fishing Gear, 635-645.

<sup>30</sup> Truchon, Marie-Hélène, Jean-Claude Brêthes, Éline Albert, and Robert Michaud. "Influence of anthropogenic activities on marine mammal strandings in the estuary and northwestern Gulf of St. Lawrence, Quebec, Canada, 1994–2008." *Journal of Cetacean Research and Management* 18 (2018): 11-21.

<sup>31</sup> Reeves, Randall R., Kate McClellan, and Timothy B. Werner. "Marine mammal bycatch in gillnet and other entangling net fisheries, 1990 to 2011." *Endangered Species Research* 20, no. 1 (2013): 71-97.

<sup>32</sup> Benjamins, S., Lawson, J. A. C. K., & Stenson, G. (2007). Recent harbour porpoise bycatch in gillnet fisheries in Newfoundland and Labrador, Canada. *J. Cetacean Res. Manage.*, 9(3), 189-199.

<sup>33</sup> Reeves, et al., Marine mammal bycatch, 71-97.

<sup>34</sup> Our organizations submitted a Freedom of Information Act request for Canada’s submissions under the MMPA Imports rule in January 2021. While NMFS has not yet provided a full response to that request, information shared does not provide further bycatch detail.

unspecified dolphins, minke whale (*Balaenoptera acutorostrata*), hooded seal (*Cystophora cristata*), long-finned pilot whale (*Globicephala melas*), northern bottlenose whale (*Hyperoodon ampullatus*), and sperm whale (*Physeter catodon*). Lists of species appear to be cut short for several fisheries in the LOFF indicating that there may be more data available that is not visible due to formatting.

## **B. Limited Data Available Shows High Bycatch for Several Species/Fisheries**

Existing data give some insight into rates of entanglement and mortality of cetaceans in several regions where Canada's fisheries operate. DFO studied more than 80 observed incidents of injured and dead cetaceans of 19 species in Atlantic Canada from 2008-2014.<sup>35</sup> Among the right whale and humpback whale incidents for which cause of death was determined, 95 and 85 percent, respectively, were attributed to entanglement in fishing gear. Almost half of the reports for minke whale and harbor porpoise were also related to entanglement in fishing gear.<sup>36</sup> Around a third of all of the injury/mortality incidents resulted from fishing or collisions with vessels. Similarly, a report that analyzed opportunistic data of cetacean incidents in eastern Canada from 2004 to 2019 found that among cases where human interaction was confirmed, 61 percent of the incidents involved entanglement in fishing gear.<sup>37</sup> While it was not possible to track these incidents back to a specific fishery, the most commonly observed gear types were pots, nets, and rope and/or buoy.<sup>38</sup> Finally, scientists have estimated that 85 percent of right whales have been entangled in fishing gear at least once, while 60 percent have experienced multiple entanglements.<sup>39</sup>

There are 31 fisheries in the LOFF that list Newfoundland and Labrador as an area of operation. From 1979-2008, 1,209 large whale entanglements were recorded in this region.<sup>40</sup> Humpback whales (*Megaptera novaeangliae*) and minke whales (*Balaenoptera acutorostrata*) made up 80 percent and 15 percent of the recorded entanglements, respectively. The other species identified included the fin whale (*Balaenoptera physalus*), North Atlantic right whale (*Eubalaena glacialis*), bowhead whale (*Balaena mysticetus*), and killer whale (*Orcinus orca*).<sup>41</sup> Historically Atlantic cod was the biggest target species for fisheries in this region, contributing to an average annual rate of entanglement of 64.3 whales in Newfoundland and Labrador from 1979-1992.<sup>42</sup> After a moratorium was placed on cod fisheries this number appeared to drop to about 19.2 whales per year from 1993-2008.<sup>43</sup> However, it is possible that a switch to other

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<sup>35</sup> Themelis, Daphne Elizabeth, L. Harris, and Tim Hayman. *Preliminary analysis of human-induced injury and mortality to cetaceans in Atlantic Canada*. Canadian Science Advisory Secretariat, 2016.

<sup>36</sup> Themelis, et al., *Preliminary analysis*.

<sup>37</sup> Wimmer, T and C. Maclean. 2021. *Beyond the Numbers: a 15-year Retrospective of Cetacean Incidents in Eastern Canada*. Produced by the Marine Animal Response Society. 69pp.

<sup>38</sup> Wimmer and Maclean, *Beyond the numbers*, 69 pp.

<sup>39</sup> *Right Whales and Entanglements: More on How NOAA Makes Decisions*. NOAA Fisheries, 2021. Available at: <https://www.fisheries.noaa.gov/new-england-mid-atlantic/marine-mammal-protection/right-whales-and-entanglements-more-how-noaa>

<sup>40</sup> Benjamins, Steven, Wayne Ledwell, Julie Huntington, and Anthony Raphael Davidson. "Assessing changes in numbers and distribution of large whale entanglements in Newfoundland and Labrador, Canada 1." *Marine Mammal Science* 28, no. 3 (2012): 579-601.

<sup>41</sup> Benjamins, et al., *Assessing changes*, 579-601.

<sup>42</sup> Benjamins, et al., *Assessing changes*, 579-601.

<sup>43</sup> Benjamins, et al., *Assessing changes*, 579-601.

fisheries such as snow crab may have shifted the pressure to offshore and deep-water species which were not included in the study area. In addition to whale entanglement, there is also evidence of small cetacean bycatch in Newfoundland and Labrador. A 2007 study found an increase in incidental catches of small cetaceans in Newfoundland gillnet fisheries between 2001 and 2003 with concerning levels of harbor porpoise mortality.<sup>44</sup>

The impact of fishing gear entanglement and interactions with ships on several species of whales has also been studied in the Gulf of St. Lawrence. A study that reviewed marine mammal stranding records in the region from 1994-2008 found that about 12 percent of the 1,590 records revealed evidence of anthropogenic trauma, often involving incidental catch of large cetaceans.<sup>45</sup> Furthermore, NMFS has acknowledged an ongoing Unusual Mortality Event for North Atlantic right whales since June 2017 along the Northwest Atlantic Ocean coast, including in the Gulf of St. Lawrence region, where an extraordinary increase in North Atlantic right whale strandings has been observed.<sup>46</sup> From June 2017 to December 2018, 20 whales were found dead, 12 of which showed evidence of a vessel strike or entanglement in fishing gear.<sup>47</sup> In 2019, nine more whales were found dead in Canadian waters; several died of vessel strikes while the cause of death for five whales could not be determined.<sup>48</sup> Five more whales found in Canadian waters were determined to have suffered serious injuries due to entanglement.<sup>49</sup> Another study found that 44.1-54.7% of fin whales had scars from previous entanglements.<sup>50</sup> Photos where the entire caudal peduncle could be seen showed entanglement rates of 60% for blue whales in the Gulf of St. Lawrence and 80% for fin whales.<sup>51</sup> While it is difficult to trace these incidents back to specific fisheries, fisheries in the Gulf of St. Lawrence and surrounding areas should be closely analyzed given these high rates of entanglement.

