

- Animal Welfare Institute • Center for Biological Diversity •
- Defenders of Wildlife • The Humane Society of the United States
- Humane Society International/Canada • Natural Resources Defense Council •

Via Email

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Re: Comments on DFO's Proposed Right Whale Action Plan

On behalf of our U.S. and Canadian conservation organizations, we provide comments on Fisheries and Oceans Canada's ("DFO") Proposed "Action Plan for the North Atlantic Right Whale (*Eubalaena glacialis*) in Canada."¹ While we generally support the Action Plan and the recovery measures proposed therein, overall, the Plan lacks specificity and metrics to monitor progress and right whale recovery.

As our groups have expressed in previous letters to the Government of Canada, we are extremely concerned about the fate of the right whale and Canada's response. Only around 400 individual right whales remain, and the species is listed as "endangered" in both Canada and the United States. Last month, the International Union for Conservation of Nature ("IUCN") designated the species as "critically endangered" due to its increasingly dire status.²

And the right whale's status is indeed dire. Between 2017 and today, 31 right whales have been found dead; 21 of those whales were found in Canadian waters.³ An additional 10

¹ Fisheries and Oceans Canada. 2020. Action Plan for the North Atlantic Right Whale (*Eubalaena glacialis*) in Canada [Proposed]. *Species at Risk Act* Action Plan Series. Fisheries and Oceans Canada, Ottawa. v + 40 pp ("Proposed Action Plan").

² Cooke, J.G. 2020. *Eubalaena glacialis*. *The IUCN Red List of Threatened Species* 2020: e.T41712A162001243. <https://dx.doi.org/10.2305/IUCN.UK.2020-2.RLTS.T41712A162001243.en>.

³ NMFS. 2017–2020 North Atlantic Right Whale Unusual Mortality Event. Available at: <https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2020-north-atlantic-right-whale-unusual-mortality-event> ("NMFS UME webpage"); see also Bourque, L. et al. 2020. Incident Report: North Atlantic Right Whale Mortality Event in Eastern Canada, 2019. Collaborative Report Produced by: Canadian Wildlife Health Cooperative and Marine Animal Response Society. 210 pp.

whales have been seriously injured and are already dead or expected to die from those injuries.⁴ Just over half of the known or suspected causes of mortality for the species have been attributed to vessel strikes, closely followed by entanglements in fishing gear.⁵ Much more must be done – on both sides of the border – to ensure the right whale’s survival. We urge DFO to take this opportunity to detail the specific conservation measures DFO believes are necessary to recover the right whale, not only to more comprehensively guide DFO and its partners in the recovery process but also to assure the public of Canada’s commitment and plan to save the species.

(1) SARA’s Requirements

Canada’s Species at Risk Act (“SARA”) establishes a two-part recovery planning process. First, DFO must prepare a “recovery strategy” for each endangered species.⁶ The strategy must identify the threats to the species’ survival and describe a “broad strategy” to address those threats.⁷ Additionally, the strategy must identify the species’ critical habitat, “population and distribution objectives” for the species, and “research and management activities needed to meet those objectives.”⁸ DFO originally issued its North Atlantic Right Whale Recovery Strategy in 2009 and amended the Strategy in 2014.⁹

Next, DFO “must prepare one or more action plans based on the [species’] recovery strategy.”¹⁰ While the recovery plan is intended to be a broad, strategic document, the subsequent action plan must “provide details on specific recovery measures to be taken.”¹¹ The plan must include a “statement of the measures that are to be taken to implement the recovery strategy, including those that address the threats to the species . . . as well as an indication as to when these measures are to take place,” and “methods to monitor the recovery of the species and its long-term viability.”¹² The action plan must also identify the species’ critical habitat, include “a statement of measures that are proposed to be taken to protect the species’ critical habitat, and identify “any portions of the species’ critical habitat that have not been protected.”¹³ For aquatic species, like the right whale, DFO must then “make any regulations that are necessary . . . for the purpose of implementing the measures included in the plan.”¹⁴

⁴ *Id.*

⁵ *Id.*

⁶ SARA, s. 37(1).

⁷ *Id.*, s. 41(1).

⁸ *Id.*

⁹ See Fisheries and Oceans Canada. 2014. Recovery Strategy for the North Atlantic Right Whale (*Eubalaena glacialis*) in Atlantic Canadian Waters [Final]. Species at Risk Act Recovery Strategy Series. Fisheries and Oceans Canada, Ottawa. vii + 68 pp. (“2014 Recovery Strategy”).

¹⁰ SARA, s. 47.

¹¹ 2014 Recovery Strategy.

¹² SARA, s. 49(1).

¹³ *Id.*

¹⁴ *Id.*, s. 53.

(2) DFO's Proposed Action Plan Lacks Critical Detail

DFO's Proposed Action Plan states that it "is a detailed extension of the [2014 Right Whale Recovery Strategy], identifying more specific measures needed to address threats to the Right Whale and achieve recovery."¹⁵ However, as we explain below, the Proposed Action Plan is very general. While we appreciate this level of generality is common in DFO action plans, it is not helpful for actually planning for the right whale's recovery.

DFO's proposed "measure" to reduce right whale entanglement provides a good example. Entanglement is one of the two critical threats to right whales along with vessel strikes, and entanglement in Canadian snow crab gear has killed numerous right whales in recent years.¹⁶ Yet DFO's proposed Measure 2 simply states that DFO will "[d]evelop and implement fishery management measures."¹⁷ Without providing any detail on what those measures might be, DFO merely states that there will be measures. DFO's proposed measure for addressing vessel strikes is similarly vague, stating only that DFO and partners will "develop and implement vessel traffic management measures to reduce the risk" from ship strikes with no specifics.¹⁸

Moreover, as DFO has stated, a recovery strategy is intended to be a broad strategic document, while the subsequent action plan should "provide details on specific recovery measures to be taken."¹⁹ But the measures proposed in DFO's action plan are virtually identical to those stated in the broad strategy identified in DFO's 2014 Recovery Strategy and provide no further detail. For example, Objective 2 of the 2014 Recovery Strategy is to "[r]educe mortality and injury as a result of fishing gear interactions (entanglement and entrapment)."²⁰ The Recovery Strategy identifies the broad strategy to reach that goal, promising DFO will "[e]valuate, promote, and/or implement where necessary strategies (e.g. gear modifications, effort restrictions) that will reduce the potential for harmful interactions between fishing gear and right whales."²¹ In comparison, the purportedly more detailed Action Plan promises that DFO will "[d]evelop and implement fishery management measures" to reduce entanglement risk. Beyond changing the word "strategy" to "measures," there is no difference between the documents. The Proposed Action Plan is utterly lacking in any detailed guidance on the type, scope, or intended efficacy of fishery measures.

