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UNIVERSITY OF VICTORIA



Ghost Gear: Recommendations for a Comprehensive Canadian Legal Scheme

Prepared for:
Surfrider Foundation of Canada

Prepared by:
Law Students: Avery Letkemann, Russell Chiong
Supervising Lawyer: Charis Kamphuis

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Acknowledgements and Methodology

The content of this report is informed by interviews with Fisheries and Oceans Canada (“DFO”) staff: Larissa Goshulak, former Senior Advisor in the Resource Management Division who oversaw the Ghost Gear Fund in Atlantic Canada; Marilyn Sweet, Senior Advisor in the Resource Management Division who oversees the national Ghost Gear Program; and Lisa Hedderson, Senior Fisheries Management Officer, Ghost Gear Coordinator who oversees the Ghost Gear Fund in the Pacific Region; as well as interviews with independent researchers Alexa Goodman and Ela Cichowski, who have experience collecting abandoned, lost, or otherwise discarded fishing gear (“ALDFG”) data with fishers/harvesters and policy makers.

This report is also based on our review of documentary sources, including academic and scientific literature on ALDFG; existing international frameworks and agreements related to ALDFG; and reports published by inter-governmental and non-governmental organizations, including the Organization for Economic Cooperation and Development (“OECD”), Ocean Legacy, the Global Ghost Gear Initiative (“GGGI”), and the Fishing Gear Coalition of Atlantic Canada.

In the process of doing this work, we have discovered that information in Canada on this important topic is far too limited. For example, specific information with respect to Canada’s existing policies and programs in the area of ALDFG is not generally publicly available. Further, there appear to be significant data gaps with respect to the origins and manufacturers of the fishing gear used in Canada, types of fishing industries, type of gear used, and the specific needs of users/fishers when it comes to addressing barriers and incentives to better prevent and manage ALDFG. While some of this data collection has begun, there is still significant work to do. In our view, these data gaps and the lack of publicly available information on Canada’s existing policies and programs must be addressed before effective laws, policies and programs to regulate ALDFG in Canada can be fully and properly designed. In this context, we have done our best to develop an understanding of this area as well as recommendations, however, this report should be read bearing in mind the challenges of limited data and information.

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1. Introduction

Abandoned, lost, or otherwise discarded fishing gear (“ALDFG”), commonly known as “ghost gear,” is a significant cause of marine plastic pollution, with serious effects on marine life in oceans and on coastlines around the world. Recent studies in Canada and abroad have found that ALDFG accounted for between 50-70% marine debris by weight. There is also research to suggest that this form of pollution is especially harmful to marine life. As the country with the longest coastline in the world, Canada has a responsibility to show serious leadership in this area. Unfortunately, Canada’s law and policy record on ALDFG to date has been extremely weak, relative to the scale of the problem and Canada’s responsibilities. In this context, this report aims to provide a strong foundation for advocacy in favour of improvements to ALDFG-related laws and policies in Canada going forward.

Ghost gear does not respect borders or political boundaries and is a global problem that requires a global response. Increasingly, international organizations are acknowledging the scale of the problem, not only for marine species and the environment, but for the socioeconomic wellbeing of coastal nations around the world. A handful of international agreements and best practices frameworks have been developed that address ALDFG, but only those that apply in the European Union (“EU”) contain enforceable targets or commitments.

Recent legislative and policy action on marine plastic pollution in Canada has predominantly focused on single-use plastics (“SUP”). While these efforts are important, there is some evidence that SUP may represent a small percentage of marine plastic pollution relative to ALDFG. In recent years, the federal government has begun to show a stronger commitment to addressing the issue of ALDFG. It has signed onto international agreements and partnered with international organizations working to manage and reduce ghost gear. It has also initiated some policies and programs, although these are still in their early stages and the implementation across the country has been fragmented. While these steps are important, Canada continues to lag significantly behind a number of countries who are global leaders in this area. Clearly, Canada must do more to fulfill its international obligations and fully address the problem of ghost gear, which continues to have significant negative environmental, economic, and social impacts in Canada and around the world.

In response to growing calls for action, in summer 2022 the Canadian Council of Ministers of the Environment (“CCME”) announced their intent to produce a comprehensive report, expected in spring 2023, that evaluates policies and best practices for the collection and management of ALDFG in Canada and internationally.¹ This work will be informed by workshops with relevant

¹ Canadian Council of Ministers of the Environment, Waste Reduction and Recovery Committee, *Request for proposals: Policy options and best practices for end-of-life fishing and aquaculture gear (Project number 668-2023)*, 3 August 2022, online (pdf): <ccme.ca/uploads/668-2023%20Policy%20Options%20for%20Fishing%20and%20Aquaculture%20Gear%20RfP%201-0.pdf> [perma.cc/4CQF-CXLP] (CCME is an “intergovernmental forum for collective action on environmental issues of national and international concern” at 1) [CCME 2022].

stakeholders across the country, and the final CCME report will recommend policies and best practices that are suitable for implementation in Canada.²

Given this context of policy and law reform discussion on ALDFG in Canada, the purpose of the present report is to better equip Canadian environmentalist organizations to advocate for improvements to Canada's laws and policies in this area. To this end, it contains data and analysis compiled into three main parts. First, it canvases and describes the standing international law that governs ALDFG, along with internationally endorsed policy frameworks. Second, it reviews the baseline of key applicable laws, policies and programs that exist, or are proposed, in Canada. Third, it identifies four key areas of policy agreement and/or law reform that should be essential components of Canada's forthcoming comprehensive approach. We recommend that interested groups adopt these four areas as focal points for their ALDFG advocacy work going forward. Unfortunately, Canada does not have a record of robust, timely and effective action in this area. This makes well-informed and committed civil society engagement and advocacy on ALDFG all the more important going forward.

² *Ibid.*

2. Global and Domestic Impacts of Ghost Gear

ALDFG is a significant global problem with wide-ranging socioeconomic and environmental impacts. ALDFG includes gear such as nets, line, rope, traps, pots, and floats from recreational, Indigenous, and commercial fishing.³ This gear can enter the marine environment during extreme weather events, or due to mechanical problems, human error, or gear snagging.⁴ Fishing gear may be intentionally discarded to conceal illegal, unreported, or unregulated fishing endeavours, during onboard repairs, or when it has reached the end of its useful life.⁵

Accurate data related to the scope and impact of ALDFG in the oceans has historically been limited, and likely, underestimated. This is due in part to the dispersed and often invisible nature of ALDFG, along with the geographical inconsistency of available information. However, there are some recent studies on the issue with staggering estimates of the scale of the problem. A 2020 report from a coastal clean-up in British Columbia found that by weight, 56.2% of all debris collected consisted of fishing floats, nets, and lines that were readily identifiable as fishing gear.⁶ In some places, fishing gear can make up approximately 70% of floating debris by weight, while observational studies have found ALDFG to represent the vast majority of observed litter on the ocean floor, up to 84% in some sites.⁷ The ALDFG that does make it to the coastline disproportionately impacts non-urban communities, including Indigenous communities, as well as small island nations and communities in the Global South.⁸ Thus, not only is ALDFG an environmental issue, it is also an environmental justice issue.

A team of researchers from the Commonwealth Scientific and Industrial Research Organization in Australia recently completed a study to understand the scale and volume of ALDFG resulting from commercial fishing.⁹ They estimate that nearly 2% of all fishing gear produced around the world is

³ Canada, DFO, “What is ghost gear” (last modified 10 June 2021), online: <www.dfo-mpo.gc.ca/fisheries-peches/management-gestion/ghostgear-equipementfantome/what-quoi-eng.html> [perma.cc/V22M-XSW2] [DFO 2021].

⁴ Graham Readfearn, “New study reveals ‘staggering’ scale of lost fishing gear drifting in earth’s oceans,” *The Guardian* (15 October 2022), online: <www.theguardian.com/environment/2022/oct/16/new-study-reveals-staggering-scale-of-lost-fishing-gear-drifting-in-earths-oceans> [perma.cc/T3D3-P3BY].

⁵ DFO 2021, *supra* note 3.

⁶ Russell Markel, “MDRI Part 6- the final report is out!” (24 February 2021), online: *Outer shores* <outershores.ca/mdri-part-6-final-report/> [perma.cc/4E8V-SW73].

⁷ Marcus Eriksen et al, “Plastic Pollution in the World’s Oceans: More than 5 Trillion Plastic Pieces Weighing over 250,000 Tons Afloat at Sea” (2014) 9:12 PLoS ONE at 7, online (pdf):

<www.ncbi.nlm.nih.gov/pmc/articles/PMC4262196/pdf/pone.0111913.pdf> [doi.org/10.1371/journal.pone.0111913];

Lucy C Woodall et al, “Deep-sea litter: a comparison of seamounts, banks and a ridge in the Atlantic and Indian Oceans reveals both environmental and anthropogenic factors impact accumulation and composition” (2015) 2 *Frontiers Marine Science* at 2, 5, 7, online: <www.frontiersin.org/articles/10.3389/fmars.2015.00003/full> [doi.org/10.3389/fmars.2015.00003].

⁸ Philip J Landrigan et al, “Human Health and Ocean Pollution” (2020) 86:1 *Annual Global Health* at 3-4, 11-12, 14, 29-30, 36, online (pdf): <<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7731724/pdf/agh-86-1-2831.pdf>> [<https://perma.cc/QMF2-65Q8>].

⁹ Kelsey Richardson et al, “Global estimates of fishing gear lost to the ocean each year” (2022) 8:41 *Science Advances*, online: <www.science.org/doi/10.1126/sciadv.abq0135> [doi.org/10.1126/sciadv.abq0135] [Richardson et al].

lost to the ocean annually.¹⁰ This includes an estimated 78,000 km² of purse seine nets and gillnets, 25 million traps and pots, and 13 billion longline hooks.¹¹

ALDFG contributes significantly to the flow of plastics into the ocean and marine plastic pollution. Fishing gear is predominantly made of synthetic materials because these materials provide strength, durability, and weight advantages compared to natural alternatives.¹² The same properties that make plastic appealing for use in fishing gear also make plastics very persistent in the environment. The total degradation time for plastics in the ocean is unknown, but it is estimated in the hundreds of years.¹³ ALDFG can therefore remain in the environment for many years, with impacts that can include altering habitats, obstructing fishing and navigation, entangling wildlife, causing internal injuries and even death when ingested, and even spreading invasive species.¹⁴ Further, as plastics remain in the oceans, physical, chemical, and biological processes (e.g., wave action & ultraviolet exposure) cause them to fragment into microplastics.¹⁵ Many plastics are inherently toxic, and the high surface area of microplastics means that they adsorb further toxins, which enter the food chain when the plastic is ingested or by wildlife.¹⁶ The risks from this are especially acute for Indigenous peoples, who consume far more fish than other Canadians.¹⁷ Microplastics have been found in over 200 commercially important species of fish,

¹⁰ Notably, some fishing methods have a higher risk of producing ALDFG. For example, bottom trawlers have the highest estimated rate of loss at almost 4% per year (see Richardson et al, *supra* note 9 at 5).

¹¹ *Ibid.*

¹² OECD, Environmental Directorate & Trade and Agriculture Directorate, *Towards G7 action to combat ghost fishing gear: A background report prepared for the 2021 G7 Presidency of the United Kingdom*, OECD Environment Policy Paper No 25, (Paris: OECD Publishing, 2021) at 10, online (pdf): <www.oecd-ilibrary.org/docserver/a4c86e42-en.pdf?expires=1673375199&id=id&accname=ocid177125&checksum=96E2C14F93F0098CFB159110C966A9AC> [perma.cc/XW8E-JWTW] [OECD 2021].

¹³ David K A Barnes et al, “Accumulation and fragmentation of plastic debris in global environments” (2009) 364:1526 *Philosophical Transactions Royal Society B* 1985 at 1993, online: <royalsocietypublishing.org/doi/epdf/10.1098/rstb.2008.0205> [doi.org/10.1098/rstb.2008.0205]; Chris Wilcox et al, “Understanding the sources and effects of abandoned, lost, and discarded fishing gear on marine turtles in northern Australia” (2015) 29:1 *Conservation Biology* 198 at 199, online: <<https://conbio.onlinelibrary.wiley.com/doi/epdf/10.1111/cobi.12355>> [<https://doi.org/10.1111/cobi.12355>] [Wilcox et al].

¹⁴ Eric Gilman et al, “Highest risk abandoned, lost and discarded fishing gear” (2021) 11 *Scientific Reports*, online: <<https://www.nature.com/articles/s41598-021-86123-3>> [<https://doi.org/10.1038/s41598-021-86123-3>]; Sarah E Nelms et al, “Plastic and marine turtles: a review and call for research” (2016) 73:2 *ICES J Marine Science* 165 at 172, online: <<https://academic.oup.com/icesjms/article/73/2/165/2614204>> [<https://doi.org/10.1093/icesjms/fsv165>]; OECD 2021, *supra* note 12.

¹⁵ US, National Oceanic and Atmospheric Administration, “Can marine debris degrade on its own in the environment?” (last modified 26 February 2021), online: <oceanservice.noaa.gov/facts/degrade.html> [perma.cc/Q9J3-X74X]; US, National Oceanic and Atmospheric Administration, “What are microplastics?” (last modified 26 February 2021), online: <oceanservice.noaa.gov/facts/microplastics.html> [perma.cc/U5YN-MW3J]; UNEP, *Marine plastic debris and microplastics – Global lessons and research to inspire action and guide policy change* (Nairobi: UNEP, 2016) at 32-34, online (pdf): <plasticoceans.org/wp-content/uploads/2017/11/UNEP-research.pdf> [perma.cc/T7ZN-7MAG] [UNEP 2016].

¹⁶ UNEP 2016, *supra* note 15 at 34; Chelsea M Rochman, “The Complex Mixture, Fate and Toxicity of Chemicals Associated with Plastic Debris in the Marine Environment” in Melanie Bergmann, Lars Gutow & Michael Klages, eds, *Marine Anthropogenic Litter*, (Heidelberg: Springer, 2015) 117 at 119-122, 126-128, online (pdf): <link.springer.com/content/pdf/10.1007/978-3-319-16510-3.pdf> [doi.org/10.1007/978-3-319-16510-3_5].

