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To the Whalesafe Gear Team,

The Pew Charitable Trusts is writing in support of and with suggestions for improvements to The Canadian Whalesafe Fishing Gear Strategy (“the Strategy”). We appreciate Fisheries and Oceans Canada (DFO) prioritizing the development and implementation of whalesafe fishing gear in Canadian fisheries. However, there are critical gaps in the Strategy that must be addressed. Specifically, the objectives within the Strategy fail to describe the barriers against, or to define requirements for, the wide-spread adoption of on-demand fishing gear, which leaves the timeline for broad usage uncertain. The need for temporary and season-long fishing area closures is increasing to protect large whales, especially the endangered North Atlantic right whale. Therefore, the integration of safe and effective on-demand gear represents the best solution to reducing entanglements while allowing harvesters to fish. As Canada strives to meet its 2030 CBD GBF commitments, the Strategy needs to be updated to include a clear framework for decision making and implementation, with reasonable timelines for completion. Below we offer suggestions for ways to improve the Strategy, focusing on the five objectives as outlined in the Strategy.

“Objective 1: Incorporate on-demand fishing gear into priority fisheries to protect NARWs in Atlantic Canada and Quebec; Objective 3: Incorporate on-demand fishing gear more widely in Canadian fisheries.”

As DFO is developing a framework to transition commercial fishing in Canada to gear that is less harmful to whales and other marine animals caught as bycatch, it is important to consider the decisions that need to be made to overcome barriers to the widespread

adoption of on-demand fishing. The following were not mentioned in the Strategy but are required to meet objectives 1 and 3.

1. Gear location marking must be based on fishery density.

Gear location marking is one of the greatest barriers to implementing on-demand fishing at a broader scale than experimental fisheries. There are three methods of determining the location of fishing gear: GPS, acoustic ranging, and directional acoustic ranging. The ideal on-demand unit would have a gear location marking system that has the capability to utilize all three localization methods depending on the fishery.

While gear localization is vital to the success of on-demand fishing anywhere in the world, it becomes especially important in high-density fishing locations in Atlantic Canada where the threat of gear conflict is high. To avoid gear conflict and allow regulators to locate and inspect gear, *DFO must identify acoustic-based location marking (ranging or directional ranging) as the main methods for gear localization in high-density fishing areas.*

Currently, most commercially available on-demand systems rely on GPS to record the vessel's location when gear goes overboard and cannot always reflect where gear is located on the seafloor. This method of localization may be adequate for low-density fisheries, but the accuracy is far too low to be sufficient for high-density crab and lobster fisheries within Atlantic Canada and Quebec. By using on-demand systems that rely on acoustic devices (which are already built within the system) or an additional directional acoustic receiver, there will be sufficient accuracy to locate gear and meet the same standards that are currently provided by traditional gear with a visible surface buoy.

Without a gear location marking solution that is suitable for Atlantic Canada and Quebec, progress in on-demand fishing will be stalled. *DFO must classify fisheries by densities, and then identify acoustic-based location marking for high-density fisheries.*

2. Require a universal cloud database.

In on-demand fishing, the needs of regulators and harvesters are the most important to consider. Regulators need to have access to all data in real time to adequately monitor and enforce fisheries, and harvesters need access to near real-time or real-time location information depending on the density of the fishery. While there has been significant

progress recently on gear location marking, a universal cloud database is essential to collecting measurements, executing computations, and sharing on-demand gear positions with regulators and harvesters.

Fixed-gear fishing trawls can move after being set from ocean currents or unintended interactions with mobile fishing vessels. In this scenario, gear owners need to be notified of their new gear positions in the cloud. For real-time information, at-sea acoustic systems and the cloud-based platform should operate together to effectively combat gear conflict and lost gear. Mobile harvesters also need to rely on a universal cloud database to receive and display last-known location information of fixed fishing gear on the seafloor. Although this would not be real-time (since it is unlikely that mobile vessels will be required to have a transducer to triangulate on-demand gear on the seafloor), it could be enough to reduce gear conflict.

The United States' National Oceanic and Atmospheric Administration (NOAA) has stated that "the best, most universal system would have both interoperable acoustics and a centralized database system that could provide real-time locations to approaching and passing vessels." To that end, NOAA has partnered with EarthRanger, a nonprofit organization focused on software solutions, to visualize GPS-marked locations from different on-demand manufacturers on a web-based platform. *DFO must similarly explore on-demand interoperability platforms, create communication protocols, and require all license holders to contribute to a common gear-location database.*

3. Require open standards for acoustic protocols to achieve interoperability.

Harvesters need to accurately detect the location of all gear on the seafloor to avoid gear conflict, and regulators need to monitor all active on-demand systems. This requires that acoustics to signal and locate gear on the seafloor be interoperable (i.e. speak one common language), so vessels can receive locations from deployed gear around them. An open standard would enable community localization and lost gear recovery, and recovery of gear by regulators with a single surface system (transducer/deck box) in all fisheries.

Currently, most on-demand systems only detect and communicate with systems of the same manufacturer. All on-demand systems are currently not, but must be, interoperable, regardless of the manufacturer. *To achieve interoperability, DFO must require on-demand systems that rely on acoustics to signal and locate gear and that have open standards and*

protocols for acoustic localization and communication. This would allow the vessels to detect and report locations of on-demand traps or trawls on the seafloor regardless of the manufacturer.