We urge DFO to use this Action Plan to develop and detail the *specific* conservation measures that are needed, outlining DFO's authority, conservation actions already taken, and particular actions that must be proposed or evaluated, as well as more detailed monitoring methods. The currently proposed, very general "measures" are so vague that they provide little actual guidance on how DFO plans to recover our shared right whale population.

¹⁵ Proposed Action Plan at i.

¹⁶ Bourque et al. 2020.

¹⁷ Proposed Action Plan at 6.

¹⁸ *Id.* at 7.

¹⁹ 2014 Recovery Strategy.

²⁰ *Id.* at 36.

²¹ *Id.*

(3) DFO's Action Plan Is Significantly Delayed

The North Atlantic right whale was listed as endangered under SARA in 2005. Yet despite the passage of 15 years and the species' declining trend, DFO has failed to finalize an action plan for the species. In its 2009 Recovery Strategy, DFO committed to produce a Roseway Basin-specific action plan by 2011 and a "second action plan" by 2014,²² yet DFO has completed neither. In DFO's 2014 Recovery Strategy, DFO stated that a "first chapter" of the action plan would be issued within two years (by 2016) and a second chapter "no later than five years" after the Strategy was complete (by 2019).²³ DFO never met these commitments.

Instead, DFO proposed an action plan regarding fisheries interactions in 2016 but never finalized the document.²⁴ It is now halfway through 2020, and DFO is only proposing its right whale action plan. Given the dire status of the right whale and the urgent need to implement aggressive protections for the species, DFO must not delay any further. SARA requires that the final action plan be published "[w]ithin 30 days" after the comment period ends.²⁵ We urge DFO to demonstrate its commitment to right whale recovery by complying with this statutory deadline.

(4) DFO Must Update the Proposed Action Plan to Reflect Best Available Scientific Information

The Proposed Action Plan fails to take into account the best available scientific information on North Atlantic right whales. The Plan's discussion of status and population trends is outdated by more than a year and does not reference recent and relevant scientific information on sublethal effects or new evidence on the energetic requirements of right whales during foraging.

The number of North Atlantic right whales continues to decline at an alarming rate. Scientists estimate there were between 399 and 430 individual right whales at the end of 2018, with a best estimate of 409 (with 95% confidence).²⁶ At least 31 animals are known to have been killed since 2017, and an additional ten whales have been documented with serious injuries they will not survive.²⁷ These 41 animals represent roughly ten percent of the population.²⁸ These

²² Brown, M.W. et al. 2008. Recovery Strategy for the North Atlantic Right Whale (*Eubalaena glacialis*) in Atlantic Canadian Waters [Proposed]. Species at Risk Act Recovery Strategy Series. Fisheries and Oceans Canada. vi + 63p, at 39.

²³ DFO Right Whale Recovery Strategy.

²⁴ Several of our organizations submitted comments that the plan was extremely vague.

²⁵ SARA, s. 50(3).

²⁶ Pettis, H.M. et al. 2020. North Atlantic Right Whale Consortium 2019 Annual Report Card. Report to the North Atlantic Right Whale Consortium. Available at: www.narwc.org.

²⁷ NMFS UME webpage.

²⁸ *Id.* The preliminary cumulative total number of animals in NMFS's North Atlantic right whale Unusual Mortality Event has been updated to 41 individuals to include both the confirmed mortalities (dead stranded or floaters) (n=31) and seriously injured free-swimming whales

documented serious injuries and deaths only represent a small fraction of whales that are injured or killed.²⁹ Calf survival is also severely diminished. Two of the ten calves born in the 2019/2020 calving season are already either confirmed or likely dead due to vessel strikes and their mothers have not been re-sighted.³⁰

In 2019, the National Oceanic and Atmospheric Administration listed North Atlantic right whales as a “Species in the Spotlight” indicating they are one of nine marine species to be at greatest risk of extinction in the United States.³¹ Last month, IUCN reclassified the North Atlantic right whale from “endangered” to “critically endangered” on the IUCN Red List of Threatened Species, one step away from “extinction.”³² The IUCN estimates that mature animals only number between 200 and 250 individual whales;³³ fewer than 100 are reproductively active females.³⁴

Recent analysis of North Atlantic right whale necropsies carried out between 2003 and 2018 confirms that the population decline is due to increased incidence and severity of entanglements in commercial fishing gear and vessel strikes.³⁵ This finding is borne out by recently detected deaths. Twelve whales were first observed dead in Canada in 2017, and nine were first observed in Canada in 2019. Of these 21 detected deaths, two were determined to be a result of acute entanglement, eight from suspect or probable blunt force trauma from vessel strike, and the causes of 11 deaths were not determinable.³⁶ Five right whales were first observed dead in U.S. waters in 2017, three in 2018, one in 2019, and one—a calf born that season—in 2020 (as of August 7, 2020). Six deaths were caused by chronic, probable, or suspect entanglements, two were caused by sharp and/or blunt force trauma from vessel strike, and for the remaining two animals the cause of death could not be determined.³⁷ Since 2017, four whales determined to be seriously injured were last seen alive in Canadian waters; all injuries were caused by entanglement.³⁸ Since 2017, six seriously injured whales were last seen alive in U.S. waters; five whales were injured from entanglements and one—a calf born that season—was injured by a vessel strike.³⁹ As previously noted, these documented serious injuries and deaths

(n=10) to better reflect the confirmed number of whales likely removed from the population during the UME and more accurately reflect the population impacts.

²⁹ Sharp, S.M. et al. 2019. Gross and histopathologic diagnoses from North Atlantic right whale *Eubalaena glacialis* mortalities between 2003 and 2018. *Diseases of Aquatic Organisms*, vol. 135, pp. 1–31.

³⁰ NMFS UME webpage.

³¹ NOAA-NMFS, “North Atlantic right whale – In the Spotlight.” Available at: <https://www.fisheries.noaa.gov/species/north-atlantic-right-whale#spotlight>.

³² Cooke, J.G. 2020.