¹⁷ Studies in the United States estimate that Indigenous people eat anywhere from 6 to more than 20 times more fish than the national average. This is consistent with research in BC. A study by the Metlakatla Nation found that members eat approximately five times more fish than non-Indigenous people (see Columbia River Inter-Tribal Fish Commission, A

with BC salmon estimated to consume over 90 pieces of microplastic per day.¹⁸ Microplastic pollution results in declining fish stocks and reduced commercial viability for fishing and aquaculture around the world.¹⁹

It is possible that the most significant impact of ALDFG on marine life is through a phenomenon known as ghost fishing, which occurs when derelict fishing gear entraps and entangles marine life.²⁰ Fishing gear is designed specifically to kill or capture marine species and can continue to perform this function for many years when it enters the ocean as waste. Animals caught in ALDFG can attract scavengers or predators, which may become trapped themselves and attract yet further marine life, prolonging the process of ghost fishing and worsening the impact.²¹ Experts

fish consumption survey of the Umatilla, Nez Perce, Yakama and Warm Springs Tribes of the Columbia River Basin, CRITFC Technical Report No 94-3, (Portland, Oregon: Columbia River Inter-Tribal Fish Commission, 1994) at 59, 72, online (pdf): <<https://www.critfc.org/wp-content/uploads/2015/06/94-3report.pdf>> [<https://perma.cc/LG6D-FXKJ>]; Laurie Chan et al, "First Nations Food, Nutrition and Environment Study (FNFNES): Results from British Columbia (2008/2009)" (Prince George: University of Northern British Columbia, 2011), online (pdf): <https://www.fnfnes.ca/docs/FNFNES_Report_BC_FINAL_PRINT_v2-lo.pdf> [<https://perma.cc/GLL3-54UZ>]; Jamie Donatuto & Barbara L Harper, "Issues in Evaluating Fish consumption Rates for Native American Tribes" (2008), 28:6 Risk Analysis 1497 at 1499, online (pdf): <https://www7.nau.edu/itep/main/iteps/ORCA/3821_ORCA.pdf> [<https://perma.cc/X8X5-F5YY>]; Karen Fediuk & Lindsay Mickelson, "Metlakatla Traditional Marine Food Survey. Baseline Food Consumption and Importance of Traditional Food Items and Harvesting Access" (2010), report prepared for Metlakatla and FNIH Environmental Health Services at 8; Health Canada, Bureau of Chemical Safety, *Human Health Risk Assessment of Mercury in Fish and Health Benefits of Fish Consumption*, (Ottawa: Health Canada, 2007) at 19, online (pdf): <https://www.canada.ca/content/dam/hc-sc/migration/hc-sc/fn-an/alt_formats/hpfb-dgpsa/pdf/nutrition/merc_fish_poisson-eng.pdf> [<https://perma.cc/53XJ-LB2J>]; Xue Feng Hu & King Man Chan, "Seafood Consumption and Its Contributions to Nutrients Intake among Canadians in 2004 and 2015" (2021) 13:77 Nutrients at 3, online: <https://www.researchgate.net/publication/348052278_Seafood_Consumption_and_Its_Contribution_to_Nutrients_Intake_among_Canadians_in_2004_and_2015> [<https://perma.cc/3GYS-KAZJ>]; Kelly A Toy et al, *A fish consumption survey of the Tulalip and Squaxin Island tribes of the Puget Sound region* (Marysville, Washington: Tulalip Tribes, Department of Environment, 1996) at 36-39, online (pdf): <https://www7.nau.edu/itep/main/iteps/ORCA/3845_ORCA.pdf> [<https://perma.cc/9ECK-TNEX>]; Christopher J Sergeant et al, "Risks of mining to salmonid-bearing watersheds" (2022) 8:26 Science Advances, online: <<https://www.science.org/doi/10.1126/sciadv.abn0929>> [<https://doi.org/10.1126/sciadv.abn0929>].

¹⁸ Matthew S Savoca, Alexandra G McInturf & Elliott L Hazen, "Plastic ingestion by marine fish is widespread and increasing" (2021) 27:10 Global Change Biology 2188 at 2193, online: <onlinelibrary.wiley.com/doi/epdf/10.1111/gcb.15533> [doi.org/10.1111/gcb.15533]; UN FAO, *Microplastics in fisheries and aquaculture: status of knowledge on their occurrence and implications for aquatic organisms and food safety*, FAO Fisheries and Aquaculture Technical Papers No 615 (Rome: UN FAO, 2017) at 41-44, online (pdf): <www.fao.org/3/i7677en/i7677en.pdf> [perma.cc/ECJ3-9GF5]; Jean-Pierre W Desforges, Moira Galbraith & Peter S Ross, "Ingestion of Microplastics by Zooplankton in the Northeast Pacific Ocean" (2015) 69 Archives Environmental Contamination Toxicology 320 at 328, online (pdf): <link.springer.com/content/pdf/10.1007/s00244-015-0172-5.pdf?pdf=button> [doi.org/10.1007/s00244-015-0172-5].

¹⁹ Ian Vázquez-Rowe, Diana Ita-Nagy & Ramzy Kahhat, "Microplastics in fisheries and aquaculture: Implications to food sustainability and safety" (2021) 29 Current Opinion in Green & Sustainability Chemistry, online: <www.sciencedirect.com/science/article/pii/S2452223621000201?via%3Dihub> [doi.org/10.1016/j.cogsc.2021.100464].

²⁰ US, National Oceanic and Atmospheric Administration, National Ocean Service, "What is ghost fishing?" (last modified 26 February 2021), online: <oceanservice.noaa.gov/facts/ghostfishing.html> [perma.cc/NDA9-H9YE]; A M Scheld, D M Bilkovic & K J Havens, "The Dilemma of Derelict Gear" (2016) 6 Scientific Reports, online: <www.nature.com/articles/srep19671> [perma.cc/9CH5-J4V7].

²¹ Tom Huntington, *Best Practice Framework for the Management of Fishing Gear* (Global Ghost Gear Initiative, 2021) at 14, online (pdf): <static1.squarespace.com/static/5b987b8689c172e29293593f/t/6160715a8230495ecf5af265/1633710447232/GGGI+B>

estimate that the impact of ALDFG debris on marine life is greater than any other form of marine debris,²² and some studies have attempted to quantify the possible impacts of ghost fishing. For example, in one study scientists estimated that a single abandoned net may kill an average of 500,000 marine invertebrates, 1,700 fish, and four seabirds before being recovered.²³ For its part, the DFO has stated that ghost fishing can represent a loss of 5-30 % of harvestable catch.²⁴

[est+Practice+Framework+for+the+Management+of+Fishing+Gear+%28C-BPF%29+2021+Update+-+FINAL.pdf](#)
[perma.cc/3BJX-79XY] [Huntington 2021a].

²² Wilcox et al, *supra* note 13.

²³ Britta Denise Hardesty, Thomas Good & Chris Wilcox, “Novel methods, new results and science-based solutions to tackle marine debris impacts on wildlife” (2015) 115 *Ocean & Coastal Management* 4 at 6, online:

www.sciencedirect.com/science/article/pii/S0964569115000897?via%3Dihub

[doi.org/10.1016/j.ocecoaman.2015.04.004]

²⁴ DFO 2021, *supra* note 3.

3. International Instruments and Their Application to Canada

As stated previously, as the country with the longest coastline in the world, Canada has a responsibility to show serious leadership to protect, not only its own coastline and oceans, but the world's.²⁵ During Canada's G7 presidency in 2018, Prime Minister Trudeau highlighted marine plastic waste by launching the Ocean Plastics Charter and the Charlevoix Blueprint for Healthy Oceans, Seas, and Resilient Coastal Communities.²⁶ In spite of this progress, these documents refer only briefly to ALDFG.

However, there are several international instruments already in place that address ALDFG. There are two legally binding international agreements that specifically aim to regulate ALDFG: the *International Convention for the Prevention of Pollution from Ships* ("MARPOL") Annex V and EU Directive 2019/904.²⁷ A third international instrument, the UN Sustainable Development Goals, contains universally endorsed principles and provisions of significant relevance.²⁸ Finally, there is a multi-stakeholder international organization, the Global Ghost Gear Initiative (GGGI), that has generated widely accepted policy frameworks toward addressing ALDFG.²⁹ The relevance and approach of each instrument to regulating ALDFG, and the relationship between each instrument and Canada specifically, is summarized in the following section.

²⁵ Canada, Statistics Canada, "International perspective" (last modified 7 October 2016), online: <www150.statcan.gc.ca/n1/pub/11-402-x/2012000/chap/geo/geo01-eng.htm> [perma.cc/78EL-GHB7]; UNEP, "Canada leads push to safeguard world's oceans" (8 June 2020), online: <www.unep.org/news-and-stories/story/canada-leads-push-safeguard-worlds-oceans> [perma.cc/9P9B-Q82T].

²⁶ Canada, Environment and Climate Change Canada, "Oceans Plastics Charter" (last modified 9 December 2021), online (pdf): <www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/international-commitments/ocean-plastics-charter.html> [perma.cc/H3HC-JA8G]; Canada, Global Affairs Canada, "Charlevoix Blueprint for Healthy Oceans, Seas, and Resilient Coastal Communities" (9 June 2018) online (pdf): <www.international.gc.ca/world-monde/assets/pdfs/international_relations-relations_internationales/g7/2018-06-09-healthy_oceans-sante_oceans-en.pdf> [perma.cc/48BT-ZZW6].

²⁷ Stephanie Borrelle et al, "Why we need an international agreement on marine plastic pollution" (2017) 114:38 *National Academy of Science*, 9994 at 9995, online: <www.jstor.org/stable/26487926> [perma.cc/KAS4-JMPT] [Borrelle et al]; *Regulations for the Prevention of Pollution by Garbage from Ships* (entered into force 31 December 1988), Annex V to the *International Convention for the Prevention of Pollution from Ships*, 2 November 1973, 1340 UNTS (entered into force 2 October 1983), as amended by *Amendments to the Annex of the Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships, 1973*, Res MEPC.201(62), 15 July 2011, (entered into force 1 January 2013), online (pdf): <[wwwcdn.imo.org/localresources/en/KnowledgeCentre/IndexofIMOResolutions/MEPCDocuments/MEPC.201\(62\).pdf](http://wwwcdn.imo.org/localresources/en/KnowledgeCentre/IndexofIMOResolutions/MEPCDocuments/MEPC.201(62).pdf)> [perma.cc/656P-FVUD] [MARPOL Annex V]; EC, *Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the Reduction Of the Impact of Certain Plastic Products on the Environment*, [2019] OJ, L 155/1, online (pdf): <eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019L0904> [perma.cc/E668-N2BB] [EU Directive 2019/904].

²⁸ UN DESA, "The 17 Goals" (last visited 13 January 2023), online: <sdgs.un.org/goals> [perma.cc/5DE9-Q6NG] [UN DESA 17 Goals]; *Transforming our world: the 2030 Agenda for Sustainable Development*, GA Res A/RES/70/1, UNGAOR, 70th Sess, UN Doc A/RES/70/1 (2015), online (pdf): <sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> [perma.cc/C3LM-49JZ] [2030 Agenda].

²⁹ Global Ghost Gear Initiative, "Global Ghost Gear Initiative" (last visited 13 January 2023), online: <www.ghostgear.org/> [perma.cc/2YVA-X76Q].

3.1 MARPOL ANNEX V

The International Maritime Organization (“IMO”) has developed numerous international conventions related to marine transport, including MARPOL.³⁰ MARPOL is one of the most comprehensive international agreements on marine pollution. It was initially drafted in 1973, with multiple annexes having been added over the years to expand the scope of the document and deal with different types of pollution.³¹ In 1992, Canada signed onto the agreement, but initially only ratified the mandatory first two annexes, which deal with pollution from oil and noxious liquid substances in bulk.³² There are no enforcement systems built into the agreement, and it is left to signatory countries to impose fines for those who violate the agreement.³³

In December 1988, MARPOL Annex V on the prevention of pollution by garbage from ships, restricting at-sea disposal of trash, and banning at-sea disposal of plastics, entered into force.³⁴ To date, more than 150 countries have signed Annex V, including Canada in 2010.³⁵ Annex V includes a general ban on disposing synthetic fishing nets and other plastic fishing gear at sea, and requires that signatories work to provide adequate facilities for disposing of these items at port.³⁶ Under Annex V, ships and offshore platforms must keep a garbage management plan for minimizing, collecting, storing, processing and disposing of garbage.³⁷ Vessels must also keep a Garbage Record book to record the discharge or loss of gear in the vessel, and must report lost gear.³⁸

The IMO provides guidelines for the implementation of Annex V, and published the most recent version in 2017.³⁹ Many provisions of these guidelines directly relate to ALDFG, and section 2.2

³⁰ *International Convention for the Prevention of Pollution from Ships*, 2 November 1973, 1340 UNTS (entered into force 2 October 1983), online (pdf):

wwwcdn.imo.org/localresources/en/KnowledgeCentre/ConferencesMeetings/Documents/MARPOL%201973%20-%20Final%20Act%20and%20Convention.pdf [perma.cc/8ZH8-CDLQ] [MARPOL].

³¹ Justin Leous & Neal Parry, “Who is responsible for marine debris? The international politics of cleaning our oceans” (2005), 59:1 *J Intl Affairs* 257 at 264, online: www.jstor.org/stable/24358243 [perma.cc/FJG5-5ZHU]; Canada, Transport Canada, “2. Marine acts and regulations” (last modified 19 January 2010), online: tc.canada.ca/en/marine-transportation/marine-safety/2-marine-acts-regulations [perma.cc/9KJ8-VAGW] [TC Marine Acts & Regulations]; *MARPOL*, *supra* note 30.

³² *MARPOL*, *supra* note 30; IMO, *Status of IMO Treaties: Comprehensive information on the status of multilateral Conventions and instruments in respect of which the International Maritime Organization or its Secretary-General performs depository or other functions* (6 January 2023) at 116, online (pdf): wwwcdn.imo.org/localresources/en/About/Conventions/StatusOfConventions/Status%202023.pdf [perma.cc/X42D-695C] [IMO Status of Treaties].

³³ Mark Gold, “Stemming the tide of plastic marine litter: A global action agenda” (2014) 27:2 *Tul Evtl LJ* 165 at 177, online: *JSTOR* www.jstor.org/stable/43294162 [perma.cc/U2WA-WWMN]; *MARPOL*, *supra* note 30.

³⁴ IMO, “Prevention of Pollution by Garbage from Ships” (last visited 13 January 2023), online: *IMO* www.imo.org/en/ourwork/environment/pages/garbage-default.aspx [perma.cc/4ND8-7YCH] [IMO Prevention of Pollution].

³⁵ *Ibid.*

³⁶ *MARPOL Annex V*, *supra* note 27.

³⁷ *Ibid.*

³⁸ *Ibid.*

³⁹ The IMO has also adopted an action plan that identifies new measures to be taken or considered to improve the effectiveness of Annex V. This document does not create new obligations for member states that have signed onto Annex V, but could still inform policy improvements regarding ALDFG, such as the suggestion of reducing the threshold for ships to carry garbage record books to 100 gross tonnes. This action plan has since been followed by the Strategy to Address Marine Plastic Litter from Ships, which commits the IMO to several short-term actions to further strengthen and

specifically addresses fishing gear.⁴⁰ Like the Annex itself, the guidelines also emphasize the importance of having facilities available at ports and terminals to receive garbage, and requires signatory countries to make these available for incoming vessels.⁴¹ There is also a requirement that vessels make space on board to collect synthetic fishing net and line scraps in order to transport it to collection facilities.⁴² The guidelines also encourage seafarers to collect garbage that they come across in the marine environment.⁴³

Annex V has been criticized for containing ambiguous language and standards that have resulted in a lack of certainty and agreement as to the types of gear and practices that are prohibited.⁴⁴ For example, the prohibitions specifically ban the discharge of synthetic fishing nets, but excludes nets that have been accidentally lost, provided that all precautions have been taken.⁴⁵ Additionally, the requirement that vessels keep a garbage management plan is only applicable to vessels that are larger than 100 gross tonnes, in spite of the fact that many commercial and private fishing vessels are much smaller than this. As another example, many vessels similarly fall below the 400 gross tonne threshold that triggers the requirement to keep a garbage record book and document the loss or discharge of gear and other garbage.⁴⁶ In practice, enforcing Annex V or local laws that incorporate similar provisions can be difficult. For example, enforcing the prohibitions on littering requires that the act of littering be both observed and reported.⁴⁷ Absent some form of regulatory innovation, this would require that litterers report themselves, that other fishers catch the litterers in the act, or the creation of observer programs, all of these entail their own challenges.⁴⁸

encourage adherence to Annex V (see *2017 Guidelines for the Implementation of MARPOL Annex V*, IMO, 71st Sess, Annex 21, Res MEPC.295(71) (7 July 2017), online (pdf): [wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/MEPC.295\(71\).pdf](http://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/MEPC.295(71).pdf) [perma.cc/78QA-EAHR] [2017 Guidelines]; *Action Plan to Address Marine Plastic Litter from Ships*, IMO, 73rd Sess, Annex 10, Res MEPC.310(73) (26 October 2018), online (pdf): [https://wwwcdn.imo.org/localresources/en/KnowledgeCentre/IndexofIMOResolutions/MEPCDocuments/MEPC.310\(73\).pdf](https://wwwcdn.imo.org/localresources/en/KnowledgeCentre/IndexofIMOResolutions/MEPCDocuments/MEPC.310(73).pdf) [https://perma.cc/5SUZ-WAM4]; *Strategy to Address Marine Plastic Litter from Ships*, IMO, 77th Sess, Annex 2, Res MEPC.341(77) (26 November 2021), online (pdf): [https://wwwcdn.imo.org/localresources/en/MediaCentre/HotTopics/Documents/marine litter/STRATEGY TO ADDRESS MARINE PLASTIC LITTER FROM SHIPS.pdf](https://wwwcdn.imo.org/localresources/en/MediaCentre/HotTopics/Documents/marine%20litter/STRATEGY%20TO%20ADDRESS%20MARINE%20PLASTIC%20LITTER%20FROM%20SHIPS.pdf) [https://perma.cc/ZQU9-T725]).