In the LOFF, there are 14 fisheries with New Brunswick, Nova Scotia, or Prince Edward Island listed as an area of operation. The primary target species for these fisheries is American lobster and, in total, there are 3,253 participants and 2,234 licenses listed. A study that covered stranding data from 1990-2008 in these three provinces found evidence of entanglement in fishing gear in more than 10 percent of the 640 stranding events recorded, though the gear was not traced back to a specific fishery. Using stranding data to estimate entanglement rates likely leads to estimates that are biased low because not all the marine mammals that die from

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<sup>44</sup> Benjamins, et al., Assessing changes, 579-601.

<sup>45</sup> Truchon, et al., Influence of anthropogenic activities, 11-21.

<sup>46</sup> "US Atlantic and Gulf of Mexico Marine Mammal Stock Assessments 2020." NOAA Fisheries. United States Department of Commerce, July 2021. <https://www.fisheries.noaa.gov/inport/item/65149>.

<sup>47</sup> "US Atlantic and Gulf of Mexico Marine Mammal Stock Assessments 2020." NOAA Fisheries. United States Department of Commerce, July 2021. <https://www.fisheries.noaa.gov/inport/item/65149>.

<sup>48</sup> "2017–2021 North Atlantic Right Whale Unusual Mortality Event." NOAA Fisheries. Office of Protected Resources, September 3, 2021. <https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2021-north-atlantic-right-whale-unusual-mortality-event>.

<sup>49</sup> "2017–2021 North Atlantic Right Whale Unusual Mortality Event." NOAA Fisheries. Office of Protected Resources, September 3, 2021. <https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2021-north-atlantic-right-whale-unusual-mortality-event>.

<sup>50</sup> Ramp, Christian, David Gaspard, Katherine Gavrilchuk, Miranda Unger, Anna Schleimer, Julien Delarue, Scott Landry, and Richard Sears. "Up in the air: drone images reveal underestimation of entanglement rates in large rorqual whales." *Endangered Species Research* 44 (2021): 33-44.

<sup>51</sup> Ramp, et al., Up in the air, 44, 33-44.

interactions with fishing gear end up washing ashore.<sup>52</sup> Therefore, the rate of entanglement from lobster and other fishing gear in these areas is likely higher than this study indicates.

## V. Canada's Policies on Bycatch

Canada's fisheries are managed by DFO in accordance with the Fisheries Act through various regulations, policies, and guidance documents, in addition to license and plan requirements. As described below, DFO's regulations, policies, and guidance do not contain mandatory bycatch mitigation measures. DFO does issue fishery- and region- specific license and plan requirements; however, specific license conditions are often not accessible to the public and for the measures that are listed publicly, few of those measures address marine mammal bycatch.<sup>53</sup>

### A. The Fisheries Act

Canada's Fisheries Act was adopted in 1985 and has been amended several times, including as recently as 2019.<sup>54</sup> The Act provides broad authority for regulation of fishing within Canadian waters but does not explicitly address marine mammal bycatch. The Act authorizes the Canadian government to issue regulations governing "catching" and "landing" of fish; the "use of fishing gear and equipment"; and otherwise for the conservation of fish and "proper management" of fisheries.<sup>55</sup> The law also broadly authorizes the government to require observers, record-keeping, and reporting, including regarding the time and place of fishing, gear and vessels used, and "any other matter relating to the proper management and control of fisheries."<sup>56</sup> The Act authorizes the issuance of fishing licenses and requires compliance with any license conditions.<sup>57</sup> The Fisheries Act prohibits "fish[ing] for a cetacean with the intent to take it into captivity"<sup>58</sup> but does not otherwise expressly prohibit or contain measures to minimize or regulate killing or serious injury of marine mammals. Overall, the Fisheries Act provides authority but not a direct mandate to address bycatch through monitoring, reporting, and gear restrictions.

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<sup>52</sup> "Dwarf Sperm Whale (Kogia Sima): Western North Atlantic Stock." NOAA Fisheries, April 2020. [https://media.fisheries.noaa.gov/dam-migration/2019\\_sars\\_atlantic\\_dwarfspermwhale.pdf](https://media.fisheries.noaa.gov/dam-migration/2019_sars_atlantic_dwarfspermwhale.pdf).

<sup>53</sup> FAO Fisheries and Aquaculture - Country Profile Canada. Food and Agriculture Organization of the United Nations (FAO) Fisheries and Aquaculture Division, May 2013. <https://www.fao.org/fishery/facp/CAN/en#CountrySector-ProductionSector>.

<sup>54</sup> FAO Fisheries and Aquaculture - Country Profile Canada. Food and Agriculture Organization of the United Nations (FAO) Fisheries and Aquaculture Division, May 2013. <https://www.fao.org/fishery/facp/CAN/en#CountrySector-ProductionSector>; DFO, *Introducing Canada's modernized Fisheries Act*. Available at: <https://www.dfo-mpo.gc.ca/campaign-campagne/fisheries-act-loi-sur-les-peches/introduction-eng.html> (last visited Sept. 13, 2021).

<sup>55</sup> Fisheries Act, Section 43.1. Available at: <https://laws-lois.justice.gc.ca/eng/acts/f-14/page-5.html#docCont>.

<sup>56</sup> Fisheries Act, Sections 43.1; 61(1), (2). Available at: <https://laws-lois.justice.gc.ca/eng/acts/f-14/page-5.html#docCont>.

<sup>57</sup> Fisheries Act, Sections 43.1; 43.7; 7(1). Available at: <https://laws-lois.justice.gc.ca/eng/acts/f-14/page-5.html#docCont>.

<sup>58</sup> Fisheries Act, Section 23.1(1). Available at: <https://laws-lois.justice.gc.ca/eng/acts/f-14/page-5.html#docCont>.

## B. Marine Mammal Regulations

Under Fisheries Act authority, the Canadian government issued marine mammal regulations in 1993.<sup>59</sup> The regulations govern both direct fishing for marine mammals, as well as the “conservation and protection of marine mammals in Canada and in Canadian fisheries waters.”<sup>60</sup> Marine mammal is not defined by the regulation.

The regulations prohibit any person from “disturb[ing]” a marine mammal, unless “carrying on a[n] . . . activity that is authorized [or] permitted. . . under the [Fisheries] Act.”<sup>61</sup> The regulations state that disturb includes approaching, feeding, moving, or otherwise interacting with them or attempting to do so.<sup>62</sup>

The regulatory prohibition on disturbance may generally ban the intentional killing or serious injury of marine mammals during fishing; however, the exemption for activities “authorized” under the Fisheries Act is unclear. Specifically, it is unclear whether the exemption is limited to marine mammal disturbance activities directly permitted under the Act (i.e., if DFO expressly authorizes the disturbance) or if the exemption applies to *any activity* authorized under the Act, which includes general fishing activities allowed pursuant to a license. If the exemption applies to general fishing activities, the provision does not ban the intentional take of marine mammals.

Moreover, under the current regulation, the Canadian government may issue licenses for the intentional killing of nuisance seals, which are animals deemed to present a danger to fishing gear or certain fish stocks, and the prohibition on disturbance would not apply because the killing would be allowed by permit.<sup>63</sup> In 2019, DFO announced it would immediately cease authorizing lethal removal of nuisance seals, and in 2020, DFO initiated a formal consultation to amend the regulations to remove nuisance seals licenses, in order to comply with the MMPA Imports Rule.<sup>64</sup> However, the regulations have not yet been formally amended. In sum, the current regulations allow the killing of nuisance seals, though may otherwise prohibit intentional killing of other marine mammals during fishing activities; however, the regulatory exemption is not clear. Canada must provide greater clarity on how its regulatory regime manages the intentional mortality or serious injury of marine mammals during commercial fishing.