³³ *Id.*

³⁴ NOAA Fisheries, “North Atlantic right whale,” available at: <https://www.fisheries.noaa.gov/species/north-atlantic-right-whale>.

³⁵ Sharp et al. 2019.

³⁶ NMFS UME webpage.

³⁷ *Id.*

³⁸ *Id.*

³⁹ *Id.*

represent only a small fraction of whales that are actually injured or killed.⁴⁰ Mortalities resulting from entanglement may be even less likely to be detected relative to other causes of death, due to weight loss making the whale negatively buoyant and more likely to sink before it is found; it is likely that the number of fatal entanglements significantly exceeds current estimates.⁴¹

The Proposed Action Plan lacks information on the pervasive sublethal effects of entanglement, which include impaired reproductive potential and negative health effects and may eventually lead to individual mortalities and undermine any opportunity for the species to recover.⁴² Moreover, females are more negatively affected than males by the lethal and sublethal effects of human activity, surviving to only 30–40 years of age with an extended inter-calf interval of approximately ten years.⁴³ Of the surviving population, 85 percent bear scars indicating that they have been entangled at least once and that more than half have been entangled at least twice.⁴⁴

New science demonstrates the importance of protecting right whales during foraging and their foraging habitat. North Atlantic right whales select foraging areas based on a relatively high threshold of copepod density. Notably, foraging areas with suitable prey density are limited relative to the overall distribution of North Atlantic right whales,⁴⁵ meaning that unrestricted and undisturbed access to suitable areas, when they exist, is extremely important for individuals to maintain their energy budgets. Scientific information on North Atlantic right whale functional ecology also shows that the species employs a “high-drag” foraging strategy that enables individuals to selectively target high-density prey patches but is energetically expensive.⁴⁶ Thus, if access to prey is limited in any way, the ability of the whale to offset its energy expenditure during foraging is jeopardized. In fact, researchers have concluded: “[R]ight whales acquire their energy in a relatively short period of intense foraging; even moderate changes in their feeding behavior or their prey energy density are likely to negatively impact their yearly energy budgets and therefore reduce fitness substantially.” North Atlantic right whales are already experiencing significant food-stress: juveniles, adults, and lactating females have significantly poorer body condition relative to southern right whales and the poor condition of lactating females may cause

⁴⁰ Sharp et al. 2019.

⁴¹ *Id.*

⁴² Rolland, R.M. et al. 2016. Health of North Atlantic right whales *Eubalaena glacialis* over three decades: from individual health to demographic and population health trends. *Marine Ecology Progress Series*, vol. 542, pp. 265–82.

⁴³ Corkeron, P. et al. 2018. The recovery of North Atlantic right whales, *Eubalaena glacialis*, has been constrained by human-caused mortality. *Royal Society Open Science*, vol 5, art. 180892.

⁴⁴ Knowlton, A.R. et al. 2012. Monitoring North Atlantic right whale *Eubalaena glacialis* entanglement rates: a 30 yr retrospective. *Marine Ecology Progress Series*, vol. 466, pp.293–302.

⁴⁵ Plourde, S. et al. 2019. North Atlantic right whale (*Eubalaena glacialis*) and its food: (I) a spatial climatology of *Calanus* biomass and potential foraging habitats in Canadian waters. *Journal of Plankton Research*. vol. 41, issue 5, pp. 667–685.

⁴⁶ Van der Hoop, J. et al. Foraging rates of ram-filtering North Atlantic right whales. *Functional Ecology* (Published online May 11, 2019).

a reduction in calf growth rates.⁴⁷ Undisturbed access to foraging habitat must be ensured to adequately protect the species.

(5) DFO Appropriately Assigns “High” Priority to Recovery Measures

All recovery measures included in the Proposed Action Plan are “considered important” and are assigned one of three priority levels to assist in the implementation of the Plan (“high,” “medium,” and “low”).⁴⁸ “High” priority measures are considered likely to have an immediate and/or direct influence on the recovery of the species.⁴⁹ In our view, DFO’s assignment of “high” priority to the recovery measures is appropriate.

We agree with the assignment of a “high” priority level to those recovery measures that directly reduce harm from the two main causes of right whale deaths, serious injuries, and sublethal effects, namely entanglement and vessel strikes. These two major impacts are well understood and do not require further research before tangible mitigation measures are developed and, most importantly, implemented. Recovery measures aimed at reducing entanglement risk by removing rope from the water, such as innovating new fishing gear (e.g., “[e]xplore, develop, and implement entanglement prevention and mitigation measures including gear innovation or modified gear configurations”⁵⁰) and addressing ghost gear (e.g., “[r]emove abandoned, lost, or otherwise discarded fishing gear (ALDFG) from Right Whale habitat to reduce risk of entanglement”⁵¹), and increasing management options to reduce likelihood of vessel strikes (e.g., “[d]evelop and implement vessel traffic management measures to reduce the risk of Right Whale mortality or serious injury from ship strikes”⁵²), are two such “high” priority examples.

The assignment of “high” priority to recovery measures focused on near real-time and real-time monitoring methods and technologies capable of directly informing management measures, such as seasonal or dynamic vessel speed restrictions or fishery area closures, is also appropriate. This is particularly important in light of the rapidly shifting spatial and temporal distribution of North Atlantic right whales. The importance of multi-platform and spatially-appropriate surveillance is demonstrated by the lack of detected North Atlantic right whale deaths in 2018 when the Canadian Government invested heavily in species surveillance following the 12 detected deaths in the Gulf of St Lawrence in 2017. It is worth noting that surveillance efforts were more limited in 2019 and the number of detected deaths in Canadian waters rose again to nine whales. Measures aimed at improving the predictability of right whale habitat use in a given year—such as “[s]urvey, monitor, and predict the locations of *Calanus* aggregations”⁵³—are also rightly assigned “high” priority in the Proposed Action Plan. Our agreement with the priority level for monitoring and surveillance notwithstanding, we underscore

⁴⁷ Christiansen, F. et al. 2020. Population comparison of right whale body condition reveals poor state of the North Atlantic right whale. *Marine Ecology Progress Series*, vol. 640, pp. 1–16.

⁴⁸ Proposed Action Plan at 4.

⁴⁹ *Id.*

⁵⁰ *Id.* at 8.

⁵¹ *Id.* at 9.

⁵² *Id.* at 7.

⁵³ *Id.* at 9.

the importance that recovery measures focused on monitoring and surveillance be directly linked to other recovery measures aimed at impact mitigation (i.e., monitoring data must be used to inform management triggers).