⁴⁰ 2017 Guidelines, *supra* note 39, s 2.2.

⁴¹ 2017 Guidelines, *supra* note 39, ss 1.2, 1.4, 2.7, 5.6, 6.2.2.1, 7.

⁴² 2017 Guidelines, *supra* note 39, s 2.4.8.

⁴³ 2017 Guidelines, *supra* note 39, s 2.4.9.

⁴⁴ Perry Broderick, Jocelyn Drugan & Rich Lincoln, *Ghost Gear Legislation Analysis* (Gland, Switzerland: World Wide Fund For Nature, August 2020) at 22, online (pdf): static1.squarespace.com/static/5b987b8689c172e29293593f/t/60e34e4af5f9156374d51507/1625509457644/GGGI-OC-WWF-O2-+LEGISLATION+ANALYSIS+REPORT.pdf [perma.cc/59DA-XP9] [Broderick et al].

⁴⁵ Graeme Macfadyen, Tim Huntington & Rod Cappel, *Abandoned, lost, or otherwise discarded fishing gear*, FAO Fisheries and Aquaculture Technical Papers No 523, UNEP Regional Seas Reports and Studies No 185, (Rome: UN FAO & UNEP, 2009) at 2, online (pdf): www.fao.org/3/i0620e/i0620e.pdf [perma.cc/W7X3-D5NG] [Macfadyen et al].

⁴⁶ Global Ghost Gear Initiative, "The impact of fishing gear as a source of marine plastic pollution: A Global Ghost Gear Initiative information paper to support negotiations in preparation for UNEA 5.2" (last accessed 20 January 2023) at 5, online (pdf): static1.squarespace.com/static/5b987b8689c172e29293593f/t/6204132bc0fc9205a625ce67/1644434222950/UNEA+5.2_GGGI.pdf [perma.cc/9FGC-VWSY] [GGGI Impact of Fishing Gear Report]; *MARPOL Annex V*, *supra* note 27.

⁴⁷ GGGI Impact of Fishing Gear Report, *supra* note 46 at 5.

⁴⁸ Litterers are unlikely to report themselves because doing so would invite punishment under the relevant provisions; other fishers or vessels observing litterers in the act would be rare given the relatively small number of boats as compared to the large areas fished, and the possibility of disposal at night; and observer programs, which the DFO

Expert commentary suggests that while Annex V is a strong first step toward a global commitment to addressing ALDFG, it has not resulted in the expected reduction in marine plastic pollution.⁴⁹ However, a unique feature of MARPOL is that it is routinely amended to better address marine pollution issues.⁵⁰ Once an amendment has been approved, it can be implemented fairly quickly, allowing the document to respond to critiques and new developments.⁵¹

Canada acceded to Annex V in March 2010, more than two decades after it first entered into force.⁵² While this means that Canada has internationally binding obligations under Annex V, international conventions such as MARPOL only acquire the domestic force of law in Canada when the provisions are explicitly incorporated into the texts of Canadian legislation.⁵³ More than 10 years later, Canada is still far from fully incorporating its Annex V commitments into Canadian law. Part 4 of this report will describe some of the relevant laws, policies and programs that have emerged in Canada in recent years.

At this stage it is worth highlighting the evidence that Canada is a major global laggard in its endorsement of international law in this area. It took Canada 20 years to ratify MARPOL, and 20 years to ratify Annex V. What is more, in the 35 years since Annex V first became open for accession, Canada has yet to fully implement its provisions. This is not the standard that the world expects from a relatively wealthy democracy, with such a significant stake in the health of oceans and marine life.

The next section will review how EU countries are quickly moving beyond the simple prohibitions and reporting requirements of Annex V, and by implication how Canada is at risk of falling even further behind.

already uses to report on bycatch, illegal fishing, vessel locations, and other information, are vulnerable to harassment, intimidation, threats, and other abuse (see Jimmy Thomson, “Docs show turmoil in DFO following fisheries harassment investigation: ‘this article is horrific’,” *The Narwhal* (26 May 2022), online: <<https://thenarwhal.ca/dfo-response-fisheries-observer-harassment/>> [<https://perma.cc/97PH-JJ6N>]).

⁴⁹ Borrelle et al, *supra* note 27 at 9995.

⁵⁰ This includes extensive amendments resulting in a revised version of Annex V adopted in 2011, which entered into force in 2013 (see IMO Prevention of Pollution, *supra* note 34; Canada, Environment and Climate Change Canada, “Preventing pollution from ships: MARPOL protocol” (last modified 2 September 2022), online: <www.canada.ca/en/environment-climate-change/corporate/international-affairs/partnerships-organizations/preventing-pollution-ships.html> [perma.cc/VUT9-KVF2]).

⁵¹ Broderick et al, *supra* note 44 at 22.

⁵² According to the IMO, Canada’s letter of accession was deposited in March and came into force in June 2010 (see ECOLEX “International Convention for the Prevention of Pollution from Ships (MARPOL) -Annex V” (last visited 16 January 2023), online: ECOLEX <www.ecolex.org/details/international-convention-for-the-prevention-of-pollution-from-ships-marpol-annex-v-optional-garbage-tre-000989/participants/> [perma.cc/VWG3-SCDE]); IMO Status of Treaties, *supra* note 32 at 130.

⁵³ TC Marine Acts & Regulations, *supra* note 31; *Capital Cities Comm v CRTC*, [1978] 2 SCR 141, 90 DLR (3d) 1; *Baker v Canada (Minister of Citizenship and Immigration)*, [1999] 2 SCR 817, 174 DLR (4th) 193 at paras 69, 79.

3.2 EU SINGLE USE PLASTIC DIRECTIVE 2019/904 ON THE REDUCTION OF THE IMPACT OF CERTAIN PLASTIC PRODUCTS ON THE ENVIRONMENT

EU Single Use Plastic Directive 2019/904 (the “Directive”) is a binding decree of the EU that directs member states to reduce the impacts of certain plastic products on the environment, including ALDFG.⁵⁴ Although it is only applicable to EU member states, its provisions, specifically article 8, which refers to extended producer responsibility (EPR), offer important guidance to Canadian lawmakers.⁵⁵

The EU framework for EPR was first established by Directive 2008/98, and has been further developed through amendments, the most recent of which passed in 2018.⁵⁶ Directive 2008/98 defines EPR as a regime where producers bear “financial responsibility or financial and organisational responsibility for the management of the waste stage of a product’s life cycle.”⁵⁷ This Directive sets general minimum requirements for implementing EPR schemes, which can take a variety of forms, but must have clearly defined roles and responsibilities, waste management targets, reporting systems, and data collection.⁵⁸ According to Directive 2019/904, the plastic components of fishing gear have a “high recycling potential” which helps to ensure that an EPR scheme will be sustainable over the long term.⁵⁹

The general aim of the 2019 Directive is to prevent and reduce the impacts of plastic waste on the environment and to promote a “shift towards an innovative, sustainable, and circular economy.”⁶⁰ The Directive primarily focuses on SUP, but also specifically includes and addresses fishing gear containing plastics, requiring that EPR schemes be extended to these products.⁶¹ It applies the “polluter pays” principle by ensuring that the producers of gear are responsible for its collection, transportation, and environmentally responsible disposal, including broken gear and gear that has reached the end of its useful life.⁶² Member states are encouraged to be proportional in their

⁵⁴ EU Directive 2019/904, *supra* note 27.

⁵⁵ EU Directive 2019/904, *supra* note 27, arts 8, 19.

⁵⁶ EC, *Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives*, [2008] OJ, L 312/3, online (pdf): <eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02008L0098-20180705&from=EN> [perma.cc/Y34D-BB98] [*Directive 2008/98/EC*]; EC, *Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste*, [2018] OJ, L 150/109, online (pdf): <eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018L0851&from=EN> [perma.cc/EQR8-7Z84].

⁵⁷ *Directive 2008/98/EC*, *supra* note 56, arts 3, 8-8a.

⁵⁸ Member states implementing EPR schemes must also ensure that producers are treated equally regardless of their size or place of origin, “without placing a disproportionate regulatory burden” on small and medium-sized enterprises or for small amounts of products (see *Directive 2008/98/EC*, *supra* note 56, art 8a).

⁵⁹ *Directive (EU) 2019/904*, *supra* note 27 at 6.

⁶⁰ *Directive (EU) 2019/904*, *supra* note 27, art 1.

⁶¹ *Directive (EU) 2019/904*, *supra* note 27 at 2-3, 5-8, arts 1-3, 8.

⁶² The Organisation for Economic Co-operation and Development (OECD) introduced the “polluter-pays” principle in 1972, giving a name to the idea that those who pollute should bear the costs of pollution control and prevention. Since then, the “polluter pays” principle has been adopted in several international legal instruments, including the *Rio Declaration on Environment and Development* and the *Convention on the Protection and Use of Transboundary Watercourses and International Lakes* (OECD, Environment Directorate, *The Polluter Pays Principle: OECD Analyses and Recommendations*, Environment Monographs, OCDE/GD(92)81, (Paris: OECD, 1992) at 5-6, 12-13, online (pdf):

application of the EPR schemes, such that fishers who use the gear and artisanal makers of gear should not be considered “producers” or bear extended responsibility.⁶³

Directive 2019/904 elaborates on the general requirements for EPR schemes set out in Directive 2008/98, including some requirements specifically for extending EPR schemes to fishing gear containing plastics.⁶⁴ While member states are free to design a system that is appropriate to their specific context, both Directives contains mandatory minimum requirements for EPR schemes.⁶⁵ Article 8 of Directive 2019/904 establishes that EPR schemes for fishing gear must ensure that producers cover the costs of: the separate collection of waste gear, adequate port reception facilities, the transportation and treatment of that waste, as well as awareness raising measures to ensure fishers are aware of what to do with derelict fishing gear.⁶⁶

Pursuant to the 2019 Directive, EU member states are instructed to establish EPR schemes for all fishing gear containing plastic that is placed on the market (available for purchase or use in their countries).⁶⁷ States that have marine waters must also set national minimum annual collection rates of waste fishing gear containing plastic for recycling.⁶⁸ All member states must monitor the amount of fishing gear placed on the market and waste fishing gear being collected, which must then be reported to the European Commission.⁶⁹ This data will then form the basis of binding EU collection targets that make sense in light of the amount of waste fishing gear in circulation.⁷⁰ This information will also give recycling businesses a clear idea of where the opportunities are.⁷¹

EU member states are required to implement the provisions of the Directive with their own domestic legislation by the end of 2024.⁷² Sweden is the most recent country to adopt an EPR scheme for fishing gear in accordance with the Directive, with a law that came into force on

<[www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=OCDE/GD\(92\)81&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=OCDE/GD(92)81&docLanguage=En)
[perma.cc/73B8-BRYE]; OECD, *Recommendation of the Council on Guiding Principles concerning International Economic Aspects of Environmental Policies*, OECD Legal Instruments, OECD/LEGAL/0102, (1972) at 4-5, online (pdf):
<legalinstruments.oecd.org/public/doc/4/4.en.pdf> [perma.cc/QZT3-PSR5]; UNGA, *Rio Declaration on Environment and Development*, 14 June 1992, UN Doc A/CONF 151/26 (Vol I), 31 ILM 874, principle 16, online (pdf):
<www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_CONF.151_26_Vol.I_Declaration.pdf> [perma.cc/MT96-33E9] [*Rio Declaration*]; *Convention on the Protection and Use of Transboundary Watercourses and International Lakes*, 17 March 1992, 1936 UNTS 269, art 2, online (pdf):
<unece.org/DAM/env/water/publications/WAT_Text/ECE_MP.WAT_41.pdf> [perma.cc/G8XE-WZYJ]; *Directive (EU) 2019/904*, *supra* note 27 at 5; *Directive 2008/98/EC*, *supra* note 56, arts 3, 8.

⁶³ *Directive (EU) 2019/904*, *supra* note 27 at 5.

⁶⁴ *Directive (EU) 2019/904*, *supra* note 27, art 8.

⁶⁵ *Directive (EU) 2019/904*, *supra* note 27 at 6, art 8; *Directive 2008/98/EC*, *supra* note 56, arts 8-8a.

⁶⁶ *Directive (EU) 2019/904*, *supra* note 27, art 8.

⁶⁷ *Directive (EU) 2019/904*, *supra* note 27 (note that the term, “making available on the market” is heavily used in the Directive, defined more broadly as “any supply of a product for distribution, consumption or use on the market of a Member State in the course of a commercial activity, whether in return for payment or free of charge” arts 3, 8).

⁶⁸ *Directive (EU) 2019/904*, *supra* note 27, art 8.

⁶⁹ EU Business, “Guidance on the application of single-use plastic rules” (31 May 2021), online: *EU Business* <www.eubusiness.com/topics/environ/single-use-plastics-fishing> [perma.cc/AAJ8-Y6YE] [EU Business 2021].

⁷⁰ *Directive (EU) 2019/904*, *supra* note 27, art 8; EU Business 2021, *supra* note 69.

⁷¹ EU Business 2021, *supra* note 69.

⁷² *Directive (EU) 2019/904*, *supra* note 27, art 17; Landbell Group, “Another country introduces EPR for fishing gear: new laws and targets coming for producers – what’s changing and where?” (last accessed 19 January 2023), online: <landbell-group.com/news/another-country-introduces-epr-for-fishing-gear/> [perma.cc/SQR8-269P].

January 1, 2023.⁷³ The Swedish scheme covers fishing gear used in commercial fishing endeavors, with a collection target at 20% of the total weight of fishing gear sold annually on the Swedish market, effective from 2027.⁷⁴ Additionally, all producers that sell fishing gear on the Swedish market are required to register with the Swedish Environmental Protection Agency starting November 1, 2022, and provide, or contract with an organization that will provide, collection, disposal, and other end-of-life management for the gear they produce by the end of 2024.⁷⁵ The Swedish scheme also requires EPR organizations to inform consumers about how fishing gear should be handled when it becomes waste; how to reduce the amount of gear lost; and the negative impacts of ALDFG.⁷⁶

In addition to EU Directive 2019/904, the EU's revised 2019 *Port Reception Facilities Directive* (EU Directive 2019/883) aims to incentivize fishers to bring ALDFG ashore.⁷⁷ In this regard, Directive 2019/904 indicates that despite other EU regulations requiring fishers have equipment onboard for ALDFG retrieval, further work is needed to ensure that all derelict gear is brought to shore.⁷⁸ It also suggests that financial incentives for fishers to bring such gear to shore should be put in place.⁷⁹ Incentivizing fishers to bring derelict gear to shore would help ensure that EPR schemes are as effective as possible from a waste prevention perspective.