Not only is this vital to achieving interoperability, this approach would encourage competition among manufacturers to produce systems that are as low cost as possible while also meeting the needs of harvesters and regulators.

“Objective 2: Assess fisheries across Canada to identify fisheries with a high risk of whale interaction and entanglement; Objective 4: Implement other gear modifications to prevent and alleviate whale entanglement harm.”

1. Reinstate funding for ghost gear prevention and retrieval.

The Pew Charitable Trusts is a member of the Global Ghost Gear Initiative (GGGI) and we agree with the important goal of preventing derelict gear from littering our oceans and of retrieving gear that does. In the past, Canada has recognized the threat that ghost gear poses and therefore, *DFO should reinstate funding to ghost gear prevention, retrieval, and responsible disposal.* Although it is commendable to attempt to stop ghost gear before it happens, unfortunately issues like weather events and illegal fishing can create conditions where ghost gear is inevitable, and thus needs to be retrieved. Another benefit to acoustically marking on-demand fixed gear is that trawls and traps can be located on the seafloor, regardless of whether they have moved from where they were initially deployed.

DFO should also continue to work with all stakeholder groups, including Indigenous and non-Indigenous harvesters, to come to resolutions and resolve issues that lead to ghost gear, like cutting endlines. Issues like moderate livelihood and lobster fishing near the border with the U.S. in the gray zone are not easy to solve, but without leadership from DFO, they will continue to contribute to both the ecological damage caused by ghost gear, and the social issues in communities.

2. Increase surveillance and evaluate co-occurrence.

We commend DFO's use of dynamic and seasonal closures to non-tended, fixed gear fishing as entanglement prevention measures when and where North Atlantic right

whales are detected, and we support commercial fishing with on-demand gear in these closed areas. To know where North Atlantic right whales are, however, *DFO should expand current surveillance efforts outside of the Gulf of St. Lawrence, in particular, surveillance needs to increase in the Scotian Shelf and Cabot Strait.* Also, as DFO reviews data regarding where and when whales have the greatest likelihood of encountering fishing gear and considers establishing on-demand-gear-only fishing zones, *DFO should rely upon the best available data for co-occurrence models to better understand the threat of entanglement in specific areas and use this information to guide management decisions.* Further, *DFO should also decide what regulatory mechanism would on-demand-gear-only zones be implemented and managed.*

3. Low breaking strength fishing gear is a low priority.

In 2020, in response to similar regulations enacted by NOAA in the United States, Canada committed to requiring low breaking-strength (LBS) fishing gear. Unfortunately, LBS gear is unpopular among both fishers (who are concerned about safety), and right whale scientists (who are skeptical regarding its efficacy in reducing right whale population declines). Whether the rope is manufactured at a lower strength, or is modified to reduce its strength, it still poses a threat to right whales when it is used as an endline in the water column. The studies conducted nine years ago were based on theoretical models of whale behavior and were only able to claim that lower breaking strength gear could potentially reduce the lethality of an entanglement, not prevent entanglements from occurring. Therefore, in this Strategy, *DFO should focus on preventing whale entanglements through on-demand fishing and not invest additional resources into LBS rope or links, which are not approaches that should be considered “whalesafe.”*

“Objective 5: Continue research and gear trials to address knowledge gaps.”

1. Funding is needed to continue the successful CanFISH program.

From 2021 to 2023, Canada funded CanFISH, an on-demand gear cache and training program. During the first year of operation, the Gulf of St. Lawrence snow crab fishery used on-demand gear from CanFISH to commercially fish closed areas; the program allowed crabbers to maintain their livelihoods and contribute to the coastal economy in their communities. Pew has also funded CanFISH since its inception because it is vital that harvesters throughout Atlantic Canada be provided with gear, training and support as

they evolve their practices and adapt to meet new management measures. CanFISH also engages with regulators, particularly with conservation and protection officers, throughout Atlantic Canada, as their involvement and input are crucial to the future success of on-demand fishing. With increased pressure from the U.S.'s Marine Mammal Protection Act and poor seafood certification ratings such as the Monterey Bay Aquarium's Seafood Watch "red listing" of Atlantic Canadian lobster and snow crab, *DFO must increase funding to programs that facilitate the use of on-demand gear, such as CanFISH, an important and effective program that has a large amount of amassed on-demand gear and technical expertise.* Closures to end lines have been effective at reducing harmful interactions between whales and commercial fisheries, and funding CANFish will allow harvesters to continue safely fishing.

We have been glad to see the progress being made in Canada to support the use of on-demand fishing gear in the Atlantic lobster and crab fisheries. DFO's Strategy is a good starting point for further progress, but requires additional details on key issues, especially gear location marking. DFO should continue to allocate funding and staff resources to make regular progress on all these objectives by taking a leadership role in conversations with harvesters, indigenous groups, academia and ENGOs. Policies that are derived from this Strategy should be implemented on a clear timeline so that on-demand fishing can become a viable option for commercial harvesters on a broader scale, allowing endangered whales and commercial fisheries to co-exist into the future.

Sincerely,



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