Finally, we acknowledge that marine mammal response efforts are particularly challenging in Atlantic Canada (e.g., geographic scale, travel logistics) and support the assignment of a “high” priority level to recovery measures aimed at continuing and enhancing the response to reported North Atlantic right whale incidents and mortalities in Canadian waters, including necropsies.⁵⁴

(6) DFO’s Proposed Action Plan Lacks Both Clear Targets for Reducing Risk and Evaluation Criteria

DFO’s Proposed Action Plan lacks clear, numerical or other specific targets for reducing anthropogenic risk, particularly with regard to reducing mortality, serious injury, and sublethal effects resulting from entanglements and vessel collisions. The current draft further fails to provide a clear baseline and metrics to gauge recovery progress; targets for risk reduction are absent or too vague to be useful.⁵⁵ This lack of specificity compromises any ability to monitor progress in achieving goals and/or completing tasks key to the recovery of this species.

Indeed, only in Section 9 of the Plan, discussing the development of acoustic monitoring in key habitat, does DFO specify the need for a baseline,⁵⁶ in this case using acoustic monitoring to establish seasonal occurrence off eastern Canada. While Section 4 in the Proposed Plan is titled “measuring progress,” this brief section merely refers back to Section 2.4 of the initial 2009 recovery strategy, stating the Recovery Strategy’s “performance indicators . . . provide a way to define and measure progress towards achieving the population and distribution objectives.” DFO further notes it issued a report on the progress of recovery strategy implementation for the period 2009-2014.⁵⁷ But DFO’s Strategy, dated 2009, is over a decade old; even DFO’s 2016 progress report is now four years old.⁵⁸

⁵⁴ See, e.g., *id.* at 6–7.

⁵⁵ See, e.g., Objective 2 Table 1 proposing to “Develop and implement fishery management measures to *reduce the risk of Right Whale* mortality and serious injury from entanglement in fishing gear” [emphasis added] which will be impossible to measure because the current/baseline rate of mortality is not specified.

⁵⁶ Section 1.2.2 at #9 states that DFO has developed a “research plan that includes establishing a noise baseline and enhancing knowledge of the species’ seasonal occurrence off eastern Canada using acoustic detection and other methods.”

⁵⁷ Proposed Action Plan at 32; Brown, M.W. et al. 2009. Recovery Strategy for the North Atlantic Right Whale (*Eubalaena glacialis*) in Atlantic Canadian Waters [Final]. Species at Risk Act Recovery Strategy Series. Fisheries and Oceans Canada. vi + 66p. North Atlantic Right Whale Recovery Strategy [FINAL] June 2009. Available at:

https://www.sararegistry.gc.ca/virtual_sara/files/plans/rs_north_atl_right_whale_0609_e.pdf

⁵⁸ DFO. 2016. Report on the progress of recovery strategy implementation for the North Atlantic Right Whale (*Eubalaena glacialis*) in Canadian waters for the period 2009–2014. Species at Risk Act Recovery Strategy Series. Fisheries and Oceans Canada, Ottawa. iii + 48 pp.

Moreover, Canada’s progress toward achieving the stated objectives has been abysmal. We note, for example that Objective 2 in this 2009 document is “[r]educe mortality and injury as a result of vessel strikes.”⁵⁹ However, as noted above, NOAA and DFO have documented at least 10 vessel-related deaths since the start of 2017.⁶⁰ At the very least, the plan should contain metrics by which progress toward achieving key recovery goals can be measured.

(7) The Proposed Action Plan Only Vaguely Addresses Entanglement Risk and Targets for Reducing that Risk

As noted above, entanglement in fishing gear is one of the two most significant causes of right whale mortality, serious injury, and sublethal effects. DFO’s Proposed Action Plan acknowledges this threat, and we welcome DFO’s stated intent to reduce the risk of mortality and serious injury of North Atlantic right whales due to entanglement in Canadian fishing gear.

However, the Proposed Plan fails to provide specific targets for reducing serious injuries and mortalities due to entanglement. At the very least, Canada must reduce serious injury and mortality to at or below Potential Biological Removal (“PBR”) level, as the U.S. MMPA requires U.S. fisheries to meet PBR, and the U.S. MMPA Imports Rule prohibits the import of fish products caught in a way that exceeds this U.S. standard.⁶¹ Indeed, in reiterating its serious concern over the right whale’s status, the International Whaling Commission’s Scientific Committee called on Canada and the U.S. to make every effort to reduce human-induced threats, including entanglement in fishing gear, *to zero*.⁶² Without establishing specific targets to gauge success or failure, DFO is unlikely to succeed in reaching the Plan’s goal to ensure an increasing trend in right whale abundance over three generations.

We also note that the term “serious injury” has not been defined in the Plan, nor has it been stipulated that such injuries will be counted as mortalities. NMFS considers whales with documented serious injuries (which it defines as injuries from which a whale is not likely to recover) as part of the 2017–2020 Unusual Mortality Event (UME). In addition to the 31 known mortalities since 2017, there have been ten serious injuries identified for right whales. Nine of

⁵⁹ *Id.*

⁶⁰ NMFS UME webpage.

⁶¹ See 16 U.S.C. §§ 1371(a)(2); 1387(f)(2), (5), (b)(1); 1362(20); 50 C.F.R. §§ 216.24(h)(6)(iii)(B), (C); 216.3. Our groups submitted a letter dated September 17, 2019 to the U.S. National Marine Fisheries Service regarding the MMPA Imports Rule and Canadian imports. Available at: https://www.nrdc.org/sites/default/files/media-uploads/ngo_letter_to_noaa_on_the_mmpa_import_rule_and_canada.pdf.

⁶² IWC (2020) Report of the Scientific Committee May 2020, at 40. Available at: <https://iwc.int/sc68b>.

these have been identified as being caused by entanglement, four in Canadian waters.⁶³ These numbers likely underrepresent the total number of right whale deaths and injuries.⁶⁴

The Plan does address the need to monitor entanglement scarring rates as an indicator of effectiveness in preventing and mitigating entanglement (measure 48), but observed scarring rates do not fully reflect entanglement rates, as not every scar is detected and not every entanglement results in scarring.⁶⁵ Measure 19 (Conduct visual health assessments of right whales) should be given a higher priority and moved from medium to high, as assessing body condition and monitoring health trends is critical at both the individual and species level.