⁷³ Swedish Agency Marine and Water Management, "Producer responsibility for fishing gear" (last modified 29 November 2022), online: <www.havochvatten.se/en/facts-and-leisure/environmental-impact/producer-responsibility-for-fishing-gear.html> [perma.cc/KQ9N-4FVH] [SAMWM]; Landbell Group, *supra* note 72; *Förordning (2021:1001) om producentansvar för fiskeredskap*, 3 November 2021, SFS 2021:1001, as amended by SFS 2022:1277, 30 June 2022, online: <www.riksdagen.se/sv/dokument-lagar/dokument/svensk-forfattningssamling/forordning-20211001-om-producentansvar-for-sfs-2021-1001> [perma.cc/NV8H-VSEF] [*Förordning (2021:1001)*].

⁷⁴ Landbell Group, *supra* note 72; *Förordning (2021:1001)*, *supra* note 73, s 18.

⁷⁵ Landbell Group, *supra* note 72; SAMWM, *supra* note 73; *Förordning (2021:1001)*, *supra* note 73, ss 23, 46.

⁷⁶ *Förordning (2021:1001)*, *supra* note 73, s 43.

⁷⁷ Incentives are created or allowed through the 2019 Port Reception Facilities Directive by decoupling the fees that Ports use to cover their reception/recycling costs from the actual delivery of waste. This means that boats have to pay regardless of whether they dispose of the waste at the facility or at sea, and member states must cover the costs for fishers, where appropriate (see EC, *Directive (EU) 2019/883 of the European Parliament and of the Council of 17 April 2019 on port reception facilities for the delivery of waste from ships, amending Directive 2010/65/EU and repealing Directive 2000/59/EC*, [2019] OJ, L 151/116, arts 4, 8.2, online (pdf): <eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019L0883> [perma.cc/R4TX-KTWY]; EC, *Peer to Peer Support on the implementation of the EU legislation on marine litter*, (23 November 2022) at 3-4, online (pdf): <webgate.ec.europa.eu/maritimeforum/en/system/files/eu_dg_mare_p2p_support-report-v1_002.pdf> [perma.cc/75AC-UJBN]).

⁷⁸ Both Directive 2019/904 & Directive 2019/883 reference the 2009 EU regulation that sets out rules for compliance with the common fisheries policy. The 2009 regulation requires that fishers keep ALDFG retrieval equipment onboard, attempt "as soon as possible" to retrieve gear once lost, and if retrieval is not possible, to report the lost gear within 24 hours. The reports must include information on the ship from which the gear was lost, the type of gear lost, the time and place the gear was lost, and the efforts taken to attempt retrieval. If lost gear is not reported and then found or retrieved later on by the government, the government can recover the costs of retrieval from the original owners of the gear (see *Directive (EU) 2019/904*, *supra* note 27 at 6; EC, *Council Regulation (EC) No 1224/2009 of 20 November 2009 establishing a Community control system for ensuring compliance with the rules of the common fisheries policy, amending Regulations (EC) No 847/96, (EC) No 2371/2002, (EC) No 811/2004, (EC) No 768/2005, (EC) No 2115/2005, (EC) No 2166/2005, (EC) No 388/2006, (EC) No 509/2007, (EC) No 676/2007, (EC) No 1098/2007, (EC) No 1300/2008, (EC) No 1342/2008 and repealing Regulations (EEC) No 2847/93, (EC) No 1627/94 and (EC) No 1966/2006*, [2009] OJ, L 343/1 art 48, online (pdf): <<https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:343:0001:0050:en:PDF>> [<https://perma.cc/TL86-CAEY>]).

⁷⁹ *Directive (EU) 2019/904*, *supra* note 27 at 6.

3.3 UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

The United Nations (“UN”) Sustainable Development Goals (“SDGs”) were formally adopted by all UN member states in 2015 and came into force in 2016.⁸⁰ This action was a part of the 2030 UN Agenda for Sustainable Development that included 17 goals to “end poverty, protect the planet and improve the lives and prospects of everyone, everywhere.”⁸¹

The SDG most directly linked with the issue of ALDFG is SDG 14, which aims to “conserve and sustainably use the oceans, seas, and marine resources for sustainable development.”⁸² The UN explicitly recognizes marine plastic litter as a barrier to fulfilling SDG 14, and also recognizes ALDFG as the most harmful form of marine plastic pollution.⁸³ For this reason, the UN has partnered with the Global Ghost Gear Initiative (GGGI) as part of its efforts to achieve SDG 14 (see discussion of the GGGI in the next section).⁸⁴ For example, the UN Department of Economic and Social Affairs uses ALDFG-related data collected and reported on by the GGGI to record baselines and progress on SDG 14.⁸⁵ Moreover, the GGGI has received additional UN funding to expand the scope of its work.⁸⁶ This suggests that the GGGI on one hand, and efforts to achieve the UN SDGs on the other, have become closely integrated in practice.

In addition to supporting SDG 14, the responsible management of ALDFG would contribute to the fulfillment of other SDGs.⁸⁷ For example, SDG 12 aims to “ensure sustainable consumption and production patterns,” which in the context of ALDFG is particularly relevant for the management of gear before it becomes waste.⁸⁸ Preventing gear loss and mitigating the impacts of ALDFG through better gear design, use, maintenance, and end-of-life management practices are key to addressing SDG 12, which through one of its targets, focuses on “prevention, reduction, recycling

⁸⁰ UN DESA 17 Goals, *supra* note 28; 2030 Agenda, *supra* note 28.

⁸¹ The 2030 UN Agenda for Sustainable Development represented another addition to the wide array of legal instruments adopting the principle of sustainable development, such as the *Rio Declaration*, *supra* note 62. The SDGs and the 2030 Agenda are non-binding instruments and provide latitude for each country’s unique context. As such, each country must put into place their own laws, regulations, policies, and initiatives in order to achieve their international commitments, guided by the SDG framework (see UN, “Take Action for the Sustainable Development Goals” (last accessed 20 January 2023), online: <www.un.org/sustainabledevelopment/sustainable-development-goals/> [perma.cc/WD83-HBD2]; UN, “The Sustainable Development Agenda” (last accessed 20 January 2023), online: *United Nations Sustainable Development Goals* <www.un.org/sustainabledevelopment/development-agenda-retired/> [perma.cc/LMV2-857Z] [SDG Agenda]; *Rio Declaration*, *supra* note 62, principle 16).

⁸² UN DESA, “Goal 14” (last visited 23 January 2023), online: <sdgs.un.org/goals/goal14> [perma.cc/KZ22-2VB2] [SDG 14].

⁸³ UN DESA, “Addressing abandoned, lost, and otherwise discarded fishing gear at global scale – a multi-stakeholder partnership” (last visited 23 January 2023), online: <sdgs.un.org/partnerships/addressing-abandoned-lost-and-otherwise-discarded-fishing-gear-global-scale-multi> [perma.cc/QKZ5-HSAY] [UN DESA Multi-Stakeholder Partnership].

⁸⁴ *Ibid.*

⁸⁵ *Ibid.*

⁸⁶ *Ibid.*

⁸⁷ GGGI Impact of Fishing Gear Report, *supra* note 46 at 4.

⁸⁸ UN DESA 17 Goals, *supra* note 28; 2030 Agenda, *supra* note 28; UN DESA, “Goal 12” (last visited 8 May 2023), online: <<https://sdgs.un.org/goals/goal12>> [<https://perma.cc/X888-VV7L>] [SDG 12]; Patrycja Enet, *Addressing marine litter and microplastics: UN system-wide contributions* (New York: UNEP, 2022) at 12, 19, 56, 60, 72, 88-89, online (pdf): <https://unemg.org/wp-content/uploads/2022/01/UNEP_EMG-REPORT_Marine-Litter-Microplastics.pdf> [<https://perma.cc/7DXE-Z62G>] [Enet 2022].

and reuse.”⁸⁹ Added to this, the economic impacts of ghost fishing on potential fish catch and vulnerable populations who rely on fishing are relevant to SDG 1, which aims to alleviate poverty.⁹⁰ Preventing and remediating ALDFG could also similarly strengthen food security (SDG 2) since ghost fishing reduces fish catch.⁹¹ As described in this report’s introduction, these dimensions reveal that ALDFG regulation is not only an environmental issue, but also an environmental justice issue.

Although the UN SDGs are not legally binding under international law, Canada has identified targets and related action items to advance each of the goals.⁹² The specific connections between Canada’s response to the SDGs and its approach to ALDFG will be described in further detail in Part 5 of this report. However, it is clear from the UN’s interpretation of SDG 14 that Canada’s international sustainable development commitments necessitate the effective regulation of ALDFG.

3.4 GLOBAL GHOST GEAR INITIATIVE (GGGI)

The Global Ghost Gear Initiative (GGGI) was established in 2015 by World Animal Protection, an international non-profit dedicated to the protection of animals.⁹³ It is a multi-stakeholder alliance that brings together industry, academia, environmental organizations, and governments to tackle ALDFG.⁹⁴ It is the only cross-sectoral international alliance of this kind dedicated to addressing the issue of ghost gear from a global perspective.⁹⁵ In 2018, Canada became the 13th country, and second from the G7, to join the initiative.⁹⁶ As a member of the GGGI, Canada has access to the initiative’s expertise and network support.⁹⁷ Notably, the GGGI does not include a statement of commitment and does not legally bind Canada.⁹⁸

⁸⁹ UN DESA Multi-Stakeholder Partnership, *supra* note 83; SDG 12, *supra* note 88; Enet, *supra* note 88 at 12, 19, 56, 60, 72, 88-89.

⁹⁰ UN DESA Multi-Stakeholder Partnership, *supra* note 83.

⁹¹ *Ibid*; GGGI Impact of Fishing Gear Report, *supra* note 46.

⁹² GGGI Impact of Fishing Gear Report, *supra* note 46 at 4; SDG Agenda, *supra* note 81.

⁹³ Darian McBain, “The Global Ghost Gear Initiative: Driving solutions to lost & abandoned fishing gear worldwide” (last visited 24 January 2023) at 4, online (pdf): *United Nations Economic and Social Commission for Asia and the Pacific* <www.unescap.org/sites/default/files/Session%20B_Global%20Ghost%20Gear%20Initiative.pdf> [perma.cc/29MP-YB4X]; World Animal Protection, “About Us” (last visited 24 January 2023), online: <www.worldanimalprotection.ca/about-us> [perma.cc/82ZE-QXSW]

⁹⁴ Global Ghost Gear Initiative, “About Us” (last visited 24 January 2023), online: <www.ghostgear.org/about-us> [perma.cc/9H4J-2Z4T].

⁹⁵ Broderick et al, *supra* note 44 at 5.

⁹⁶ Niki Wilson, “Canada joins Global Ghost Gear Initiative” (2018) 16:9, *Frontiers Ecology Environment* 498, <www.jstor.org/stable/pdf/26623682.pdf?refreqid=excelsior%3Ac7c40d89661bfff9da52d8487d9feb1f&ab_segments=&origin=&acceptTC=1> [perma.cc/64Q9-8GMQ] [Wilson].

⁹⁷ Wilson, *supra* note 96; “GGGI Membership: Benefits” (last visited 24 January 2023), online: *Global Ghost Gear Initiative* <www.ghostgear.org/membership-benefits> [perma.cc/T2LG-73UA].

⁹⁸ Wilson, *supra* note 96.

One of the GGGI's most important initiatives is an online data portal and associated app. This data is a resource that can help inform research on ALDFG management strategies.⁹⁹ Countries can submit data on ghost gear that is observed, collected, or removed from the environment.¹⁰⁰ As a result, the GGGI data portal currently houses the world's largest collection of ghost gear information.¹⁰¹ In September 2022, Canada announced that it would be the first country to share nationally recorded data on lost fishing equipment with the GGGI's data portal.¹⁰² Canada's data is available, in part, because since 2018 in the Gulf of St. Lawrence, and since 2020 nationwide, it has been mandatory for fishers to report lost commercial fishing gear, including the location and details of the gear/components.¹⁰³ This type of data collection is key to designing effective mitigation and prevention regulatory responses. For example, pinpointing hot spots for lost or abandoned gear can improve the efficiency and effectiveness of retrieval efforts.¹⁰⁴ Data can also provide valuable insight into the causes of gear loss, as it helps to identify the types of gear and industries associated with lost gear.¹⁰⁵

In 2021, the GGGI released a revised version of its 2017 Best Practice Framework for the Management of Fishing Gear, along with a companion report, the Best Practice Framework for the Management of Aquaculture Gear.¹⁰⁶ Together, these two documents are the first comprehensive reports to analyze ALDFG by material, industry, and location.¹⁰⁷ They provide guiding principles and practical solutions for implementation by governments, industry partners, researchers, and non-governmental organizations.¹⁰⁸ The GGGI has committed to continually updating these frameworks to incorporate evolving understandings of ALDFG that come to light through data sharing and research.¹⁰⁹ Since releasing the original Best Practice Framework for the Management of Fishing Gear in 2017, the GGGI, working with the UN Food and Agriculture Organization (FAO), held regional workshops around the world to increase understanding and awareness of the

⁹⁹ GGGI, "Canada becomes first country to contribute national data to GGGI data portal" (22 September 2022), online: <www.ghostgear.org/news/2022/9/13/canada-takes-leading-step-in-fight-to-address-ghost-gear-becomes-first-to-contribute-national-data-to-gggi-research> [perma.cc/4ZFN-USRQ].

¹⁰⁰ GGGI, "Canada becomes first country to contribute national data to GGGI data portal" (22 September 2022), online: <www.ghostgear.org/news/2022/9/13/canada-takes-leading-step-in-fight-to-address-ghost-gear-becomes-first-to-contribute-national-data-to-gggi-research> [perma.cc/4ZFN-USRQ] [GGGI 2022 Canada].

¹⁰¹ *Ibid*; Broderick et al, *supra* note 44 at 5.

¹⁰² GGGI 2022 Canada, *supra* note 100.

¹⁰³ Canada, DFO, "Data on lost gear reporting" (last modified 8 September 2022), online: <www.dfo-mpo.gc.ca/fisheries-peches/management-gestion/ghostgear-equipementfantome/reporting-declaration-eng.html> [perma.cc/E9EE-785C] [DFO Data]; Huntington 2021a at 32-33.

¹⁰⁴ Huntington 2021a at 25, 27, 43, 77.

¹⁰⁵ Huntington 2021a at 25.

¹⁰⁶ Huntington 2021a; Tom Huntington, *Best Practice Framework for the Management of Aquaculture Gear* (Global Ghost Gear Initiative, 2021), online (pdf): <static1.squarespace.com/static/5b987b8689c172e29293593f/t/61842bfa0288483db7328a12/1636051979399/GGGI+Best+Practice+Framework+for+the+Management+of+Aquaculture+Gear+%28A-BPF%29.pdf> [perma.cc/YTZ6-ERED] [Huntington 2021b]; "Best Practice Framework Refresh" (28 June 2021), online: *Global Ghost Gear Initiative* <www.ghostgear.org/news/2021/6/25/best-practice-framework-refresh> [perma.cc/R97B-A3CN] [GGGI Best Practice Framework]

¹⁰⁷ GGGI Best Practice Framework, *supra* note 106.