It is also unclear whether the regulatory ban on “disturbing” marine mammals bans the *incidental* capture of marine mammals in fishing gear. The regulations provide examples of what actions “disturb” marine mammals, and all the examples are direct and intentional acts towards a marine mammal (e.g., feed, swim with, mark). This suggests that the prohibition on disturbance does not prohibit incidental bycatch.

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<sup>59</sup> Marine Mammal Regulations, SOR/93-95. Available at: <https://laws-lois.justice.gc.ca/PDF/SOR-93-56.pdf>. The Preamble to the regulations cites Fisheries Act Section 43 for authority.

<sup>60</sup> Marine Mammal Regulations, Section 3(c).

<sup>61</sup> Marine Mammal Regulations, Section 7(1).

<sup>62</sup> Marine Mammal Regulations, Section 7(2).

<sup>63</sup> Marine Mammal Regulations, Section 2(1).

<sup>64</sup> “What We Heard Report: Amending the Marine Mammal Regulations and the Pacific Aquaculture Regulations.” Government of Canada, Fisheries and Oceans Canada, Communications Branch, January 19, 2021. <https://www.dfo-mpo.gc.ca/fisheries-peches/consultation/mmr>



Only one regulatory provision explicitly addresses bycatch: a reporting requirement that any operator “[i]mmediately after any accidental contact between . . . fishing gear and a marine mammal,” notify the Minister of the date, time, location, species, and observed state of the animal, “unless the contact is reported as a bycatch in a log book.”<sup>65</sup>

### C. Sustainable Fisheries Framework and the Policy on Managing Bycatch

Canada has also developed a series of policies and guidance documents on bycatch. The Sustainable Fisheries Framework (SFF), a policy document issued in 2009, sets the goal of applying an ecosystem-based, precautionary approach to fisheries management through various tools and policies. Some of the tools identified in the SFF include management plans, scientific surveys, third-party observers, stock assessments, and reference points for establishing stock health. However, the degree to which these components have been implemented varies. In 2016, seven years after the SFF was established, the Canadian Commissioner of the Environment and Sustainable Development (CESD) conducted a federal government audit and found that DFO had failed to follow through on putting these components in place for many stocks.<sup>66</sup> Additionally, CESD found that where plans had been developed for stocks, there were still cases where they were not being applied.<sup>67</sup>

Under the SFF, DFO issued the Policy on Managing Bycatch (Policy) establishing two management “objectives.”<sup>68</sup> The first objective is “to ensure that Canadian fisheries are managed in a manner that . . . minimizes the risk of fisheries causing serious and irreversible harm to bycatch species.” The second objective is to “account for total catch, including retained and non-retained bycatch.” The Policy does not directly regulate fisheries and is not a bycatch measure; it merely sets a goal for mitigating bycatch. The Policy is to be implemented through “Integrated Management Plans” under no specific timeline.<sup>69</sup>

DFO’s Guidance on Implementation of Policy on Managing Bycatch lists strategies that “*may* be required to achieve overall policy objectives . . . implemented as required, on a fishery by fishery basis.”<sup>70</sup> These strategies include data collection and monitoring systems for reporting on bycatch, evaluating impacts of fishing on bycatch species, minimizing bycatch to the extent practicable, avoiding exceeding harvest levels for bycatch species, developing measures to manage bycatch, and evaluating effectiveness regularly.<sup>71</sup> The Guidance contains no regulatory mandates and provides no timeline for implementation, which is contingent on resource availability and “national and regional priorities” based on assessments of the risk that bycatch

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<sup>65</sup> Marine Mammal Regulations, Section 39.

<sup>66</sup> Archibald, D. W., R. McIver, and R. Rangeley. “The implementation gap in Canadian fishery policy: Fisheries rebuilding and sustainability at risk.” *Marine Policy* 129 (2021): 1-9.

<sup>67</sup> Archibald et al., The implementation gap, 1-9.

<sup>68</sup> DFO, Policy on Managing Bycatch. Available at: <https://waves-vagues.dfo-mpo.gc.ca/Library/40584690.pdf>.

<sup>69</sup> *Id.*

<sup>70</sup> DFO, Guidance on Implementation of the Policy on Managing Bycatch (Undated). Available at: <https://waves-vagues.dfo-mpo.gc.ca/Library/40816588.pdf>.

<sup>71</sup> DFO, Guidance on Implementation of the Policy on Managing Bycatch (Undated). Available at: <https://waves-vagues.dfo-mpo.gc.ca/Library/40816588.pdf>.

presents in a fishery.<sup>72</sup> As described below, the Guidance is also not a regulatory or bycatch mitigation measure, as it does not constitute a “requirement” that export fisheries implement bycatch mitigation. 50 C.F.R. § 216.24(h)(6)(iii)(C)(3)(ii).

#### **D. Fishery Monitoring Policy**

Another policy under the Sustainable Fisheries Framework is DFO’s Fishery Monitoring Policy, released in late 2019. It applies to all wild capture Canadian fisheries and marine mammal harvest in Canadian waters managed under the Fisheries Act.<sup>73</sup> The Policy establishes goals of having “dependable, timely, and accessible” fishery information to both help manage Canadian fisheries sustainably and carry out enforcement activities and apply a common set of procedural steps to establish monitoring requirements across fisheries.<sup>74</sup> The implementation plan includes creating fishery monitoring work plans that will first monitor the risks, complexity, and needs in each fishery, then outline priority actions and provide timelines to apply the policy.<sup>75</sup> Like DFO’s Policy on Managing Bycatch, its Fishery Monitoring Policy contains no regulatory mandates, only objectives, and is not a bycatch measure.

#### **E. Integrated Fisheries Management Plans**

Both the Policy on Managing Bycatch and the Fishery Monitoring Policy are implemented through Integrated Fisheries Management Plans (“IFMPs”). IFMPs are fishery-specific planning documents “for the conservation and use of fisheries resources.”<sup>76</sup> As DFO explains, the IFMPs are “not legally binding documents,” and once again, contain no management measures with which fishers must comply.<sup>77</sup> However, the “provisions of the plan will determine how the fishery will be managed and, where applicable, what will appear in licen[s]e conditions.”<sup>78</sup>

The IFMP is also supposed to clearly describe the fishery and document both bycatch and existing bycatch reduction measures.<sup>79</sup>

DFO has failed to issue IFMPs for some fisheries and many existing IFMPs are outdated. In its 2016 audit, CESD found that close to a third of IFMPs were lacking or out of date.<sup>80</sup> As of 2020, DFO completed 57% of the necessary development of new IFMPs or updates to existing

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<sup>72</sup> DFO, Guidance on Implementation of the Policy on Managing Bycatch (Undated). Available at: <https://waves-vagues.dfo-mpo.gc.ca/Library/40816588.pdf>.