We concur with the findings of the 2017 DFO report noted under measure 22 (“Explore, develop, and implement entanglement prevention and mitigation measures, including gear innovation or modified gear configurations”) that “[r]emoval of vertical and floating surface lines from habitat areas when Right Whales are present is expected to be the most effective way to reduce risk.”⁶⁶ To this end, we urge DFO to require all fixed-gear fisheries to develop the technologies and regulations to transition to ropeless gear on an aggressive, time-bound schedule and to mandate such gear as the only viable option in all high-risk fisheries (such as the Gulf of St. Lawrence snow crab fishery). Ropeless gear is being or has been tested in California and Massachusetts in the United States, Australia, Canada, and Scotland, and manufacturers are increasingly developing new ropeless gear options.⁶⁷ Ropeless gear provides the best long-term solution both to eliminate entanglement in vertical lines and keep fishers on the water. Therefore, we applaud DFO’s approval of ropeless gear trials.⁶⁸

⁶³ NMFS UME Webpage and Bourque et al. 2020. We note that whale #1226, one of the 31 known mortalities, is identified on NMFS’s UME webpage as a U.S. death due to “probable acute entanglement.” No gear was found on the whale when the carcass of #1226 was located on September 16, 2019. However, the whale, known as Snake Eyes, was last seen alive on August 6, 2019 in the Gulf of St. Lawrence with rope going through his mouth.⁶³ DFO should, therefore, identify this mortality as a Canadian fishery interaction, regardless of where the carcass was later found.

⁶⁴ As many as 40 to 50 percent of all presumed dead right whales go undetected. Pace, R.M., III et al. 2017. State-space mark-recapture estimates reveal a recent decline in abundance of North Atlantic right whales. *Ecology and Evolution* 7(21):8730–41.

⁶⁵ Letter from Dr. Peter O. Thomas, Executive Director of the U.S. Marine Mammal Commission to Mr. Michael Pentony, U.S. National Marine Fisheries Service, September 23, 2019. <https://www.mmc.gov/wp-content/uploads/19-09-23-Pentony-Right-whale-DEIS-scoping.pdf>

⁶⁶ DFO. 2017. North Atlantic Right Whale: A science-based review of recovery actions for 3 at risk whale species. Ottawa. 78 pp.

⁶⁷ Baumgartner, M. et al. Ropeless Workshop Report: Overcoming Development, Regulatory and Funding Challenges for Ropeless Fishing to Reduce Whale Entanglement in the U.S. and Canada (Feb. 1, 2018). Available at: https://ropeless.org/wp-content/uploads/sites/112/2018/03/Ropeless_Workshop_Report.pdf.

⁶⁸ Protecting North Atlantic right whales: Canada’s fishing measures by year introduced. <https://www.dfo-mpo.gc.ca/fisheries-peches/commercial-commercial/atl-arc/narw-bnan/narw-timeline-eng.html>.

With further regard to measure 22, we are concerned with the Plan’s apparent reliance on rope with reduced breaking strength (“RBS”) to reduce the risk of entanglement. While testing of gear modifications related to rope strength is occurring, the use of weak rope is not a long-term solution to the entanglement problem. Research on RBS ropes indicates that calves and juvenile whales will likely not benefit.⁶⁹ We are also concerned that the Plan does not adequately address the impacts of gear other than fixed gear. For example, a study by Vanderlaan noted the potential threat that groundfish hook and line gear can pose to right whales.⁷⁰

The Plan is correct in emphasizing the need to improve gear marking (measures 21 and 23), as this will afford DFO a means of identifying fisheries and areas that pose high risk to right whales. However, the measures noted in the Plan are vague and do not accurately reflect the current status of DFO’s fishery management measures for right whales. Moreover, while the Plan’s measure 22 notes the Food and Agricultural Organization’s Committee on Fisheries’ “voluntary guidelines on marking of fishing gear,” DFO has rightly already moved beyond voluntary measures to require all fixed gear in Atlantic Canada and Quebec to mark gear so as to identify region and fishery. Further, lobster and crab fisheries are mandated to identify gear as to the specific fishing area.⁷¹ We urge DFO to expand the requirements for fishing-area-specific gear marking to other fisheries to provide important information needed to analyze entanglement risk for habitat areas outlined in the Plan’s measure 21.

While known right whale entanglements have occurred in actively fished gear rather than abandoned, lost, or discarded fishing gear (“ALDFG,” otherwise known as ghost gear),⁷² we appreciate DFO’s efforts to remove ghost gear from right whale habitats, including migratory routes and DFO’s commitment to search for mechanisms to prevent such loss (measure 26). We support DFO’s requirement that license holders in all fixed-gear fisheries must report lost gear.

We are deeply disappointed that while the Plan acknowledges that enforcement and compliance are a high priority (Measure 37: “Conduct compliance monitoring and enforcement of mandatory threat prevention and mitigation measures, and monitor conformity with voluntary measures”), there is no narrative description of what such measures would entail. We also emphasize our concern that voluntary fishery management measures are ineffective, as they cannot be enforced.

⁶⁹ Knowlton, A. et al. 2015. Implications of fishing rope strength on the severity of large whale entanglements. *Conservation biology: the journal of the Society for Conservation Biology*. 30. 10.1111/cobi.12590. (5-year old right whales were found in rope strengths from 7.56-18.24 kN, whereas adult right whales were found in rope strengths of 20.02-51.15 kN, and 6- to 8-year-olds spanned both ranges).

⁷⁰ Vanderlaan, A.S.M. et al. 2011. Fishing-gear threat to Right Whales (*Eubalaena glacialis*) in Canadian waters and the risk of lethal entanglement. *Can. J. Fish. Aquat. Sci.* 68: 2174–93.

⁷¹ DFO 2020 fishery management measures: <https://www.dfo-mpo.gc.ca/fisheries-peches/commercial-commerciale/atl-arc/narw-bnan/management-gestion-eng.html>.

⁷² Henry, A.G. et al. 2017. Don’t assume it’s ghost gear: accurate gear characterization is critical for entanglement mitigation [poster]. Presented at the Society for Marine Mammalogy 22nd Biennial Marine Mammal Conference, Halifax, Nova Scotia, October 23–27, 2017, DOI:10.1575/1912/9287.