¹⁰⁸ Huntington 2021b, *supra* note 106 at 36-83.

¹⁰⁹ Huntington 2021a, *supra* note 21 at 6; Huntington 2021b, *supra* note 106 at 83.

framework, and to help further develop best practices to prevent and manage ALDFG.¹¹⁰ These frameworks fill an important gap, as they represent the first ever comprehensive studies done to address ALDFG from a global perspective by canvassing a wide range of policy options.

The frameworks describe measures aimed at addressing ALDFG by placing them into three categories: 1) measures to prevent gear from entering the marine environment; 2) measures to mitigate the impact of the gear once it enters the water; and 3) remediation measures to locate, retrieve and recycle ALDFG.¹¹¹ Any comprehensive approach to the problem must incorporate each of these aspects.

Efficient and effective regulatory interventions in all three of these categories require a sophisticated understanding of the type of gear that is most likely to become ALDFG, and the potential impacts of that gear when it enters the marine environment as waste.¹¹² The GGGI reports ranked the most common types of fishing gear by their likelihood of becoming ALDFG and their impact on the environment and marine species if they were to end up in the oceans.¹¹³ For example, gillnets are ranked as very susceptible to becoming ALDFG.¹¹⁴ They can easily be snagged or detach if they come into contact with other gear and are often constructed of cheap material, providing little incentive for recovery when lost.¹¹⁵ Gillnets are also usually made of lightweight material which can remain suspended in the ocean and ghost fish until they break down, making their impacts on marine species particularly worrisome.¹¹⁶ Traps and pots are also identified as highly likely to become ALDFG with a high impact on marine species.¹¹⁷ They can become lost when they come in contact with passing vessels or towed gear such as nets, or in storms and other events.¹¹⁸ Since pots and traps are usually baited when they are set, when they become lost there is a high chance that they will continue to ghost fish until the material breaks down or they are recovered.¹¹⁹

On the other hand, seine nets and mid-water trawls were identified as the least likely gear to become ALDFG and the least impactful on the marine environment.¹²⁰ The GGGI also outlines the risks of aquaculture systems becoming ghost gear, and their potential impacts on marine ecosystems.¹²¹ Open-net pens, which are still used on the BC Coast, are identified as the type of aquaculture system with the highest risk of gear loss during normal operation.¹²²

¹¹⁰ Huntington 2021a, *supra* note 21 at 6; UNFAO, *2019 FAO Regional Workshops on Best Practices to Prevent and Reduce Abandoned, Lost or Discarded Fishing Gear in Collaboration with the Global Ghost Gear Initiative*, FAO Fisheries and Aquaculture Report No 1312 (Rome: UNFAO, 2020) at iii, 1-2, online (pdf):

www.fao.org/3/ca9348en/CA9348EN.pdf > [perma.cc/9FNF-4REZ]; OECD 2021, *supra* note 12 at 15.

¹¹¹ Huntington 2021a, *supra* note 21 at 21-36, 46; Huntington 2021b, *supra* note 106, 36.

¹¹² Huntington 2021a, *supra* note 21 at 10.

¹¹³ Huntington 2021a, *supra* note 21 at 10-20.

¹¹⁴ Huntington 2021a, *supra* note 21 at 12.

¹¹⁵ *Ibid.*

¹¹⁶ *Ibid.*

¹¹⁷ Huntington 2021a, *supra* note 21 at 14.

¹¹⁸ *Ibid.*

¹¹⁹ *Ibid.*

¹²⁰ Huntington 2021a, *supra* note 21 at 20.

¹²¹ Huntington 2021b, *supra* note 106 at 19-33.

¹²² The 2021 Mandate Letter for the Minister of Fisheries, Oceans and the Canadian Coast Guard included a commitment to transition away from “open net-pen salmon farming in coastal British Columbia waters by 2025,” but approvals for the expansion of farms on the coast put the feasibility of these commitments into question (see Office of the Prime

In sum, the GGGI frameworks are widely influential and have informed international agreements and conventions, such as the UN strategy to address SDG 14. In our view, there is no question that the GGGI frameworks should guide Canada’s development of a comprehensive approach to prevent and mitigate ALDFG.

Minister, *Minister of Fisheries, Oceans and the Canadian Coast Guard Mandate Letter* (16 December 2021), online: <<https://pm.gc.ca/en/mandate-letters/2021/12/16/minister-fisheries-oceans-and-canadian-coast-guard-mandate-letter>> [<https://perma.cc/44XH-8FDX>]; Rochelle Baker, “Critics fear Ottawa is scaling back its promise to phase out open net-pen salmon farms,” *Canada’s National Observer* (16 September 2022), online: <<https://www.nationalobserver.com/2022/09/16/news/critics-fear-ottawa-scaling-back-its-promise-phase-out-salmon-farms>> [<https://perma.cc/UZ8N-45RX>]; Huntington 2021b, *supra* note 106 at 28-29.

4. Canadian Domestic Law and Policy Initiatives

This section summarizes Canadian action to date towards addressing ALDFG and provides context for the recommendations that follow. Canada has taken some action, in the form of statutory requirements and regulations, voluntary industry-led initiatives, and most recently, the Ghost Gear Program. Some of these are specifically aimed at addressing ALDFG, while others address ALDFG only incidentally, or pursuant to a wider goal. This patchwork of domestic approaches to addressing ALDFG points to a need for law and policy reform.

4.1 ALDFG-RELATED STATUTORY REQUIREMENTS, REGULATIONS AND CODES

This section contains a brief survey of Canadian statutes, regulations, and codes of some relevance to ALDFG. While this survey is not exhaustive, it suggests that at the time of writing, Canadian law in this area consists of some basic prohibitions on ALDFG related pollution, and some legal obligations that may help mitigate the risk of ALDFG. While these provisions, taken together, fall far short of a regime for the regulation of ALDFG, they do provide a statutory foundation for enhanced regulatory efforts in this area.

Prohibitions on Pollution

In terms of pollution prohibitions, section 35(1) of the *Fisheries Act* prohibits damaging fish habitat, while section 36 prohibits some types of harmful pollution in waters where people fish, in fish habitat, or even in places where the pollution could make its way into fish habitat.¹²³ However there is some uncertainty about how these pollution provisions might apply to ALDFG as government guidance does not explicitly indicate that fishing gear is considered a “deleterious substance.”¹²⁴

There are two other statutes of interest on the subject of ALDFG prevention, although they do not mention fishing gear pollution specifically. The *Canadian Environmental Protection Act*,¹²⁵ the *Canada Shipping Act* and the regulations it enables, such as the *Vessel Pollution and Dangerous Chemicals Regulation*¹²⁶ all prohibit the dumping of pollution in Canadian waters, while the *Regulation* prohibits Canadian vessels from dumping garbage and plastics outside of Canadian waters.¹²⁷ Added to this, vessels over 12 metres in length must display placards notifying the crew

¹²³ *Fisheries Act*, RSC 1985, c F-14, ss 35(1), 36(1), 36(3) [*Fisheries Act*].

¹²⁴ Canada, Environment and Climate Change Canada, “Frequently asked questions: Fisheries Act pollution prevention provisions” (last modified 23 February 2022), online: <www.canada.ca/en/environment-climate-change/services/managing-pollution/fisheries-act-registry/frequently-asked-questions.html> [perma.cc/D5WL-A7JM].

¹²⁵ Section 125 prohibits dumping at sea, but permits may be granted for disposal (see *Canadian Environmental Protection Act*, SC 1999, c 33, ss 122-136).

¹²⁶ *Canada Shipping Act*, SC 2001, c 26 [*Canada Shipping Act*]; *Vessel Pollution and Dangerous Chemicals Regulations*, SOR/2012-69, online: <laws-lois.justice.gc.ca/eng/Regulations/SOR-2012-69/FullText.html> [perma.cc/FJU5-2QDN].

¹²⁷ *Canada Shipping Act*, *supra* note 126, s 187, online: <laws-lois.justice.gc.ca/eng/acts/C-10.15/FullText.html> [perma.cc/9ULJ-U62X]; *Vessel Pollution and Dangerous Chemicals Regulations*, SOR/2012-69, ss 1(1), 4, 7(3), 100, online: <laws-lois.justice.gc.ca/eng/acts/C-10.15/FullText.html> [perma.cc/9ULJ-U62X].

and passengers of the prohibition on disposing of garbage at sea.¹²⁸ Ships over 400 gross tonnes or with a capacity of at least 15 people must also keep a garbage management plan and garbage record book on board.¹²⁹ Notably, this provision does not appear to be consistent with MARPOL Annex V, which does specify a 400-tonne threshold for ships to be required to keep a garbage record book but requires that garbage management plans must be carried by ships over the much lower threshold of only 100 tonnes.¹³⁰

Responsible Gear Management

Beyond pollution prohibitions, there are some specific provisions in the *Fisheries Act* that establish obligations for the responsible management of fishing gear when in use, and the *Act* empowers Cabinet to make regulations related to fishing gear.¹³¹ For example, section 25(2) requires that fishers take their gear out of the water when it is unattended or at the end of the season.¹³² Some regional regulations more generally prohibit leaving gear unattended, such as section 115.2 of the *Atlantic Fishery Regulations*, which state that no person shall leave fishing gear unattended in the water for more than 72 consecutive hours and that gear that remains in the water for more than 72 hours must be reported.¹³³ The *Fishery (General) Regulations* provide rules to prevent the chafing of gear, which can help avoid pollution, and require that fishing gear must be marked,¹³⁴ and in 2020, it became mandatory for commercial fishers to report all lost gear to the DFO.¹³⁵

The *Canadian Code of Conduct for Responsible Fishing Operations* (the “CCCRFO”), based on a similar document published by the FAO, is a voluntary set of principles and guidelines developed in the 1990s by Canadian fishing industry stakeholders.¹³⁶ It was ratified by several industry organizations that agreed to encourage their members to follow the Code.¹³⁷ Some aspects of the CCRFO deal specifically with prevention and mitigation of ALDFG by calling for fishing practices

laws-lois.justice.gc.ca/eng/Regulations/SOR-2012-69/FullText.html [perma.cc/FJU5-2QDN] [Vessel Pollution Regulations].

¹²⁸ *Vessel Pollution Regulations*, *supra* note 127, s 103(1).

¹²⁹ *Vessel Pollution Regulations*, *supra* note 127, ss 104-105.

¹³⁰ *MARPOL Annex V*, *supra* note 27.

¹³¹ Section 43(1) permits regulations “respecting the use of fishing gear and equipment,” while sections 9.1(1) and 43.3(1)(c) allow the Minister to make regulations or orders that prohibit certain types of gear (see *Fisheries Act*, *supra* note 123, ss 9.1(1), 43(1)(e), 43.3(1)(c)).

¹³² *Fisheries Act*, *supra* note 12, s 25(2).

¹³³ *Atlantic Fishery Regulations, 1985*, SOR/86-21, s 115.2; *Maritime Provinces Fishery Regulations*, SOR/93-55, ss 27, 110(2), 118(2); *Newfoundland and Labrador Fisheries Regulations*, SOR/78-443, s 8.

¹³⁴ The *Fishery (General) Regulations* also provide a potential basis for authorizing removal of ALDFG under section 59 (see *Fishery (General) Regulations*, SOR/93-53, ss 27, 31, 59 [*Fishery (General) Regulations*]).

¹³⁵ DFO Data, *supra* note 103.

¹³⁶ Canada, DFO, *Canadian Code of Conduct for Responsible Fishing Operations (Consensus Code)*, (Ottawa, 1998), online (pdf): waves-vagues.dfo-mpo.gc.ca/library-bibliotheque/226273.pdf?_gl=1*103lihb*_ga*MTI3MDg1NjQ5LjE2NzI5NjM5Njk.*_ga_7CCSB32R7T*MTY3MzAzMTE2NC4zLjAuMTY3MzAzMTE2NC4wLjAuMA [perma.cc/JC2A-BMMU] [DFO Canadian Code]; UNFAO, *Code of Conduct for Responsible Fisheries*, (Rome: UN FAO, 1995), adopted 31 October 1995, FAO Res 4/95, UNFAO, 28th Sess, online (PDF): www.fao.org/3/v9878e/v9878e.pdf [perma.cc/PF28-CWR7]; UNFAO, *Voluntary Guidelines on the Marking of Fishing Gear*, (Rome: UN FAO, 2019), online (PDF): www.fao.org/3/ca3546t/ca3546t.pdf [perma.cc/6KDR-4HRB] [UNFAO Voluntary Guidelines].

¹³⁷ Elmar Plate, Robert C Bocking & Karl K English, *Responsible Fishing in Canada’s Pacific Region Salmon Fisheries* (Vancouver: Pacific Fisheries Resource Conservation Council, February 2009) at 26, online (pdf): psf.ca/wp-content/uploads/2021/10/Download-PDF946-1.pdf [perma.cc/R2GM-PL4T]; DFO Canadian Code, *supra* note 136.

that minimize gear loss and protocols for marking, retrieving, and reporting lost gear.¹³⁸ In our research, we could not determine if this Code is still in use, and the government body charged with overseeing it appears to no longer exist.

This summary of relevant statutory provisions in Canada reveals that Canadian law contains some prohibitions on disposing of ALDFG into the environment and some requirements for tracking gear and reporting lost gear. However, beyond simple prohibitions, there is little else in Canadian law to effectively facilitate, enable, incentivize, or require the prevention, tracking, retrieval, management, and recycling of ALDFG. This gap in Canadian law is disappointing given the fact that the detailed provisions of MARPOL Annex V have been in place since 1988 and that Canada has been a signatory since 2009. The next section will summarize a recent federal policy program that takes some first steps toward addressing this pressing issue.

4.2 CANADA'S IMPLEMENTATION OF UN SDG 14

Moving Forward Together is Canada's national strategy to implement the UN SDGs.¹³⁹ Canada describes it as a holistic "whole of society" approach where every federal department and agency is responsible for, and expected to integrate, the 2030 agenda into their work.¹⁴⁰ According to the federal government, progress on the goals is measured and reported on by Statistics Canada.¹⁴¹ The federal government has established the Sustainable Development Goals Unit ("SDG Unit") and an SDG funding program to support the implementation of the goals, which has over \$100 million in funding.¹⁴² The SDG Unit is responsible for enabling the integration of the SDGs into federal strategies, policies, and programs, and coordinating between different government departments and agencies to achieve a "whole-of-government" approach.¹⁴³

In connection with the SDGs, the *Federal Sustainable Development Act* requires the federal government to develop a Federal Sustainable Development Strategy (the "Federal Strategy") at least once every three years, with the latest version published in 2022.¹⁴⁴ The Federal Strategy

¹³⁸ DFO Canadian Code, *supra* note 136 at 9-10.

¹³⁹ Canada, Employment and Social Development Canada, *Canada's 2030 Agenda National Strategy – Moving Forward Together*, (Gatineau: Employment and Social Development Canada, 2021), online (pdf): <<https://www.canada.ca/content/dam/esdc-edsc/documents/programs/agenda-2030/ESDC-PUB-050-2030Agenda-EN-v9.pdf>> [<https://perma.cc/73CQ-PFXK>] [ESDC National Strategy]; Canada, Employment and Social Development Canada, "Background: 2030 Agenda for Sustainable Development: Overview of the 2030 Agenda for Sustainable Development" (last modified 10 November 2022), online: <www.canada.ca/en/employment-social-development/news/2019/06/background-r-2030-agenda-for-sustainable-development.html> [perma.cc/W9AD-3QFU] [ESDC National Strategy Background].