<sup>73</sup> DFO, Fishery Monitoring Policy. Available at: <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/fishery-monitoring-surveillance-des-peches-eng.htm#toc1>

<sup>74</sup> DFO, Fishery Monitoring Policy. Available at: <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/fishery-monitoring-surveillance-des-peches-eng.htm#toc1>

<sup>75</sup> DFO, Fishery Monitoring Policy. Available at: <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/fishery-monitoring-surveillance-des-peches-eng.htm#toc1>

<sup>76</sup> DFO, Preparing an Integrated Fisheries Management Plan (IFMP) (Jan. 30, 2013). Available at: <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/guidance-guide/preparing-ifmp-pgip-elaboration-eng.html>.

<sup>77</sup> *Id.*

<sup>78</sup> *Id.* (“the IFMP should describe the fishery rather than set out what could be considered a series of obligations... [t]he licence conditions linked to the IFMP could be more prescriptive”).

<sup>79</sup> *Id.*; DFO, Guidance on Implementation of the Policy on Managing Bycatch (Undated).

<sup>80</sup> Archibald et al., The implementation gap, 1-9.

ones, but 20 remained.<sup>81</sup> Additionally, as described below, many IFMPs do not address marine mammal bycatch. The Guidance on the Implementation of the Policy on Managing Bycatch states: “At a minimum, all IFMPs should describe the state of knowledge on bycatch in each fishery, where the key gaps in knowledge and management action are (or are estimated to be), what steps are being taken to address these gaps, and how risks and uncertainty are being managed in the interim.”<sup>82</sup> Information on bycatch in some IFMPs tends to be focused on bycatch of other fish species and does not address the state of knowledge on bycatch of marine mammals, with the exception of some mention of SARA listed species.<sup>83</sup>

## **F. Conservation Harvesting Plans and License Conditions**

DFO issues fishery- and sometimes area-specific Conservation Harvesting Plans that “stipulate management measures and certain terms and conditions for regulating fishing activities.”<sup>84</sup> DFO also issues other Decisions and Notices before and sometimes throughout a fishing season, setting additional mitigation requirements, as well as license conditions, determining management measures. However, we have been unable to locate most of those conditions online. Canada’s overall fishery management scheme is complex and generally not transparent to the public, as it is difficult to identify and track any actual requirements. NMFS must insist that Canada provide all relevant requirements, particularly plan and license requirements in its comparability application.

## **G. Species at Risk Act**

Adopted in 2002, the Species at Risk Act (SARA) aims to “prevent wildlife species from being extirpated or becoming extinct, to provide for the recovery of wildlife species that are extirpated, endangered or threatened as a result of human activity and to manage species of special concern to prevent them from becoming endangered or threatened.”<sup>85</sup> Under the Act, it is illegal to “kill, harm, harass, capture or take an individual” of a species that is “listed as an extirpated species, an endangered species or a threatened species” within Canadian territorial waters.<sup>86</sup> This does not apply to all marine mammals, as only 17 marine mammal species/populations found in Canadian waters are currently listed under SARA in these risk categories (Table 3), and species of Special Concern are provided no substantive protections under the law.

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<sup>81</sup> Archibald et al., The implementation gap, 1-9.

<sup>82</sup> DFO, Guidance on implementation of the Policy on Managing Bycatch. Available at: <https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/bycatch-guide-prise-access-eng.htm>

<sup>83</sup> “Herring - Newfoundland and Labrador Region 2+3 (Herring Fishing Areas 1-11) - Effective 2017.” Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/herring-hareng/herring-areas-1-11-zones-2-3-hareng-eng.html>, Government of Canada. Fisheries and Oceans Canada. Communications Branch. “Integrated Fisheries Management Plan - Atlantic Mackerel.” Fisheries and Oceans Canada, 2007. <https://waves-vagues.dfo-mpo.gc.ca/Library/348914.pdf>.

<sup>84</sup> DFO, Notice to Fish Harvesters. Available at: [https://inter-101.dfo-mpo.gc.ca/applications/opti-opei/notice-avis-eng.php?region\\_id=4&sub\\_type\\_id=5&type=1&display\\_option=1](https://inter-101.dfo-mpo.gc.ca/applications/opti-opei/notice-avis-eng.php?region_id=4&sub_type_id=5&type=1&display_option=1).

<sup>85</sup> Species at Risk Act, S.C. 2002, c. 29. Available at: <https://laws.justice.gc.ca/PDF/S-15.3.pdf>.

<sup>86</sup> Species at Risk Act, Sections 32(1); 34(1); 2(1).

The Canadian government must prepare a recovery strategy and action plan for any threatened or endangered species, identifying population objectives and threats, describing a strategy for combating those threats, and identifying critical habitat.<sup>87</sup> While the recovery strategies and management plans contain lists of general measures to be evaluated and considered for adoption, neither contain substantive requirements or mitigation measures.<sup>88</sup> A 2018 independent auditor report concluded that for 11 of 14 marine mammal species then-listed as endangered or threatened under SARA, DFO “could not demonstrate whether it had implemented any specific management measures to reduce the threats posed by commercial fishing.”<sup>89</sup>

## **VI. Canada’s Compliance with the MMPA Imports Rule**

### **A. MMPA Imports Rule Requirements**

Under the U.S. Marine Mammal Protection Act, the U.S. government “shall ban” all seafood imports caught with fishing gear that kills or seriously injures marine mammals “in excess of United States standards.” 16 U.S.C. § 1371(a)(2). In applying this requirement, the U.S. “shall insist on reasonable proof” from the exporting nation of the effects of its exporting fisheries on marine mammals – i.e., its marine mammal bycatch. *Id.*

To implement this provision, the National Marine Fisheries Service (NMFS) issued its MMPA Imports Rule. 81 Fed. Reg. 54,415 (Aug. 16, 2016). Under the Rule, for Canada to continue exporting fish to the United States after December 31, 2022, Canada must apply for and receive a “comparability finding” from the U.S., essentially a determination that its bycatch and bycatch program for each exporting fishery meets U.S. standards. 50 C.F.R. § 216.24(h)(6).

Under the Rule for fisheries operating within Canada’s EEZ, to receive a comparability finding Canada must show:

- (1) Canada “[p]rohibits the intentional mortality or serious injury of marine mammals in the course of commercial fishing in the fishery;” and

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<sup>87</sup> Species at Risk Act, Sections 37(1), 41(1)(b)-(d).

<sup>88</sup> See, e.g., Action Plan for the North Atlantic Right Whale (*Eubalaena glacialis*) in Canada. Available at: [https://wildlife-species.canada.ca/species-risk-registry/virtual\\_sara/files/plans/Ap-Bnan-Narw-v01-2021Mar-Eng.pdf](https://wildlife-species.canada.ca/species-risk-registry/virtual_sara/files/plans/Ap-Bnan-Narw-v01-2021Mar-Eng.pdf).

<sup>89</sup> Independent Auditors Report, 2018 Fall Reports of the Commissioner of the Environment and Sustainable Development to the Parliament of Canada, Report 2 – Protecting Marine Mammals. Available at: [https://www.oag-bvg.gc.ca/internet/English/parl\\_cesd\\_201810\\_02\\_e\\_43146.html](https://www.oag-bvg.gc.ca/internet/English/parl_cesd_201810_02_e_43146.html).