(8) The Proposed Action Plan Only Vaguely Addresses Vessel Strike Risk

In spite of the actions Transport Canada has taken to reduce vessel strikes, in 2019, at least four right whales were found dead in Canadian waters and were either confirmed or suspected vessel strikes, with another four carcasses that were not examined in which vessel strikes were a possible cause of death.⁷³ As not all carcasses are documented, it is likely additional whales died from this threat.⁷⁴

Given the high risk of vessel strikes in the Cabot Strait and the Gulf of St. Lawrence and the fact that measures used to date have not significantly reduced this risk, we are deeply concerned that the document does not specifically identify what actions DFO will take to reduce this risk.

In particular, the Plan lacks a commitment to ensure that visual and acoustical survey effort is increased to trigger measures, despite DFO's acknowledgement in its review of North Atlantic right whale occurrence in Canadian waters, which confirmed that "survey effort in many potentially high-risk areas has been low and it is not possible to determine if NARW regularly occupy these areas."⁷⁵ In addition, we are concerned that the Plan appears to consider "voluntary options" as part of its vessel strike mitigation strategy. A lack of compliance with voluntary speed measures has been documented for over a decade.⁷⁶ This is reinforced by the findings in a recent review of vessels operating in voluntary speed zones in Canada issued by Oceana demonstrating that most vessels were not in compliance.⁷⁷ We strongly urge DFO to work with Transport Canada to adopt mandatory vessel measures and ensure full compliance.

We appreciate the efforts by Transport Canada to reduce vessel strike risk by enacting large seasonal management areas in the Gulf of St. Lawrence and reducing the vessel size to which the measures apply to 13m. However, we remain concerned that the reactive measures put forward in the shipping lanes may not be sufficient. As we have stated in previous letters to DFO and Transport Canada, right whales do not typically travel in groups and only temporarily aggregate for socializing, and the odds of detecting individual transiting right whales are substantially lower than those of detecting an aggregation. If measures to reduce vessel strike risk in shipping lanes are reactive, i.e., require a detection, versus proactive, i.e., require speed restrictions seasonally, the risk of a striking an individual whale transiting through the shipping lane remains high, particularly given the limitations in acoustic and visual survey effort in the shipping lanes. If reactive measures in the shipping lane remain, we strongly urge Transport

⁷³ <https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2020-north-atlantic-right-whale-unusual-mortality-event>

⁷⁴ Bourque et al. 2020.

⁷⁵ DFO. 2019. Review of North Atlantic right whale occurrence and risk of entanglements in fishing gear and vessel strikes in Canadian waters. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2019/028.

⁷⁶ Silber, G.K. et al. 2012. Vessel operator response to a voluntary measure for reducing collisions with whales. *Endang. Species Res.*, Vol. 17: 245–254.

⁷⁷ Elmslie, K. et al. 2020. *Dangerous Passage*, available at: https://oceana.ca/sites/default/files/dangerous_passage_final_en.pdf.

Canada to invest in permanent passive acoustic monitoring platforms throughout the entirety of the traffic separation scheme to increase the chances of detecting vulnerable individuals transiting this high risk portion of the Gulf of St. Lawrence. With a right whale population of only approximately 400 where each whale matters to the species' survival, risk reduction must not solely focus on aggregations but must consider protections for individual whales.

(9) The Action Plan Fails to Fully Consider and Mitigate Threats from Offshore Oil and Gas Activities

The Proposed Action Plan fails to address and propose mitigation for another serious threat to right whales—offshore oil and gas activities. These activities harm or risk harm to right whales in a variety of ways, including through seismic airgun blasting and increased vessel traffic as well as through potential oil spills. The failure to carefully evaluate the risk of such activities to right whales is particularly glaring considering the Canadian government recently issued amended regulations that will fast track environmental review of exploratory drilling activities.⁷⁸

Studies show that oil spills have a wide array of lethal and sublethal impacts on marine species, both immediate and long-term.⁷⁹ Direct impacts to wildlife from exposure to oil include behavioral alteration, suppressed growth, induced or inhibited enzyme systems, reduced immunity to disease and parasites, lesions, tainted flesh, and chronic mortality.⁸⁰

Marine mammals can be exposed to oil internally by inhaling volatile compounds at the surface, swallowing oil, or consuming oil-contaminated prey, and externally by swimming in oil.⁸¹ Exposure to toxic fumes from hydrocarbons during oil spills have been linked to recent mortality in cetaceans, even years after such accidents.⁸² For example, the U.S. National Marine Fisheries Service has found that a large whale species – the Gulf of Mexico Bryde's whale – was the offshore cetacean most affected by the Deepwater Horizon spill. In particular, an estimated 48 percent of the population were affected by the spill; 17 percent were killed; 22 percent of reproductive females experienced reproductive failure; and 18 percent likely suffered negative health impacts.

⁷⁸ Canada Fast Tracks Oil and Gas Well Approvals in Atlantic Ocean, Bloomberg, June 4, 2020, <https://news.bloomberglaw.com/environment-and-energy/canada-fast-tracks-oil-and-gas-well-approvals-in-atlantic-ocean>.

⁷⁹ Peterson, C.H. et al. 2003. Long-term ecosystem response to the Exxon Valdez oil spill. 302 *Science* 2082–86; Venn-Watson, S. et al. 2015. Adrenal Gland and Lung Lesions in Gulf of Mexico Common Bottlenose Dolphins (*Tursiops truncatus*) Found Dead following the Deepwater Horizon Oil Spill. 10 *PLoS ONE* e0126538.

⁸⁰ Holdway, D.A. 2002. The acute and chronic effects of wastes associated with offshore oil and gas production on temperate and tropical marine ecological processes, 44 *Marine Pollution Bulletin* 185.

⁸¹ NMFS, Impacts of Oil on Marine Mammals and Sea Turtles, http://www.nmfs.noaa.gov/pr/pdfs/health/oil_impacts.pdf.

⁸² Venn-Watson, S. et al. 2015.