¹⁴⁰ ESDC National Strategy, *supra* note 139 at 7-8; ESDC National Strategy Background, *supra* note 139.

¹⁴¹ ESDC National Strategy, *supra* note 139 at 6; ESDC National Strategy Background, *supra* note 139.

¹⁴² However, no projects relating to ALDFG appear to have been funded through the SDG Funding Program at the time of writing (see ESDC National Strategy, *supra* note 139 at 6; Canada, Employment and Social Development Canada, "List of projects funded by the Sustainable Development Goals Funding Program" (last modified 13 July 2021), online: <<https://www.canada.ca/en/employment-social-development/programs/sustainable-development-goals/projects-funded.html#wb-auto-4>> [<https://perma.cc/8KGC-YQDB>]).

¹⁴³ ESDC National Strategy, *supra* note 139 at 17.

¹⁴⁴ *Federal Sustainable Development Act*, SC 2008, c 33, s 9(1); Canada, Environment and Climate Change Canada, *Achieving a Sustainable Future: Federal Sustainable Development Strategy 2022 to 2026*, (Ottawa: Environment and

identifies specific targets and indicators towards fulfilling the SDGs, the organizations responsible for achieving those targets, and short-term milestones and actions that can support the goals.¹⁴⁵

In Part 4 of this report (above) we described how the UN has connected SDG 14, which aims to “conserve and sustainably use the oceans, seas, and marine resources for sustainable development” to the improved regulation of ALDFG.¹⁴⁶ For its part, Canada has expressed a commitment to fulfilling SDG 14 by virtue of two overarching targets. The first target is to conserve 25% of Canada’s oceans by 2025, working towards 30% by 2030.¹⁴⁷ The second is to ensure that by 2023, major fish and invertebrate stocks are to be managed and harvested at levels considered to be sustainable.¹⁴⁸ As part of these two targets and achieving SDG 14 more broadly, Canada has stated that preventing and managing plastic waste is a priority.¹⁴⁹

Under the 2022 Federal Strategy, Canada has identified short-term actions under SDG 14 to address ALDFG, including further developing its Ghost Gear Program (see discussion in the next section below), collecting data on ALDFG, and expanding the Ghost Gear Program to the Canadian Arctic.¹⁵⁰ Further, the Federal Strategy identifies the reduction of marine litter, including fishing gear, as part of the plan to achieve SDG 14, through actions such as implementing the CCME Canada-wide Strategy on Zero Plastic Waste, developing a legally binding agreement on plastics, and partnering with other levels of government.¹⁵¹ Canada’s 2018 review of its implementation of the 2030 agenda states that “promoting innovation for fishing gear design and recovery to prevent lost and abandoned fishing gear” is a next step in its implementation of the sustainable development agenda.¹⁵² More recently, in its 2021 Annual Report on the SDGs, Canada explicitly referred to its policy approach to ALDFG as part of its reporting on SDG 14.¹⁵³ One element of Canada’s ALDFG response cited in the 2021 Annual Report is Canada’s endorsement of an action

Climate Change Canada, 2022), online (pdf): <<https://www.fsds-sfdd.ca/downloads/2022%20to%202026%20Federal%20Sustainable%20Development%20Strategy.pdf>> [<https://perma.cc/4YTC-A2CK>] [ECCC 2022-2026 Strategy].

¹⁴⁵ ECCC 2022-2026 Strategy, *supra* note 144.

¹⁴⁶ SDG 14, *supra* note 82.

¹⁴⁷ Canada, Statistics Canada, “The Canadian Indicator Framework for the Sustainable Development Goals” (last modified 22 June 2021), online: <www150.statcan.gc.ca/n1/pub/11-26-0004/112600042021001-eng.htm> [perma.cc/2SSX-DTFD]; ECCC 2022-2026 Strategy, *supra* note 144 at 163.

¹⁴⁸ *Ibid.*

¹⁴⁹ ECCC 2022-2026 Strategy, *supra* note 144 at 164-165.

¹⁵⁰ ECCC 2022-2026 Strategy, *supra* note 144 at 167.

¹⁵¹ *Ibid.*

¹⁵² Canada, Global Affairs Canada, *Canada’s Implementation of the 2030 Agenda for Sustainable Development: Voluntary National Review*, (Ottawa: Global Affairs Canada, 2018) at 105, online (pdf): *United Nations High-Level Political Forum on Sustainable Development* <hlpf.un.org/sites/default/files/vnrs/2021/20312Canada_ENGLISH_18122_Canadas_Voluntary_National_ReviewENv7.pdf> [perma.cc/SW2W-ATDD].

¹⁵³ These include the Ghost Gear Fund, Canada’s membership in the GGGI, and Canada’s 2020 endorsement of a document developed by the High Level Panel for a Sustainable Ocean Economy (see Canada, Employment and Social Development Canada, Sustainable Development Goals Unit, *Taking Action Together – Canada’s 2021 Annual Report on the 2030 Agenda and the Sustainable Development Goals*, (Ottawa: Employment and Social Development Canada, 2022) Annex A at 20, Annex B at 7-8, online (pdf): <https://www.canada.ca/content/dam/esdc-edsc/documents/programs/agenda-2030/sdg_taking-action-together-aoda.pdf> [<https://perma.cc/WX22-LRWM>] [2021 Annual Report]).

agenda from the High Level Panel for a Sustainable Ocean Economy.¹⁵⁴ This document includes objectives consistent with and supporting SDGs including SDG 14, and sets out priority actions including to “eliminate ghost fishing gear through... reuse and retrieval, promoting gear marking and loss reporting, and supporting development of new environmentally friendly cost-effective gear.”¹⁵⁵

In sum, while Canada has made high-level commitments to SDG 14, and has announced ALDFG related policies and programs, it remains to be seen whether Canada's laws, policies, and programs, in their current state, are capable of achieving the relevant SDG goals. We return to this important question in the remainder of this report.

4.3 CANADA’S GHOST GEAR PROGRAM

According to the DFO, Canada’s Ghost Gear Fund (the “Fund”) is a federal program that aims to support Canada’s commitment to preventing and mitigating the impacts of ALDFG in Canada and internationally.¹⁵⁶ First launched in 2019, the program is the primary initiative in the country for addressing ALDFG.¹⁵⁷ To date, 91 projects across the country have received program funding for a total of \$26.7 million.¹⁵⁸ According to the DFO, these projects have helped remove over 7,300 units of fishing gear from the waters, including over 150 km of derelict rope.¹⁵⁹

The program’s statutory authority appears to be grounded in the *Fisheries Act* and associated regulations.¹⁶⁰ For example, its retrieval efforts are authorized under the *Wrecked, Abandoned, or Hazardous Vessels Act*, which aims to protect the environment by regulating abandoned or hazardous vessels and wrecks in Canadian waters, as well as under section 52 of the *Fisheries (General) Regulations*, which requires licences for such retrievals.¹⁶¹ Retrieval is typically allowed

¹⁵⁴ 2021 Annual Report, *supra* note 153, Annex B at 7-8; High Level Panel for a Sustainable Ocean Economy, “Transformations for a Sustainable Ocean Economy: A Vision for Protection, Production and Prosperity” (2020) at 1-4, online (pdf): <<https://oceanpanel.org/wp-content/uploads/2022/06/transformations-sustainable-ocean-economy-eng.pdf>> [<https://perma.cc/D5CU-JNLX>] [Ocean Panel].

¹⁵⁵ Ocean Panel, *supra* note 154 at 13.

¹⁵⁶ Canada, DFO, News Release, “Government of Canada launches third call for proposals under the Ghost Gear Fund” (13 May 2022), online: <www.canada.ca/en/fisheries-oceans/news/2022/05/government-of-canada-launches-third-call-for-proposals-under-the-ghost-gear-fund.html> [perma.cc/LFP5-9Q9B] [DFO 2022]; Canada, DFO, “Ghost Gear” (last modified 10 January 2023), online: <www.dfo-mpo.gc.ca/fisheries-peches/management-gestion/ghostgear-equipementfantome/program-programme/index-eng.html> [perma.cc/ZG4V-UP2L] [DFO 2023].

¹⁵⁷ Canada, DFO, *The Ghost Gear Program Overview: Reducing Abandoned, Lost or Otherwise Discarded Fishing Gear In Canada* (last visited 26 January 2023) at 5, online (pdf): <www.invernesssouth.com/uploads/1/8/2/9/18294681/ggf_advisory_committee_deck-sep2021-eng_1.pdf> [perma.cc/2425-QPK7] [DFO GG Program Overview]; Broderick et al, *supra* note 44 at 29; Canada, DFO, “Ghost Gear Reporting Tool” (21 July 2021) at 00h:00m:21s, online: *YouTube* <www.youtube.com/watch?v=2HFie-EvGIM> [perma.cc/63FL-KMP7].

¹⁵⁸ DFO 2023, *supra* note 156.

¹⁵⁹ DFO 2022, *supra* note 156.

¹⁶⁰ DFO GG Program Overview, *supra* note 157 at 8.

¹⁶¹ *Wrecked, Abandoned, or Hazardous Vessels Act*, SC 2019, c 1, ss 27, 36(a), 38(1) [WAHVA]; *Fishery (General) Regulations*, *supra* note 134, s 52.

only outside of the commercial fishing season, but a pilot project where fishers can retrieve ALDFG they come across during the season has been launched for shrimp fishers in the Arctic.¹⁶²

The program dispenses funding to projects that fall within at least one of four program pillars.¹⁶³ The first pillar, ALDFG retrieval, funds third party retrieval projects to recover ghost gear out of the oceans.¹⁶⁴ The second pillar focuses on responsible disposal.¹⁶⁵ This includes funding end-of-life gear facilities that can receive gear that is no longer useful, and education and awareness campaigns to ensure that fishers and harvesters are aware of gear disposal options.¹⁶⁶ The third pillar looks to technological innovations that could prevent gear loss or make it easier to retrieve if lost.¹⁶⁷ The fourth and final pillar supports projects in other countries to prevent and mitigate ALDFG globally.¹⁶⁸ In spite of these advances, as designed, the program relies on a continued flow of government funding for each of its pillars, and as such, has not yet developed long-term solutions that are self-sustaining. This reliance on government funding makes the program vulnerable to shifting political priorities and the uncertainties of annual federal budget allocations.

The program was set up with a national approach and project fundings was distributed across regions depending on the applications that were received.¹⁶⁹ As of 2022, the program had been extended for the next five years; however, dedicated funding for the Pacific part of the program was reportedly set to expire at the end of March 2023 without plans for renewal at the time of writing.¹⁷⁰ In 2022, the expansion of the program was specifically designated for the Atlantic provinces to manage and recover from the impacts of Hurricane Fiona.¹⁷¹

Generally, decisions about project funding allocations are made on an annual basis in Ottawa in consultation with regional coordinators. Regional offices are then tasked with distributing the funding and oversee the progress of the projects over the year. It appears that the majority of funded projects have focused on the first two pillars, gear retrieval and *disposal*.¹⁷² In the remainder of this section, we focus on ALDFG-related activities pursuant to the Pacific Coast program. It is important to note that our understanding of the details of the program's activities relies heavily on interviews with, and presentations made by, DFO regional officials, as few specific details about the program are publicly available.

In each region, the regional DFO office negotiates agreements with groups who are selected to undertake retrieval projects.¹⁷³ The regional office works with these groups to develop a

¹⁶² DFO GG Program Overview, *supra* note 157 at 8, 10.

¹⁶³ DFO GG Program Overview, *supra* note 157 at 5; Canada, DFO, "Ghost Gear Fund" (last modified 23 January 2023), online: <www.dfo-mpo.gc.ca/fisheries-peches/management-gestion/ghostgear-equipementfantome/program-programme/projects-projets-eng.html> [perma.cc/F7NG-639V] [DFO GG Fund].

¹⁶⁴ DFO GG Program Overview, *supra* note 157 at 5; DFO 2023, *supra* note 156; DFO GG Fund, *supra* note 163.

¹⁶⁵ *Ibid.*

¹⁶⁶ DFO GG Program Overview, *supra* note 157 at 5; DFO 2023, *supra* note 156; DFO GG Fund, *supra* note 163.

¹⁶⁷ *Ibid.*

¹⁶⁸ The current phase of the program only lists the first three pillars, likely due to the focus on responding to Hurricane Fiona (see DFO GG Program Overview, *supra* note 157 at 5); DFO GG Fund, *supra* note 163.

¹⁶⁹ DFO GG Program Overview, *supra* note 157 at 6.

¹⁷⁰ Lisa Hedderson, Regional Ghost Gear Coordinator, Sustainable Fisheries Framework, DFO (13 December 2022), via email [communicated to Charis Kamphuis and Avery Letkemann] [Hedderson email].

¹⁷¹ DFO 2023, *supra* note 156.

¹⁷² Out of 57 projects receiving funding for 2022-2023, 42 fall under the pillar of retrieval, 29 fall under disposal, 23 deal with technology, and seven fall under the pillar of international leadership (see DFO GG Fund, *supra* note 163).

¹⁷³ Hedderson email, *supra* note 170.

contribution agreement and determine appropriate deliverables for the year.¹⁷⁴ The agreement will include a post retrieval plan to determine what will be done with gear that is recovered over the course of the project.¹⁷⁵ Due to stipulations in the *Wrecked, Abandoned, or Hazardous Vessels Act*, the DFO must hold tagged gear for a minimum of 30 days after retrieval and make best efforts to reunite the gear with its original owner.¹⁷⁶

In order to ensure that the gear is secure during that time, DFO typically partners with small craft harbours.¹⁷⁷ These are operated by third parties but are supported by the DFO to stay in good working condition with ALDFG storage and processing capacity.¹⁷⁸ In exchange for this government funding, the small craft harbours are responsible for the separation, cleaning and secure storage of the gear pending a possible return to its owner.¹⁷⁹ However, there is no guarantee that these locations will continue to make themselves available to store retrieved ALDFG if funding agreements expire.

Recycling and disposal initiatives for ALDFG have also expanded in BC with the support of the Ghost Gear Fund. For example, Ocean Legacy is a not-for-profit organization that has created a number of depots around the province with contribution agreement from the Fund.¹⁸⁰ It opened its first depot in October 2020 in Powell River¹⁸¹ with four currently in operation.¹⁸² The depots provide a place where retrieved ALDFG can be sorted and stored before being recycled.¹⁸³ Ocean Legacy has created a recycling system that converts certain gear into plastic pellets for sale to industry.¹⁸⁴ By transforming derelict gear and ocean plastic into a valuable product, the goal is for the depots to eventually become self-sustaining and no longer reliant on government funding.¹⁸⁵

According to DFO officials, retrieval efforts supported by the Fund from July 2020 to February 2023 have recovered a total of 1,701 tonnes of gear from the ocean, with the Pacific region representing nearly 40% of this number (678 tonnes). Lobster traps make up most of the ALDFG in the Maritimes which allows efforts to be targeted. Seasonal closures in the Maritimes also allow teams to retrieve gear without fear of conflicting with ongoing fishing operations.¹⁸⁶ In BC, the gear most commonly retrieved to date is untagged so it is often not possible to determine the source. Potential sources include illegal or unreported fishing operations, fishing operations

¹⁷⁴ *Ibid.*

¹⁷⁵ *Ibid.*

¹⁷⁶ *WAHVA*, *supra* note 161, s 39(a).

¹⁷⁷ DFO GG Program Overview, *supra* note 157 at 5, 11; DFO GG Fund, *supra* note 163.