- (2) For any fishery deemed an export fishery on NMFS’s LOFF, Canada “maintains a regulatory program” for the fishery “that is comparable in effectiveness to the U.S. regulatory program.”

To demonstrate a comparably effective regulatory program, Canada must show it maintains a program “that includes [ ] or effectively achieves comparable results as” the following components:

- (a) “Marine mammal assessments for . . . stocks . . . that are killed or seriously injured in the fishery;”
- (b) “An export fishery register,” listing all fishing vessels in the fishery, including time, season, gear type, and target species;
- (c) Regulatory requirements that include:
  - (i) A requirement that vessel operators report all marine mammal injury or death;
  - (ii) A requirement that fishers implement measures to reduce mortality/serious injury;
- (d) Monitoring procedures in the export fishery to estimate mortality/serious injury from the fishery and cumulatively from other export fisheries on the same marine mammal stocks;
- (e) Calculation of bycatch limit for marine mammals taken in fishery. The “bycatch limit” is PBR or a “comparable scientific metric;” and
- (f) Demonstration that mortality/serious injury from the fishery (and cumulatively with other export fisheries) “[d]o not exceed the bycatch limit.”

*Id.* § 216.24(h)(6)(iii)(C).

Under both the MMPA and the MMPA Imports Rule, Canada bears the burden of demonstrating each export fishery meets these requirements. 16 U.S.C. 1371(a)(2); 50 C.F.R. § 216.24(h)(5) (“harvesting nation shall submit . . . an application . . . , along with documentary evidence demonstrating” the conditions have been met “for each” fishery).

Accordingly, to achieve a comparability finding, Canada must demonstrate and document that it meets each of the conditions above or maintains a regulatory program that “effectively achieves comparable results” for each “export” fishery listed on the LOFF. This is a strict standard.

**B. Based on Available Information, Canada Fulfills Some Requirements of the MMPA Imports Rule but Likely Does Not Meet All U.S. Bycatch Standards**

Canada’s commercial fisheries are managed regionally without comprehensive national level regulations, and license requirements do not appear to be available to the public. Therefore, Canada will need to provide detailed information for each individual export fishery, clearly documenting the applicable license conditions or plan requirements to demonstrate compliance with the MMPA Imports Rule. Applying the MMPA Imports Rule requirements with information currently available to the public, we conclude that Canada *lacks* the bycatch mitigation measures, monitoring, and data necessary to demonstrate comparability for many of its export fisheries. 50 C.F.R. § 216.24(h)(6)(iii)(C).

**(1) Canada May Ban Intentional Killing**

The MMPA Imports Rule requires that, to export seafood to the United States, Canada must demonstrate that it “[p]rohibits the intentional mortality or serious injury of marine mammals in the course of commercial fishing in the fishery.”<sup>90</sup> As explained in Section V above, it appears that Canada may generally ban the intentional killing of marine mammals on the national scale through the marine mammal regulations under the Fisheries Act. Canada’s marine mammal regulation generally bans the intentional killing or serious injury of marine mammals during fishing; however, the regulation exempts activities “authorized” under the Fisheries Act. NMFS must insist that DFO clarify this exemption and finalize its amendment to remove nuisance seal licenses to be “comparable” under this factor. The Species at Risk Act (SARA) also bans the killing, harm, and capture of individuals of the 17 marine mammal species/populations listed as endangered or threatened under the Act.<sup>91</sup>

**(2) Canada Likely Does Not Maintain a Regulatory Program “Comparable in Effectiveness” to the U.S. Program for All Export Fisheries**

As detailed above, under the MMPA Imports Rule, Canada must demonstrate it “maintains a regulatory program” for the fishery “that is comparable in effectiveness to the U.S. regulatory program,” including the five components laid out in the Rule or that it effectively achieves comparable results as maintaining such a program.<sup>92</sup> Based on publicly available information, Canada will likely be unable to demonstrate all components.

**(a) Canada Likely Does Not Conduct Regular Marine Mammal Assessments for All Stocks Interacting with its Fisheries**

The MMPA Imports Rule requires that Canada demonstrate that it “maintains a regulatory program that provides for . . . [m]arine mammal assessments . . . for stocks . . . that are killed or seriously injured in the fishery” or that the nation achieves “comparable . . . effectiveness” to the U.S. program of annual stock assessments.<sup>93</sup> It is critical that stock assessments for bycaught stocks be conducted to know whether bycatch is below PBR.

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<sup>90</sup> 50 C.F.R. § 216.24(h)(6)(iii)(C).

<sup>91</sup> Species at Risk Act, Sections 32(1); 34(1); 2(1).

<sup>92</sup> 50 C.F.R. § 216.24(h)(6)(iii)(C).

<sup>93</sup> 50 C.F.R. § 216.24(h)(6)(iii)(C).

DFO has conducted surveys for some marine mammal species in some regions. Two large-scale aerial surveys to assess cetacean distribution and abundance in the northwest Atlantic were completed as part of the Trans North Atlantic Sightings Survey (TNASS) in 2007 and 2016.<sup>94</sup> It is unclear whether similar large-scale aerial surveys are planned in the future. Aerial surveys of North Atlantic right whales are conducted by DFO several times a week over Atlantic Canadian waters, weather permitting.<sup>95</sup> In 2014 and 2017, DFO conducted coastal aerial surveys to estimate walrus abundance in eastern Canada.<sup>96</sup>

In the Arctic, beluga whale and narwhal surveys were conducted between 1965 and 2015 and 1975 and 2013, respectively, with all stocks being surveyed at least once.<sup>97</sup> Additionally, DFO conducted an aerial survey to obtain a population abundance estimate of the Cumberland Sound beluga whale population in 2017.<sup>98</sup> Not all beluga populations in the Canadian Arctic have been surveyed recently. The last survey of the Somerset Island stock of belugas, for example, was conducted in 1996.<sup>99</sup>

We were unable to find recent stock survey efforts in the Pacific. COSEWIC's species summary of the Pacific population of the endangered blue whale states that there is no estimate of the number of blue whales off western Canada.<sup>100</sup>

Although some marine mammal surveys have been conducted and, as mentioned above, stock assessments are one of the objectives in the SFF policy document, it is unlikely that Canada's marine mammal assessments are comparable to U.S. standards for all stocks that interact with its export fisheries. Under the MMPA Imports Rule, Canada is required to not only conduct marine mammal stock assessments but also maintain a regulatory program of comparable effectiveness to the U.S. program for stock assessments. Based on information available to our organizations, the Canadian government does not maintain a regulatory program requiring regular surveys of marine mammal stocks. Additionally, stock assessments only exist for some species in some regions. For some species that have been surveyed, it is unclear if future surveys are planned. Canada must put a regulatory program in place for marine mammal

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<sup>94</sup> Fisheries and Oceans Canada Progress Report on Marine Mammal Research and Management in 2017. May, 2018. Available at: <https://nammco.no/wp-content/uploads/2018/11/npr-c-sc-25-national-progress-report-canada-2017.pdf>; Distribution and Preliminary Abundance Estimates for Cetaceans Seen During Canada's Marine Megafauna Survey – A Component of the 2007 TNASS. Fisheries and Oceans Canada, 2009. Available at: <https://files.pca-cpa.org/pcadocs/bi-c/2.%20Canada/3.%20Exhibits/R-0830.PDF>