An oil spill could also have significant indirect impacts on right whales by killing or harming their prey. Oil affects virtually all invertebrate taxa.⁸³ It is toxic to bottom-dwelling, pelagic and intertidal invertebrates such as corals, lobsters, crabs, oysters, clams, and zooplankton.⁸⁴ Widespread mortality of marine invertebrates generally occurs in the immediate vicinity of oil spills due to chemical toxicity and smothering, and additional mortality can result when toxic components of oil are remobilized from sediments.⁸⁵ Sublethal effects to invertebrates from oil exposure include impairment of reproduction, growth, respiration, excretion, chemoreception, feeding, movements, stimulus response and disease resistance.⁸⁶ In corals, laboratory experiments have documented broad impacts from oil exposure including reduced growth, tissue damage and death, zooxanthellae expulsion, abnormal feeding behaviors, increased susceptibility to bacterial infection, damaged reproductive function (e.g., lower gonad numbers, sterilization of gametes), impaired larval metamorphosis and recruitment, and bioaccumulation of toxic compounds in exoskeletons. Due to these chronic impacts, invertebrate populations and community structure can take years to decades to recover after oil exposure.⁸⁷

Twenty-eight right whale experts—among them some of the world’s leading authorities on this endangered species—have warned that “[t]he additional stress of widespread seismic airgun surveys may well represent a tipping point for the survival of this endangered whale, contributing significantly to a decline towards extinction.”⁸⁸ It is well established that the high-intensity pulses produced by airguns can cause a range of impacts on marine mammals, fish, and other marine life, including broad habitat displacement, disruption of vital behaviors essential to foraging and breeding, loss of biological diversity, and, in some circumstances, injuries and mortalities.⁸⁹

⁸³ Suchanek, T.H. 1993. Oil impacts on marine invertebrate populations and communities. 33 *American Zoologist* 510–23.

⁸⁴ Peterson, C. H. et al. 1996. Ecological consequences of environmental perturbations associated with offshore hydrocarbon production: a perspective on long-term exposures in the Gulf of Mexico. 53 *Canadian Journal of Fisheries and Aquatic Science* 2637–54; Peterson, C.H. et al. 2003. Long-term ecosystem response to the Exxon Valdez oil spill. 302 *Science* 2082–86; Haapkyla, J. et al. 2007. Oil pollution on coral reefs: a review of the state of knowledge and management needs. 57 *Vie et Milieu--Life and Environment* 91-107; U.S. Fish and Wildlife Service, *Effects of Oil on Wildlife and Habitat* (May 2010).

⁸⁵ Suchanek, T.H. 1993.

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ Statement from C. Clark, S. Kraus, D. Nowacek, A. J. Read, A. Rice, H. C. Rosenbaum, M. Baumgartner, I. Biedron, M. Brown, E.A. Burgess, T. Frasier, C. Good, P. Hamilton, M. Johnson, R. D. Kenney, A. Knowlton, N. S. Lysiak, C. Mayo, W. A. McLellan, B. MacLeod, C. A. Miller, M. J. Moore, D. A. Pabst, S. Parks, R. Payne, D. E. Pendleton, D. Risch, and R. Rolland to the President of the United States (Apr. 14, 2016). <https://www.nrdc.org/sites/default/files/media-uploads/seismic-right-whales-statement-20160414.pdf>

⁸⁹ See, e.g., Hildebrand, J.A., *Impacts of anthropogenic sound*, in Reynolds, J.E. III, et al. (eds.). 2006. *Marine Mammal Research: Conservation Beyond Crisis*; Weilgart, L. 2007. *The impacts*

In baleen whales, for example, seismic airguns have repeatedly been shown to disrupt behaviors essential to foraging and mating over vast areas of the ocean, on the order in some cases of 100,000 square kilometers and greater, and across a wide range of behavioral contexts (foraging, breeding, and migrating).⁹⁰ Similarly, seismic surveys are known to elevate background levels of noise, masking calls and other biologically important signals, compromising the ability of marine wildlife to communicate, feed, find mates, and engage in other vital behavior.⁹¹ Seismic airgun noise can displace marine mammals from preferred feeding, breeding, and migratory habitat, over both the short- and long-term, with potentially serious energetic consequences.⁹² And it can exacerbate the risk of marine mammal stranding and vessel collision, of mother-calf separation, and of other mechanisms of injury and mortality.⁹³

The only way to truly mitigate these numerous harmful impacts is to prevent them from occurring in the first place by not permitting new oil and gas activity in right whale habitat. At the very least, DFO's Action Plan must address oil and gas activity and identify necessary mitigation measures and monitoring procedures.

of anthropogenic ocean noise on cetaceans and implications for management. *Canadian Journal of Zoology* 85: 1091–1116.

⁹⁰ E.g., Castellote, M. et al. 2012. Acoustic and behavioural changes by fin whales (*Balaenoptera physalus*) in response to shipping and airgun noise. *Biological Conservation* 147: 115–22; Cerchio, S. et al. 2014. Seismic surveys negatively affect humpback whale singing activity off Northern Angola. *PLoS ONE* 9(3): e86464; Blackwell, S.B. et al. 2015. Effects of airgun sounds on bowhead whale calling rates: Evidence for two behavioral thresholds, *PLoS ONE* 10(6): e0125720.

⁹¹ Nieukirk, S.L. et al. 2012. Sounds from airguns and fin whales recorded in the mid-Atlantic Ocean, 1999–2009, *Journal of the Acoustical Society of America* 131: 1102–12.

⁹² E.g., Bain, D.E. and Williams, R. 2006. Long-range effects of airgun noise on marine mammals: Responses as a function of received sound level and distance (IWC Sci. Comm. Doc. IWC/SC/58/E35); Clark, C.W. and Gagnon, G.C., Considering the temporal and spatial scales of noise exposures from seismic surveys on baleen whales. 2006. IWC Sci. Comm. Doc. IWC/SC/58/E9; Rosel, P.E. and Wilcox, L.A. 2014. Genetic evidence reveals a unique lineage of Bryde's whales in the northern Gulf of Mexico. *Endangered Species Research* 25: 19–34.

⁹³ E.g., Hildebrand, J.A., Impacts of anthropogenic sound, *supra*; Nowacek, D.P. et al. 2004. Right whales ignore ships but respond to alarm stimuli. *Proceedings of the Royal Society of London, Pt. B: Biological Sciences* 271: 227–31; Cooke, J.G. et al.. Updated population assessment of the Sakhalin gray whale aggregation based on the Russia-US photoidentification study at Piltun, Sakhalin, 1994–2014 (Nov. 2015) (Western Gray Whale Advisory Panel Doc. WGWAP/16/17); Gray, H. and Van Waerebeek, K. 2011. Postural instability and akinesia in a pantropical spotted dolphin, *Stenella attenuata*, in proximity to operating airguns of a geophysical seismic vessel, *Journal for Nature Conservation* 19: 363–67.