¹⁷⁸ Canada, DFO, “Small Craft Harbours program” (last modified 16 June 2022), online: <www.dfo-mpo.gc.ca/sch-ppb/aboutsch-aproposppb/index-eng.html> [perma.cc/MPG7-QLPW].

¹⁷⁹ Hedderson email, *supra* note 170.

¹⁸⁰ Canada, DFO, “Ghost Gear Fund Projects 2020-2022” (last modified 13 December 2022), online: <www.dfo-mpo.gc.ca/fisheries-peches/management-gestion/ghostgear-equipementfantome/program-programme/2020-2022-projects-projets-eng.html> [perma.cc/6NG5-UBVJ] [DFO GGF Projects 2020 – 2022].

¹⁸¹ DFO GGF Projects 2020 – 2022, *supra* note 180; “OLF & friends open Canada’s first ocean plastic depot in Powel River, BC,” (4 December 2020), online: *Ocean Legacy Foundation* <oceanlegacy.ca/olf-friends-open-canadas-first-ocean-plastic-depot-in-powel-river-bc/> [perma.cc/Y339-3WJW];

¹⁸² Ocean Plastic Depot, “Ocean Plastic Depot” (last visited 27 January 2023), online: <oceanplasticdepot.ca/> [perma.cc/C6JN-Y5HA].

¹⁸³ *Ibid.*

¹⁸⁴ Legacy Plastic, “Legacy Plastic” (last visited 27 January 2023), online: <legacyplastic.ca/> [perma.cc/6SBT-2K2W].

¹⁸⁵ Hedderson email, *supra* note 170; DFO GG Fund, *supra* note 163.

¹⁸⁶ Hedderson email, *supra* note 170.

outside of Canada, historic debris that is no longer usable or identifiable, and active commercial, recreational or Indigenous fisheries.¹⁸⁷ Large-scale retrieval efforts can be challenging in the Pacific region as there are fewer seasonal closures during feasible retrieval times than for Atlantic fisheries, and retrieval efforts may take place concurrently with ongoing recreational or Indigenous fishing. Ensuring that retrieval efforts do not hamper commercial fishing is an ongoing concern.

Although it is uncertain whether funding from the Fund will be renewed after it is set to expire in 2023, the projects funded to date have provided DFO with valuable information about the types of gear being used in the province and the make-up of ALDFG in the waters and along the coast. Refining and adding to this data will be an important next step to ensure that future ALDFG related schemes are effective and efficient in BC.¹⁸⁸

The Area A Crab Fishery is the largest commercial crab fishery in British Columbia, and the Area A Crab Association represents approximately 60% of crab fishers in the area, located off the North Coast of BC in the waters of Hecate Strait and around Haida Gwaii.¹⁸⁹ Trap loss has been a significant problem for the fishery with a loss rate of 6-10% a year.¹⁹⁰ To respond to this problem, the Area A Crab Association has carried out annual retrieval efforts for over 20 years.¹⁹¹ Any recovered gear that is usable is returned to the originating vessel and the gear that has reached the end of its usable life is recycled or disposed of. These retrieval and disposal efforts have been funded by the members of the Area A Crab Association themselves since 1997, although in 2021, the Association received funding from the Ghost Gear Fund for their collection efforts.¹⁹² The Association has also partnered with Eco Trust who monitors and reports data associated with the Association's retrieval efforts.¹⁹³ Notably, this is not an extended producer responsibility scheme, but rather a scheme independent organized and funded by the fishers themselves.

In sum, the projects funded by Canada's Ghost Gear program have achieved some important results, particularly in the area of retrieval, and to a lesser extent in the area of recycling. However, these activities rely almost entirely on a constant stream of government funding and are thus vulnerable to changes in political priorities.

¹⁸⁷ *Ibid.*

¹⁸⁸ *Ibid.*

¹⁸⁹ Huntington 2021a, *supra* note 21 at 58; We Heart BC Crab, "Fisheries Management" (last accessed 27 March 2023), online: <weheartbccrab.ca/sustainability/fisheries-management/> [perma.cc/KB7G-NPCA]; We Heart BC Crab, "Harvesting" (last accessed 27 March 2023), online: <weheartbccrab.ca/sustainability/harvesting/> [perma.cc/NW7N-DMJ4].

¹⁹⁰ Huntington 2021a, *supra* note 21 at 58.

¹⁹¹ Huntington 2021a, *supra* note 21 at 58; Ecotrust Canada, "Ghost Crab Gear Retrieval Project in the Hecate Strait" (3 December 2021), online: *YouTube* <youtu.be/h8S8Fq8i35s> [perma.cc/Z4WA-33JA] [Ecotrust Canada 2021].

¹⁹² Ecotrust Canada 2021, *supra* note 191.

¹⁹³ DFO GGF Projects 2020 – 2022, *supra* note 180.

5. Recommendations

As mentioned previously, it is expected that in 2023 the CCME will announce a comprehensive policy framework for addressing ALDFG in Canada. This is welcome news given Canada's slow responses to date, both to relevant international instruments and its own international legal commitments. By the time Canada's notional framework is announced, the EU Directive will have been in place for four years, and implemented by nearly all member countries, given the deadline of 2024. Thus, while Canada has taken some steps forward with its 2019 Ghost Gear Program, it is already far behind international leaders in this field, an issue of significant concern given the global importance of Canada's coastlines. At the same time, Canada's recent data collection and contributions to the multi-stakeholder GGI are a positive sign.

While the CCME announcement signals that regulatory reform is a likely next step in Canada, it is not clear what regulatory approach these reforms may adopt. The recommendations in this section are intended to provide guidance for Canadian civil society advocates who seek to push the federal government to pursue an effective and comprehensive approach to ALDFG in Canada, as quickly as possible. These recommendations arise from our conversations with experts in the field and a review of the available literature. In this section, we begin by identifying guiding principles that should be present in any ALDFG scheme. Next, we highlight two key changes to Canadian law and policy that would make an impact, and already have a high degree of endorsement. These are changes to licencing conditions and retrieval restrictions, and increased education and awareness around mandatory gear loss reporting. Perhaps most importantly, we recommend the adoption of an EPR approach for Canada and explain why it is understood to be a particularly effective model. Finally, we make the case for increased transparency when it comes to Canada's policies and programs in this area.

Whatever regulatory path is taken, any changes in Canada to better prevent and manage ALDFG must be designed in response to local fishing contexts and in close consultation with stakeholders. For example, updating regulations to permit the retrieval of ghost gear during the fishing season and for the retrieval of equipment not registered to the operator of the vessel would allow fishers to practice retrieval activities while actively fishing.¹⁹⁴ This could lead to the collection of a greater quantity of ghost gear, but also raises concerns that competition between harvesters could result in tampering or theft of other fisher's equipment, or that fishers may exploit these changes to fish with unmarked gear or more gear than permitted.¹⁹⁵ This is just one example demonstrating the

¹⁹⁴ Alexa Goodman, *State of Abandoned, Lost and Discarded Fishing Gear in the Canadian Maritimes (East Coast)* (Fishing Gear Coalition of Atlantic Canada: 2020) at 54, online (pdf): <fgcac.org/wp-content/uploads/2020/09/WWF_20200615_FGCAC_GhostGearReport_8-5x11_FP_HighRes.pdf> [perma.cc/TVU4-5TXK] [Goodman 2020].

¹⁹⁵ Pingguo He & Petri Suuronen, "Technologies for the marking of fishing gear to identify gear components entangled on marine animals and to reduce abandoned, lost or otherwise discarded fishing gear" (2018) 129 *Marine Pollution Bulletin* 253 at 253-254, online: *ScienceDirect* <<https://www.sciencedirect.com/science/article/pii/S0025326X18301218>> [<https://doi.org/10.1016/j.marpolbul.2018.02.033>]; Stephen Hodgson, *Legal aspects of abandoned, lost, or otherwise discarded fishing gear* (Rome: UNFAO & IMO, 2022) at 47, online (pdf): <<https://repository.oceanbestpractices.org/bitstream/handle/11329/2088/cb8071en.pdf?sequence=1&isAllowed=y>> [<https://perma.cc/A42M-LX7R>] [Hodgson].

relevance of local and industry input for regulatory design in this area. Thus, while we have attempted to provide recommendations that are generally relevant across contexts, we caution that any regulatory changes in this area should be based on fulsome data collection and stakeholder consultation.

5.1 GUIDING PRINCIPLES

Recommendation #1. That Canada’s new policy approach to ALDFG fully respond to the imperatives of prevention, mitigation and remediation; and that prevention receive increased attention and prioritization.

In the literature on ALDFG, best practices and measures are consistently divided into three related objectives: prevention, mitigation, and remediation.¹⁹⁶ A comprehensive system to effectively address ALDFG must include components and measures related to each of these categories.¹⁹⁷ Each category has a different purpose and would likely involve different actors and levels of government. Prevention to reduce ALDFG in the oceans and along coastlines is typically identified as the most important of the three. Prevention measures identified in the literature include: enforceable regulations prohibiting pollution, designing gear to reduce loss during its use;¹⁹⁸ awareness and education campaigns so that fishers are as diligent as possible in their use of the gear;¹⁹⁹ improved fisheries management;²⁰⁰ encouraging the use of technology to avoid loss or better identify the location of lost gear;²⁰¹ and the provision of adequate, affordable, accessible onshore port reception and collection/recycling facilities.²⁰² Mitigation measures aim to minimize the damage caused by ALDFG, while remediation encompasses reporting and recovery of gear.²⁰³

While Canadian law (statutes and regulations) contain basic prohibitions on pollution, there is a noticeable lack of legislative and policy attention being paid to the effective prevention of ALDFG.²⁰⁴ Rather, Canada’s policy model to date has heavily emphasized remediation. As described above, most of the Fund projects are recovery efforts to remove ALDFG from marine waters, or pilot projects for recycling facilities. These interventions are an important aspect of managing ALDFG but must be accompanied by prevention measures in order to effectively address

¹⁹⁶ Huntington 2021a, *supra* note 21 at 21-36, 46; Huntington 2021b, *supra* note 106 at 36; Macfayden et al, *supra* note 45 at xvii-xix; GGGI Impact of Fishing Gear Report, *supra* note 46 at 7.

¹⁹⁷ GGGI Impact of Fishing Gear Report, *supra* note 46 at 7; Huntington 2021a, *supra* note 21 at 21-36.

¹⁹⁸ Huntington 2021a, *supra* note 21 at 22-23.

¹⁹⁹ Huntington 2021a, *supra* note 21 at 28-30.

²⁰⁰ Huntington 2021a, *supra* note 21 at 30.

²⁰¹ Huntington 2021a, *supra* note 21 at 24-27; Macfayden et al, *supra* note 45 at xvii.

²⁰² Huntington 2021a, *supra* note 21 at 27-28; Macfayden et al, *supra* note 45 at xvii.

²⁰³ Huntington 2021a, *supra* note 21 at 30-36.

²⁰⁴ Ela Cichowski, independent researcher (1 December 2022), via email [communicated to Charis Kamphuis and Avery Letkemann].

the issue.²⁰⁵ Without effective prevention, derelict fishing gear will continue to accumulate in the oceans and along shorelines around the world.

One example of policy action in the realm of prevention and mitigation is government investment in research and development for better technology to prevent ALDFG. While investment in technology change is one of the four pillars of Canada's Ghost Gear Fund, this has been a relatively small component of the policy and the impacts are not clear.²⁰⁶ Another example of action to prevent ALDFG is the use of command-and-control regulations, such as bans or prohibitions on certain types of particularly harmful gear. These are also recommended in the literature on prevention.²⁰⁷ However, in order to ban the use of particularly destructive or flimsy gear, fishers and harvesters need alternatives that will not have the same or worse results on the environment. Without government leadership in incentivizing and requiring technology change, it is unlikely that industry will switch to better gear on its own. Each of these examples, as well as others highlighted by the Global Ghost Gear Initiative in their *Best Practice Framework for the Management of Fishing Gear*, can and should be implemented in conjunction with each other to maximize their effectiveness.

5.2 LICENCING CONDITIONS AND RETRIEVAL RESTRICTIONS

Recommendation #2. That Canada develops an integrated suite of reforms to licensing conditions and retrieval restrictions that enable harvesters to retrieve ALDFG whenever possible. Such enabling should include the facilitation of accessible storage and recycling options. These reforms may further benefit from incentives to encourage harvesters to retrieve and recycle ALDFG. To be effective, it is essential that reforms in this area be informed by extensive stakeholder consultation.

There is broad consensus that changes are required to licencing conditions and restrictions in Canada to encourage, or at least allow, harvesters and fishers to collect any ALDFG they come across during the season and bring it to port for recycling. Improving retrieval efforts can help address the accidental and unavoidable gear loss that comes with fishing.²⁰⁸ However, at present, licencing conditions typically do not allow fishers and harvesters to keep any gear on board that is not individually tagged for that vessel or intended to be used in that vessel's particular form of fishing. Additionally, retrieval efforts to remove ALDFG from the waters are typically permitted only outside of the fishing season.²⁰⁹ These measures are traditionally seen as important because

²⁰⁵ Macfayden et al, *supra* note 45 at xvii; Huntington 2021a, *supra* note 21 at 26.

²⁰⁶ DFO GG Program Overview, *supra* note 157 at 5; DFO GG Fund, *supra* note 163.

²⁰⁷ Huntington 2021a, *supra* note 21 at 42; Hodgson, *supra* note 195 at 23-24.

²⁰⁸ OECD 2021, *supra* note 12 at 34-35.

²⁰⁹ DFO GG Program Overview, *supra* note 157 at 8.

they help prevent illegal, unreported or unregulated fishing with unmarked or untraceable gear, and help avoid the risks of inadvertent retrieval of gear that is in use or intentional retrieval of gear in situations of competition between harvesters.²¹⁰

Notably, DFO has begun a pilot program to allow for limited in-season retrieval.²¹¹ These changes may help address the sort of limbo for harvesters who unintentionally haul ALDFG up into their vessel during the season. Harvesters in this situation are caught between licensing restrictions on the possession of gear that is not their own on one hand, and prohibitions on littering on the other.²¹² For such harvesters, having the gear on board may violate their licencing conditions, but throwing the gear back into the waters would put them in violation of the regulations.

Addressing this issue will require a careful examination of the current regulatory framework to identify practical and effective solutions that are rooted in the local context and industry. As mentioned, loosening the requirements described here may hinder other efforts to sustainably manage fisheries and prevent ALDFG. In addition, it could lead to conflict between harvesters during the season as it could potentially allow for competing harvesters to tamper with each other's equipment if they claim that it was ALDFG when it entered their vessel. Thus, a detailed and context-specific definition of ALDFG is required, in addition to a suite of related changes, such as protocols and facilities for the storage and recycling of retrieved ALDFG.

Finally, retrieving ALDFG will likely add additional costs and inconvenience for harvesters. Thus, incentives are likely necessary to encourage fishers to retrieve any ALDFG that they encounter while at sea and bring it to port for recycling. In Part 4, we referred to the EU's recognition of the importance of incentives, as well as some of the strategies the EU has adopted.

5.3 REPORTING LOST GEAR

Recommendation #3. That Canada take concerted steps to improve the uptake of its reporting program to ensure its effectiveness.

Improving Canadian data on ALDFG is essential in order to address the accidental and unavoidable gear loss that comes with fishing.²¹³ Since 2020, it has been mandatory for commercial fishers to report lost gear through DFO's Fishing Gear Reporting System.²¹⁴ The system allows fishers to report the location, type, and amount of gear lost, along with any other relevant details.²¹⁵ This

²¹⁰ UNFAO Voluntary Guidelines, *supra* note 136.