<sup>95</sup> North Atlantic right whale monitoring and surveillance activities, Fisheries and Oceans Canada, 2021. Available at: <https://www.dfo-mpo.gc.ca/fisheries-peches/commercial-commerciale/atl-arc/narw-bnan/narw-science-eng.html#monitoring>

<sup>96</sup> Fisheries and Oceans Canada Progress Report on Marine Mammal Research and Management in 2017. May, 2018. Available at: <https://nammco.no/wp-content/uploads/2018/11/npr-c-sc-25-national-progress-report-canada-2017.pdf>

<sup>97</sup> Higdon, Jeff W., and Steven H. Ferguson. Database of aerial surveys and abundance estimates for beluga whales (*Delphinapterus leucas*) and narwhals (*Monodon monoceros*) in the Canadian Arctic. Central and Arctic Region, Fisheries and Oceans Canada, 2017.

<sup>98</sup> 50 C.F.R. § 216.24(h)(6)(iii)(C).

<sup>99</sup> Wiig, Chairman Øystein, and NAMMCO General Secretary Grete Hovelsrud-Broda. "Report of the NAMMCO Scientific Committee Working Group on the Population Status of Beluga and Narwhal in the North Atlantic." North Atlantic Marine Mammal Commission (2000): 152.

<sup>100</sup> Blue Whale (*Balaenoptera musculus*), Pacific population. Government of Canada. 2012. <https://species-registry.canada.ca/index-en.html#/species/718-82>

stock assessments and demonstrate that it conducts regular surveys of all marine mammal stocks bycaught.

**(b) Canada Does Not Appear to Maintain an Export Fishery Registry with the Information Required Under the MMPA Imports Rule**

The MMPA Imports Rule requires that export nations either maintain an “export fishery register” listing all fishing vessels in the fishery, including time, season, gear type, and target species or effectively achieve comparable results as maintaining such a registry.<sup>101</sup>

In Canada, all commercial vessels are required to register under Transport Canada’s Register of Vessels and obtain a Vessel Registration Number (VRN) from DFO.<sup>102</sup> However, based on the Register of Vessels application form and the Vessel Registration Query System, the Register of Vessels does not appear to include time, season, gear type, or target species.<sup>103</sup> It is unclear whether these details are required to obtain a VRN or commercial fishing license and, if so, where they are maintained.

Additionally, in the LOFF, the numbers of vessels, licenses, and participants are not reported consistently. As mentioned above, some fisheries have the numbers of vessels, licenses, and participants all listed, but other fisheries only have data for one of these categories. This may be an indication that Canada’s registry needs to be improved to accurately track details on fishing vessels.

**(c) Canada Maintains Regulatory Requirements for Bycatch in Some Fisheries but More Information Is Needed**

Next, under the MMPA Imports Rule, Canada must demonstrate it has a regulatory program that both requires marine mammal reporting and requires fishers to implement measures to reduce mortality/serious injury.

**(i) Canada Requires Reporting of All Marine Mammal Deaths and Injuries**

The MMPA Imports Rule requires that exporting nations require that vessel operators “report all intentional and incidental mortality and injury of all marine mammals in the course of commercial fishing operations” or achieve comparable results to such a requirement.<sup>104</sup> As mentioned above, Canada’s Marine Mammal Regulations require operators to report any

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<sup>101</sup> 50 C.F.R. § 216.24(h)(6)(iii)(C).

<sup>102</sup> Commercial Fisheries Licensing Rules and Policies Reference Document Pacific Region. 2019. Available at: <https://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/docs/commercial-licence-permis-ref/registration-immatriculation-eng.html>

<sup>103</sup> Vessel Registration Query System. Transport Canada. 2018. Available at: <https://wwwapps.tc.gc.ca/Saf-Sec-Sur/4/vrqs-srib/eng/vessel-registrations/advanced-search>; Application for Registry. Transport Canada. Available at: [https://wwwapps.tc.gc.ca/Corp-Serv-Gen/5/forms-formulaires/download/84-0044\\_BO\\_PX](https://wwwapps.tc.gc.ca/Corp-Serv-Gen/5/forms-formulaires/download/84-0044_BO_PX)

<sup>104</sup> 50 C.F.R. § 216.24(h)(6)(iii)(C).



accidental contact between fishing gear and a marine mammal, including the date, time, location, species, and observed state of the animal, either immediately after contact or in a logbook.<sup>105</sup>

Although this requirement exists, the extent to which it is understood and enforced is unclear. There is a lack of consistency across fisheries in requirements for logbooks and reporting forms. For example, the IFMP for the Newfoundland and Labrador Region’s herring fishery in NAFO divisions 2J3KLPs (2+3) specifically states that bycatch needs to be included in the logbook but the 4VWX5 groundfish Maritimes Region IFMP and the Atlantic Mackerel IFMP do not.<sup>106</sup> The IFMP for groundfish in the Pacific region states that DFO “welcomes assistance in the reporting” of marine mammal entanglements or sightings but does not appear to make reporting a mandatory requirement.<sup>107</sup>

Additional inconsistencies in reporting requirements can be found in two Atlantic mackerel and herring gillnet fisheries (some of the biggest gillnet fisheries listed in the LOFF). The IFMPs state that fish harvesters with vessels greater than 35’ in length are required to submit a fishing log, but no requirement exists for vessels under 35’.<sup>108</sup> As of 2015, 52 percent of all marine fishing vessels in Atlantic Canada were less than 35’ in length.<sup>109</sup> Canada must demonstrate that it requires all commercial fishing vessels exporting to the U.S. to report marine mammal deaths and injuries regardless of size.

**(ii) Based on Available Information, Canada Does Not Require that Fishers Implement Measures to Reduce Mortality/Serious Injury in All Fisheries**

Next, under the MMPA Imports Rule, Canada must maintain regulatory requirements that require fishers to implement measures to reduce mortality/serious injury or “effectively achieves comparable results” as requiring such measures.<sup>110</sup>

It is unclear but unlikely that Canada’s regulatory program contains comparable mitigation requirements for all U.S. export fisheries. Under the MMPA Imports Rule, Canada

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<sup>105</sup> Marine Mammal Regulations, Section 39.

<sup>106</sup> “Herring - Newfoundland and Labrador Region 2+3 (Herring Fishing Areas 1-11) - Effective 2017.” Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/herring-hareng/herring-areas-1-11-zones-2-3-hareng-en>, DFO, 4VWX5 groundfish – Maritimes Region, 2018. Available at: <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/groundfish-poisson-fond/groundfish-poisson-fond-4vwx5-eng.html>, “Atlantic Mackerel - Effective 2007.” Government of Canada, Fisheries and Oceans Canada, Communications Branch, October 6, 2009. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/mackerel-atl-maquereau/mac-atl-maq-2007-eng.html>.