²¹¹ DFO GG Program Overview, *supra* note 157 at 10.

²¹² Goodman 2020, *supra* note 194 at 8.

²¹³ OECD 2021, *supra* note 12 at 34-35.

²¹⁴ DFO Data, *supra* note 103.

²¹⁵ DFO Data, *supra* note 103; Canada, DFO, "Reporting Requirements for Commercial Fisheries" (last modified 25 January 2023), online: <www.dfo-mpo.gc.ca/fisheries-peches/commercial-commerciale/reporting-declaration-eng.html> [perma.cc/K9KT-PE86] [DFO Reporting Requirements]; Canada, DFO, "Lost Fishing Gear Form" (last modified 3 September 2020), online: <www.dfo-mpo.gc.ca/fisheries-peches/reports-rapports/lost-gear-perse-eng/index-eng.html> [perma.cc/CUW5-J68N].

information helps the DFO target retrieval efforts and provides insight into the types of gear most commonly lost.²¹⁶

Despite this reporting system's no-fault approach (meaning that reporting lost gear will not result in the reporter being penalized), there has been little uptake on the West Coast.²¹⁷ Notably, the no-fault approach was adopted in part because of long-standing distrust of DFO among harvesters.²¹⁸ In order to improve the effectiveness of reporting systems and requirements in Canada, educational campaigns should be created to alleviate fears that reporting will result in penalty. Understanding how the information is being collected, why it is important to have this data and what it will be used for, could increase harvesters' trust and willingness to participate in the program.²¹⁹ This is key to building Canada's data on ALDFG.

Beyond building trust to increase uptake from commercial harvesters, opportunities for reporting ALDFG should be extended to others on the water. Indigenous guardian programs and recreational users could be instrumental in identifying areas where ALDFG is concentrated, and in filling gaps in reporting from harvesters. For these groups, if reporting is not made mandatory as it is for commercial fishers, the government may wish to introduce incentive programs to promote uptake.

5.4 EXTENDED PRODUCER RESPONSIBILITY

Recommendation #4. That Canada adopt EPR as its preferred approach to ensuring a more effective system for the prevention, mitigation and remediation of ALDFG.

Extended Producer Responsibility (EPR) describes a system in which the producer's responsibility for their products is "extended" beyond the point of sale, internalizing the costs associated with the collection, transportation, and responsible management of the product when it reaches the end of its life and shifting the onus away from governments and the general public.²²⁰ Canada already employs EPR for some products, and, as described above, the EU has recently extended its EPR scheme to ALDFG.²²¹ While these examples provide guidance for a Canadian approach to

²¹⁶ DFO Reporting Requirements, *supra* note 215.

²¹⁷ Huntington 2021a, *supra* note 21 at 42; Larissa Goshulak, former Senior Advisor in the Resource Management Division (25 November 2022), via email [communicated to Charis Kamphuis and Avery Letkemann] [Goshulak email].

²¹⁸ Goshulak email, *supra* note 217.

²¹⁹ Alexa Goodman, Marine Environmental Observation, Prediction and Response Network (15 November 2022), via email [communicated to Charis Kamphuis and Avery Letkemann].

²²⁰ Huntington 2021a, *supra* note 21 at 43; Claudia Fénérol & Jan Adams, *Extended Producer Responsibility: A Guidance Manual for Governments* (Paris: OECD, 2001) at 18, online (pdf): <www.oecd-ilibrary.org/docserver/9789264189867-en.pdf?expires=1675064202&id=id&accname=ocid177125&checksum=719AE6A22221C73BE2F2B084F8CC2F79> [perma.cc/S4JF-SKGN] [Fénérol & Adams]; Goodman 2020, *supra* note 194 at 32.

²²¹ Canada, Environment and Climate Change Canada, "Overview of extended producer responsibility in Canada" (last modified 14 August 2023), online: <www.canada.ca/en/environment-climate-change/services/managing-reducing-

establishing EPR for ALDFG, there is also a great deal of flexibility in how these schemes can be designed.²²²

EPR is one policy tool that Canada could use, in conjunction with other efforts, to more effectively prevent, mitigate and remediate ALDFG. EPR systems are designed to be financially self-sufficient, reducing the need for sporadic or uncertain government funding to maintain programs addressing ALDFG. This is achieved by shifting the financial responsibility for end-of-life management from governments to the producers of fishing gear.²²³ This reduces public spending on waste management by internalizing (ensuring that producers bear) the costs of end-of-life management for fishing gear in alignment with the “polluter pays” principle.²²⁴ EPR has the added benefit of creating a financial incentive for manufactures to improve the cost-efficiency of waste management in order to lower the costs of the recycling system and therefore, the fees they pay.²²⁵ For example, this may involve designing gear that is less likely to be lost, easier to recycle at the end of its useful life or that requires less plastic, as well as improving recycling and collections processes. Because of these factors, EPR is widely recommended to address ALDFG.²²⁶

At the same time, the nature of fishing gear poses a number of challenges for the implementation of EPR. For example, the wide variety of materials and gear used in fishing and harvesting can make recycling or other end-of-life management more costly and complex.²²⁷ In addition, because the supply chains for fishing gear are often very complex, assigning responsibility through an EPR regime can be a challenge.²²⁸ Both of these challenges may be further complicated by the frequent personalization and modification that can happen after gear is purchased. ALDFG also poses jurisdictional challenges, as it is a transient form of waste that can cross jurisdictional boundaries.

[waste/overview-extended-producer-responsibility.html](#) > [[perma.cc/JMQ5-KDWP](#)]; Directive (EU) 2019/904, *supra* note 27.

²²² Fénérol & Adams, *supra* note 220 at 12 & 39; IUCN, “Advocating Extended Producer Responsibility for fishing gear” (last accessed 14 April 2023) at 2, online (pdf): <https://www.iucn.org/sites/default/files/content/documents/2021/position_paper-epr_fishing_gear_and_ropes.pdf> [<https://perma.cc/67GT-7PBA>] [IUCN].

²²³ In some schemes, it is possible to assign physical responsibility for end-of-life management of fishing gear to the producers (see Deloitte, “Reducing Plastic Pollution and Creating a True Circular Economy for Plastics through Extended Producer Responsibility: Analysis of the status and potential of EPR for plastics in Norway for WWF” (May 2020) at 13-14, online (pdf): <https://media.wwf.no/assets/attachments/Report_Deloitte_AS_WWF.pdf> [<https://perma.cc/Y4GB-SBRU>] [Deloitte]).

²²⁴ Deloitte, *supra* note 223 at 1, 12-14, 42-43; The Netherlands, Rijkswaterstaat Ministry of Infrastructure and Water Management, *How to come to a more circular (management) system of fishing gear in the OSPAR-region*, (2021) at 50, online (pdf): <<https://www.noordzeeloket.nl/publish/pages/189036/report-how-to-come-to-a-more-circular-management-system-of-fishing-gear-in-the-ospar-region.pdf>> [<https://perma.cc/ZCA6-BD5J>] [Rijkswaterstaat].

²²⁵ Fénérol & Adams, *supra* note 220 at 17-19, 48-49; Deloitte, *supra* note 223 at 12-14; OECD 2021, *supra* note 12 at 35.

²²⁶ Goodman 2020, *supra* note 194 at 32, 39-40; Huntington 2021a, *supra* note 21 at 43; IUCN, *supra* note 222 at 1-2; IUCN, *Economic assessment of abandoned, lost and otherwise discarded fishing gear (ALDFG) in the fishery sector of The Republic of Cyprus*, by Ruben Savels et al, (Gland, Switzerland: IUCN Global Marine and Polar Programme, 2022) at 19, online (pdf): <https://www.iucn.org/sites/default/files/2022-08/economic_assessment_of_abandoned_lost_and_otherwise_discarded_fishing_gear_aldfg_in_the_fishery.pdf> [<https://perma.cc/AT97-YLSZ>].

²²⁷ EC, Executive Agency for Small and Medium-sized Enterprises Unit A.3 — European Maritime and Fisheries Fund, *Study on Circular Design of the Fishing Gear for Reduction of Environmental Impacts*, (Final Report), (Luxembourg: Publications Office of the European Union, 2020) at 11, online (pdf): <<https://cinea.ec.europa.eu/system/files/2021-03/StudyCircularDesing-EMFF2018.pdf>> [<https://perma.cc/4ALG-WCAE>] [EC 2020]; Goodman 2020, *supra* note 194 at 36; Rijkswaterstaat, *supra* note 224 at 8, 26-28, 35, 75.

²²⁸ Goodman 2020, *supra* note 194 at 36; EC 2020, *supra* note 227 at 11.

This could hinder retrieval efforts and lead to regulatory loopholes.²²⁹ Finally, while not specific to fishing gear, existing EPR regimes have been criticized for not adequately extending producer responsibility, for example to address littering.²³⁰ In other words, EPR regimes do not necessarily include funding dedicated specifically to regularly retrieving gear. This is especially relevant for ALDFG, which may not always be easily prevented and collected for recycling and may accumulate on remote areas of the seafloor or coastline.²³¹

The literature on responses to ALDFG and on EPR more broadly, point to policy options that can address the challenges specific to fishing gear.²³² For example, when EPR fees for producers are modulated based on the compatibility of the gear with a circular economy (i.e., amount of plastic used, gear recyclability, susceptibility to loss, etc.), producers are incentivized to innovate towards more recyclable and less polluting gear that can make end-of-life management easier.²³³ This can be complemented by regulatory actions alongside EPR, such as standardized requirements for the design and use of gear.²³⁴

The complexity of the fishing gear supply chain points to the need for a clear definition and identification of “producers” as the cornerstone of any EPR regime.²³⁵ Ensuring that manufacturers, and not fishers, bear the cost of the EPR system is generally seen as equitable, proportional and in alignment with the polluter-pay principle.²³⁶ To our knowledge, Canada does not appear to have data on who the producers of gear used in Canada are, and whether gear is manufactured domestically or imported from elsewhere. This information is essential for implementing a successful EPR system, and the Canadian government should prioritize this form of data collection.

In the EU, the definition of “producers” includes the original manufacturers, or where gear is manufactured internationally, the first importers or sellers of the gear.²³⁷ Expanding the definition of “producers” to include the first importers or sellers of gear can help address the lack of regulatory access to international manufacturers, incentivizing the importers or sellers to choose better gear or materials for import.²³⁸ This is also relevant for managing some of the jurisdictional challenges posed by ALDFG. Another important factor is standardization, both in implementing an

²²⁹ For example, gear lost from fishers outside of Canada could float into Canadian waters and enter the waste stream despite the producers not contributing to EPR. Similar issues could arise if there are differences in EPR schemes between provinces (see Goodman 2020, *supra* note 194 at 40).

²³⁰ Deloitte, *supra* note 223 at 1, 37.

²³¹ OECD 2021, *supra* note 12 at 10.

²³² See, e.g., EC 2020, *supra* note 227; Deloitte, *supra* note 223; Rijkswaterstaat, *supra* note 224; IUCN, *supra* note 222; Fénérol & Adams, *supra* note 220.

²³³ Deloitte, *supra* note 223 at 1, 41-42, 47-48.

²³⁴ Rijkswaterstaat, *supra* note 224 at 22-23, 29, 74.

²³⁵ IUCN, *supra* note 222 at 3; Deloitte, *supra* note 223 at 1-2, 14, 37, 42.

²³⁶ OECD 2021, *supra* note 12 (Note that the OECD raises the concern that “Placing EPR obligations solely with the gear manufacturer risks insufficient incentives for the gear user to minimise the risk of gear loss, but can bolster incentives for manufacturers to design for recycling” at 36); *Directive (EU) 2019/904*, *supra* note 27 at 6; Fénérol & Adams, *supra* note 220 at 48-49.

²³⁷ The preamble of the directive makes clear that fishers and artisanal gear manufacturers should not be considered producers under EPR schemes (see *Directive (EU) 2019/904*, *supra* note 27 at 6, art 3).

²³⁸ Further clarity in defining both ‘producer’ and the types of gear or materials covered can help ensure that responsibility is extended in an equitable manner (EC 2020, *supra* note 227 at 11); Deloitte, *supra* note 223 at 1, 37; IUCN, *supra* note 222 at 2.

EPR regime that is standardized at a national level, and pursuing agreements or standardization internationally to avoid jurisdiction-shopping and to be able to properly account for the drifting of ALDFG.²³⁹ An EPR regime for fishing gear could avoid the pitfalls of existing schemes by extending producer responsibility to the whole marine environment, and ensuring that producers are responsible for cleaning up unavoidably or accidentally lost gear, and not only the gear that is most easily collected for recycling. This would have the added benefit of incentivizing producers to make efforts to prevent and reduce littering.²⁴⁰

5.5 PUBLIC TRANSPARENCY AND REPORTING

Recommendation #5. That Canada’s laws, regulations, policies and programs for effectively regulating ALDFG be communicated clearly to the public.

In Part 2 of this report, we described the challenges we encountered in accessing accurate and comprehensive information about Canada’s existing policies and programs for regulating ALDFG. In order to identify the legal framework in Canada, we had to sift through a number of existing statutes and regulations to determine which provisions might directly or indirectly apply to ALDFG. Canadians cannot properly engage in public policy debate in this area if they lack the relevant baseline information about Canada’s existing approach. Such information is also critically important for all those who may be directly impacted by Canada’s effort to regulate ALDFG, such as gear producers, fishers and recycling centres.

For this reason, as part of Canada’s new policy approach to ALDFG, we recommend that Canada ensure that all its relevant policies, programs, laws and regulations are communicated to the public in an accessible format. Greater transparency with respect to Canada’s regulatory approach should go hand in hand with Canada’s commitments to improve ALDFG-related data collection and reporting to the GGGI. Throughout this report we have pointed to other key areas where data is required. As more data is collected to inform policy development, this data should also be publicly reported.

²³⁹ Goodman 2020, *supra* note 194 at 40; Rijkswaterstaat, *supra* note 224 at 53; IUCN, *supra* note 222 at 3.

²⁴⁰ Deloitte, *supra* note 223 at 52-53.

6. Conclusion

There is growing scientific evidence and consensus that ALDFG poses a significant, even existential, threat to marine life in oceans and coastlines in Canada and around the world. Canada has a particularly high duty to address this issue given the fact that it has the longest coastlines in the world. A binding international agreement (MARPOL Annex V) to address the problem has been in force since the late 1980s, there is a 2019 EU directive with mandatory EPR to take full effect by 2024, and an internationally endorsed policy framework (the GGGI) as of 2021. In this environment, Canada must make regulatory reform in this area a high priority.

In recent years, Canada has partnered with the GGGI and developed the Fund. There is now a declared initiation among Canadian ministers of the environment to develop a proposal for a comprehensive scheme for managing ALDFG. Significant work has been done at the international level to identify best practices to prevent, mitigate, and remediate ALDFG and these documents should be authoritative for building a comprehensive framework in Canada. EU Directive 2019/904 and its implementation across Europe represents a resounding endorsement of the importance of EPR schemes in this area.

It is time for Canada to move beyond short term policy and funding approaches to ALDFG toward the rapid development of made-in-Canada EPR schemes, with regulatory reforms to enable and incentivize retrieval and reporting and full conformity to the guiding principles set out in Part 6. These are the minimum reforms required if Canada is to achieve its international commitments to conserve 30% of Canada's oceans by 2030 and to ensure the sustainable use of marine resources for sustainable development.

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