<sup>107</sup> “Pacific Region Integrated Fisheries Management Plan Groundfish.” Fisheries and Oceans Canada, February 21, 2021. <https://waves-vagues.dfo-mpo.gc.ca/Library/4093732x.pdf>

<sup>108</sup> “Herring - Newfoundland and Labrador Region 2+3 (Herring Fishing Areas 1-11) - Effective 2017.” Fisheries and Oceans Canada. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/herring-hareng/herring-areas-1-11-zones-2-3-hareng-en>, <https://waves-vagues.dfo-mpo.gc.ca/Library/348914.pdf>

<sup>109</sup> Jordan, B. Canada House of Commons Standing Committee on Fisheries and Oceans. *Report on Atlantic Canada’s Marine Commercial Vessel Length and Licensing Policies-Working Towards Equitable Policies for Fishers in All of Atlantic Canada*. Ottawa, ON: Library of Parliament, 2018.

<https://www.ourcommons.ca/Content/Committee/421/FOPO/Reports/RP9912769/foporp16/foporp16-e.pdf>

<sup>110</sup> 50 C.F.R. § 216.24(h)(6)(iii)(C).

must demonstrate not just that it has policies and goals in place regarding bycatch but that Canada “require[s]” bycatch mitigation measures to be used within its export fisheries. Mitigation measures must be mandatory to comply with the MMPA Imports Rule.

As described in Section V above, Canada’s various frameworks, policy documents, and IFMPs do not contain legally required bycatch mitigation measures. Some bycatch mitigation measures exist through license requirements or Conservation Harvesting Plans, but they differ between fisheries.

For example, in one Conservation Harvesting Plan (CHP) that we reviewed for Snow Crab 12C in the Gulf of St. Lawrence, DFO made some effort to address bycatch mitigation.<sup>111</sup> The North Atlantic right whale is specifically mentioned in the snow crab CHP and efforts to reduce the risk of entanglement of these whales are ongoing. For example, a maximum of 6.4 meters of rope can be used to attach a secondary buoy to a primary buoy, and fishers need to ensure that rope does not remain floating on the surface of the water after the trap is set. DFO has also implemented a dynamic management scheme, where pre-determined, temporary closures for non-tended fixed gear fisheries, including for snow crab, apply if a whale is detected in the area.<sup>112</sup> Additionally, license holders must report lost gear to DFO which is part of an effort to determine whether efforts to retrieve lost gear need to be increased to reduce the risk of whale entanglements.<sup>113</sup> However, as NMFS is aware, in September 2019, our groups and others submitted a detailed letter fully assessing Canada’s right whale bycatch, bycatch mitigation, and MMPA Imports Rule compliance, demonstrating that Canada’s right whale bycatch exceeds PBR and does not meet U.S. standards. We incorporate that submission and all references cited by reference here.<sup>114</sup>

The Atlantic herring gillnet fishery 2021 CHP for the southern Gulf of St. Lawrence spring herring fishery, which appears to export to the U.S., does not include any marine mammal bycatch mitigation measures beyond reporting lost fishing gear.<sup>115</sup> Marine mammals are not mentioned in the document. The CHPs for various groundfish fisheries that we reviewed are similarly vague.<sup>116</sup> For example, DFO’s “2021 Conservation Harvesting Plan (CHP) NAFO Area 2 + Divisions 3KLMNO groundfish fishery mobile gear fleet” sets fishing seasons and limits on bycatch of other fish but vaguely refers to “license conditions” for most requirements, including

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<sup>111</sup> “Snow Crab 12C Conservation Harvesting Plan 2020.” Fisheries and Oceans Canada, May 7, 2020. [https://inter-l01.dfo-mpo.gc.ca/applications/opti-opei/notice-avis-detail-eng.php?pub\\_id=2075&todo=view&type=1&region\\_id=4&sub\\_type\\_id=5&species=705&area=1847](https://inter-l01.dfo-mpo.gc.ca/applications/opti-opei/notice-avis-detail-eng.php?pub_id=2075&todo=view&type=1&region_id=4&sub_type_id=5&species=705&area=1847).

<sup>112</sup> “2021 Fishery Management Measures - North Atlantic Right Whales.” Fisheries and Oceans Canada, April 27, 2021. <https://www.dfo-mpo.gc.ca/fisheries-peches/commercial-commerciale/atl-arc/narw-bnan/management-gestion-eng.html>.

<sup>113</sup> “Snow Crab 12C Conservation Harvesting Plan 2020.” Fisheries and Oceans Canada, May 7, 2020. [https://inter-l01.dfo-mpo.gc.ca/applications/opti-opei/notice-avis-detail-eng.php?pub\\_id=2075&todo=view&type=1&region\\_id=4&sub\\_type\\_id=5&species=705&area=1847](https://inter-l01.dfo-mpo.gc.ca/applications/opti-opei/notice-avis-detail-eng.php?pub_id=2075&todo=view&type=1&region_id=4&sub_type_id=5&species=705&area=1847).

<sup>114</sup> See Center for Biological Diversity et al. Canada’s North Atlantic Right Whale Bycatch and Compliance with the MMPA Imports Provision (Sept. 17, 2019).

<sup>115</sup> “2021 – Conservation and Harvesting Plan and Opening Date for the Southern Gulf of St. Lawrence Spring Herring Fishery.” Fisheries and Oceans Canada, April 14, 2021. <https://www.dfo-mpo.gc.ca/fisheries-peches/decisions/fm-2021-gp/atl-20-eng.html>.

<sup>116</sup> DFO’s website lists CHPs and notice for several groundfish fisheries; only one even addresses marine mammal bycatch. See <https://www.dfo-mpo.gc.ca/fisheries-peches/decisions/fm-2021-gp/index-atl-eng.html>.

monitoring, reporting, and marine mammal bycatch conditions.<sup>117</sup> However, we were unable to locate the specific license conditions; they do not appear to be available online.

Due to the variation between fisheries, Canada will need to provide detailed information for each individual export fishery, clearly documenting the applicable license conditions or plan requirements implemented to mitigate bycatch.

#### **(d) Canada Has Some Monitoring Procedures in Place to Estimate Bycatch for Export Fisheries.**

The MMPA Imports Rule also requires Canada to demonstrate it has monitoring procedures in place to estimate mortality and serious injury for each export fishery both individually and cumulatively for each stock or that the nation effectively achieves comparable results as conducting such monitoring.<sup>118</sup>

Bycatch monitoring in Canada's commercial fisheries varies by fishery and region. While there is some monitoring in place, there are limitations making Canada's current monitoring unlikely to yield accurate bycatch estimates.

#### **(i) Logbooks**

Observer coverage on fishing vessels is critical to getting an accurate count of bycatch and knowing the impact of a fishery on marine mammal populations, yet many of Canada's fisheries do not have observer coverage and depend entirely on logbooks. In Canada's Species Mortality Summary (2020), vessel logbooks are the most common type of monitoring program listed. For the majority of Canada's marine mammal stocks (60%), vessel logbooks are the only means of monitoring species mortality from bycatch.<sup>119</sup>

Logbooks are known to be unreliable as an assessment of bycatch as crew may lack the time and training to collect such data and may also have an economic disincentive to record accurate data.<sup>120</sup> Logbooks have been found to underestimate and underreport marine mammal entanglement. One recent study concluded that "cetacean bycatch recorded by observers was higher than that from fisher logbooks by an average of 774% in trawls, 7348% in nets, and

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<sup>117</sup> 2021 Conservation Harvesting Plan (CHP) NAFO Area 2 + Divisions 3KLMNO groundfish fishery mobile gear fleet, 2021. Available at: <https://www.dfo-mpo.gc.ca/fisheries-peches/decisions/fm-2021-gp/atl-22-eng.html>.

<sup>118</sup> 50 C.F.R. § 216.24(h)(6)(iii)(C).

<sup>119</sup> Canada. Species Mortality Summary (2020). Provided by NMFS in FOIA Request No. DOC-NOAA-2021-000650.

<sup>120</sup> Davies, S L. "Guidelines for Developing an at-Sea Fishery Observer Programme." Edited by J E Reynolds. FAO Fisheries Technical Paper, 2002. <https://www.fao.org/3/y4390e/y4390e.pdf>; Gilman, E., Emmanuel Schneider, C. Brown, M. Zimring, and C. Heberer. "Precision of Data from Alternative Fisheries Monitoring Sources Comparison of Fisheries-dependent Data Derived from Electronic Monitoring, Logbook and Port Sampling Programs from Pelagic Longline Vessels Fishing in the Palau EEZ (Technical Report). TNC Indo-Pacific Tuna Program." *The Nature Conservancy, Indo-Pacific Tuna program, San Francisco, CA* (2018).

1725% in hook and line gears.”<sup>121</sup> Fishers reporting on bycatch using identification guides might not accurately identify species, particularly if a rare species is caught that a fisher has not previously encountered.<sup>122</sup>

## (ii) Observer coverage

Observer coverage exists in some of Canada’s fisheries, but it may not be sufficient for obtaining accurate estimates of bycatch. It is estimated that observer coverage of at least 20 percent for common species and 50 percent for rare species would allow for adequate estimates of bycatch.<sup>123</sup> However, and for example, we found that some of the at-sea observer coverage target levels in the IFMP for the 4VWX5 groundfish Maritimes Region fishery are below these levels.<sup>124</sup> Six of the fleet sectors have a target of 5-10 percent observer coverage, and it is unclear when these targets were intended to be implemented.<sup>125</sup> Only two fleet sectors have at least 25 percent coverage, the amount expected to allow for adequate bycatch estimates of common species.<sup>126</sup> The Snow Crab 12C fishery in the Gulf of St. Lawrence has 10 percent observer coverage of fishing expeditions, which is not considered adequate for estimating bycatch of common or rare species.<sup>127</sup> Additionally, Themelis et al. (2016) found that observer coverage was low and observer data were not available from all regions of Atlantic Canada.<sup>128</sup> There was no observer data available from the DFO Gulf and Newfoundland and Labrador regions.<sup>129</sup>

## (e) Canada Has Not Published Bycatch Limits for Its Export Fisheries

The MMPA Imports Rule requires Canada to calculate a bycatch limit for marine mammals taken in each fishery.<sup>130</sup> The “bycatch limit” is PBR or a “comparable scientific metric.”<sup>131</sup> Canada may be able to calculate PBR for some marine mammals since some stock assessments exist. However, if PBR has been calculated it has not been published. It is unlikely

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<sup>121</sup> Basran, Charla Jean, and Guðjón Már Sigurðsson. "Using Case Studies to Investigate Cetacean Bycatch/Interaction Under-Reporting in Countries With Reporting Legislation." *Frontiers in Marine Science* 8 (2021).

<sup>122</sup> “Collateral Damage: How to Reduce Bycatch in Canada’s Commercial Fisheries.” Oceana Canada, 2017. [https://www.oceana.ca/sites/default/files/bycatch\\_summary\\_final\\_en.pdf](https://www.oceana.ca/sites/default/files/bycatch_summary_final_en.pdf).

<sup>123</sup> Babcock, E. A., E. Pikitch. “How much observer coverage is enough to adequately estimate bycatch?” *Miami, FL: Pew Institute of Ocean Science* (2003): 1-36.

<sup>124</sup> “4VWX5 Groundfish - Maritimes Region.” Fisheries and Oceans Canada, December 21, 2018. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/groundfish-poisson-fond/groundfish-poisson-fond-4vwx5-eng.html#fig-1>.

<sup>125</sup> “4VWX5 Groundfish - Maritimes Region.” Fisheries and Oceans Canada, December 21, 2018. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/groundfish-poisson-fond/groundfish-poisson-fond-4vwx5-eng.html#fig-1>.

<sup>126</sup> “4VWX5 Groundfish - Maritimes Region.” Fisheries and Oceans Canada, December 21, 2018. <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/groundfish-poisson-fond/groundfish-poisson-fond-4vwx5-eng.html#fig-1>.

<sup>127</sup> “Snow Crab 12C Conservation Harvesting Plan 2020.” Fisheries and Oceans Canada, May 7, 2020. [https://inter-l01.dfo-mpo.gc.ca/applications/opti-opei/notice-avis-detail-eng.php?pub\\_id=2075&todo=view&type=1&region\\_id=4&sub\\_type\\_id=5&species=705&area=1847](https://inter-l01.dfo-mpo.gc.ca/applications/opti-opei/notice-avis-detail-eng.php?pub_id=2075&todo=view&type=1&region_id=4&sub_type_id=5&species=705&area=1847).

<sup>128</sup> Themelis, et al., *Preliminary analysis*.

<sup>129</sup> Themelis, et al., *Preliminary analysis*.

<sup>130</sup> 50 C.F.R. § 216.24(h)(6)(iii)(C).

<sup>131</sup>

that Canada has calculated bycatch limits for all of its export fisheries because Canada does not appear to conduct regular surveys of all marine mammal stocks that interact with its export fisheries.

**(f) Canada Is Unlikely to Be Able to Demonstrate that Serious Injury/Mortality from Export Fisheries Is Below the Bycatch Limit**

Finally, the MMPA Imports Rule requires that Canada demonstrate that mortality/serious injury from the fishery and cumulatively with other export fisheries “[d]o not exceed the bycatch limit.”<sup>132</sup> Based on publicly available information, Canada will not be able to demonstrate that mortality/serious injury from all of its export fisheries “[d]o not exceed the bycatch limit.” If Canada does have the data to calculate PBR for all of its export fisheries, it is unlikely Canada would be able to demonstrate that bycatch does not exceed PBR due to the limitations in its marine mammal and bycatch monitoring.

**VII. Conclusion**

The United States imports more than \$3 billion worth of fish and fish products from Canada annually. Though there is limited information available quantifying the impact of these commercial fisheries on marine mammal stocks and bycatch, existing studies suggest that bycatch in Canada’s fisheries is higher than what has been reported in the LOFF. Additionally, while Canada likely meets some of the requirements under the MMPA Imports Rule, publicly available information does not demonstrate that requirements for marine mammal stock assessments, monitoring of bycatch, and bycatch mitigation measures exist for every export fishery or are sufficient for calculating Potential Biological Removal (PBR) or its equivalent. For Canada to continue exporting fish and fish products to the United States after December 31, 2022, Canada will need to provide more information to NMFS to support a comparability finding.

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<sup>132</sup> 50 C.F.R. § 216.24(h)(6)(iii)(C).