(10) DFO Should Include a Timeline for Completing Studies Necessary to Expand Critical Habitat

A better understanding of right whale critical habitat and how such habitat should be protected from destruction is crucial for meeting right whale recovery goals. To address this need, the Action Plan should commit to a timeline for identifying and refining critical habitat and identify thresholds for activities that can destroy it. When complete information is not available, the Action Plan should identify precautionary measures for protecting right whale critical habitat.

Recovery Measures and Identification of Right Whale Critical Habitat

The 2014 Recovery Strategy identifies right whale critical habitat (Grand Manan Basin and Roseway Basin) and the need for studies to identify and refine critical habitat (evaluate prey distribution in critical habitat and surrounding areas, evaluate right whale use of areas, and determine the right whale’s migratory routes). It includes these studies in a “Schedule of Studies” and notes that “implementing the following schedule will yield information to eventually allow for identification of additional areas of critical habitat for this species.”⁹⁴ However, it fails to provide a timeline for completion, rendering it nothing more than a wish list of activities that may, someday, provide more insight into right whale critical habitat.

The 2014 Recovery Strategy’s failure to provide a timeline for completion is unfortunate as it and the Proposed Action Plan both note evidence of a habitat shift. For example, the Proposed Action Plan states, “Right Whales’ shift in habitat use to the southern Gulf of St. Lawrence is reflected in the [2014] Schedule of Study’s recommendation to review additional critical habitat areas.”⁹⁵ Nonetheless, six year later, studies necessary to determine whether the southern Gulf of St. Lawrence should be designated critical habitat are still outstanding and the proposed Action Plan sets forth no schedule to complete this inquiry.

Given the urgency compelled by the right whale’s status and uncertainties about the right whale’s shift in habitat use, the Action Plan should propose a comprehensive plan, including setting a specific timeline for completing studies that will help identify and refine right whale critical habitat. While the “continuous” timeline proposed in the Action Plan may adequately reflect the common need to monitor and update potential changes to a species’ critical habitat, in the case of right whales we already know of potential shifts in habitat use and the Action Plan should set forth a timeline for completing studies of these shifts and other studies necessary to refine current and potential critical habitat.⁹⁶

In addition, because other shifts in habitat are probable given the increasingly dynamic nature of right whale distribution, the Action Plan should acknowledge information gaps and

⁹⁴ Recovery Strategy for the North Atlantic Right Whale (2014) at 31.

⁹⁵ Proposed Action Plan at 28.

⁹⁶ While the proposed Action Plan provides a specific timeline for some studies that will contribute to habitat refinement (*see, e.g.*, recovery measure #18, which identifies the work to “gather information on habitat use, migration, and other movement patterns” within a timeline of two to five years), it fails to set forth a comprehensive, time-bound plan to fill gaps in our knowledge of right whale habitat.

account for this reality by putting in place a plan for handling this dynamism. The Action Plan should set forth a process for an annual review of information that may support revisions or interim measures applicable to existing and proposed critical habitat. The approach should be precautionary, strengthening existing protections of critical habitat and extending protections to new areas without requiring perfect data. For example, the Action Plan should extend interim critical habitat protections to the southern Gulf of St. Lawrence and similar areas reflecting habitat shifts now pending completion of studies.

If finalized as written, the Action Plan's deliberate deemphasis on completing critical-habitat studies within a robust timeframe allows Canada to continue using a lack of information to justify its delay and meager steps, all while noting that "[u]nderstanding the movements, migratory pathways, and locations of Right Whales would be valuable for monitoring the species, understanding threats to them, and refining management measures to protect them."⁹⁷ Information on right whale movements, migratory pathways, locations, and habitat characteristics is obtainable, and Canada must seek it out on a timeline that is sufficient to still make a difference for right whale recovery. The Action Plan should include such a timeline.

Protecting Critical Habitat

The Action Plan purports to "outline[] measures that provide the best chance of achieving the recovery goal and objectives for the species, including measures to be taken to address identified threats and monitor recovery."⁹⁸ However, it fails to identify measures that can be taken to avoid destruction of right whale critical habitat because it provides no thresholds or metrics for identified threats. To address this problem, the Action Plan should put forward mechanisms for monitoring and measuring threats to critical habitat and identify the thresholds associated with each threat that would result in temporary or permanent habitat destruction.

The Proposed Action Plan notes that the Recovery Strategy provides examples of activities likely to result in destruction of critical habitat, which in turn identifies four threats to right whale critical habitat: prey removal, acoustic disturbance, alteration of physical and biological oceanographic conditions, and contaminants. However, neither document provides metrics for measuring these threats. Without these and other metrics, policy makers and the public are left guessing as to which specific activities will lead to destruction of critical habitat. For example, the Recovery Strategy states that critical habitat requires a "[s]ufficient quantity of C5 *Calanus finmarchicus* copepodites to support the population" and "[n]oise levels appropriate to allow effective social communication and foraging"⁹⁹ but does not identify how much C5 *Calanus finmarchicus* copepodites is necessary to support the population or what level of noise prohibits effective social communication and foraging.

The Action Plan should effectuate SARA's prohibition against destruction of critical habitat by identifying activities that would exceed the thresholds discussed above and the measures that could be taken to ensure those thresholds are not exceeded. In doing so, the Action

⁹⁷ Proposed Action Plan at 18.

⁹⁸ *Id.* at iv.

⁹⁹ Recovery Strategy for the North Atlantic Right Whale (2014) at 32.

Plan would trigger a refinement of the 2017 Critical Habitat of the North Atlantic Right Whale (*Eubalaena glacialis*) Order, which serves to “communicate to Canadians the prohibition against the destruction of . . . critical habitat . . . so that they can plan their activities [and] ensure that all human activities which may result in the destruction of identified critical habitat are managed to the extent required under SARA.”¹⁰⁰

As noted above, neither the Recovery Strategy nor Proposed Action Plan provide enough information so that Canadians can plan their activities. Without thresholds or other metrics for prey removal, acoustic disturbance, alteration of oceanographic conditions, or contaminants, Canadians and enforcement personnel are left to guess what is allowed and what incidental activities may trigger the need for a permit. The Action Plan should correct this lack of clarity by identifying activities that are prohibited within critical habitat (e.g., shipping noise that transforms the background noise level by X percent).

Conclusion

Thank you for this opportunity to comment on DFO’s Proposed Action Plan. We urge DFO to revise the Plan substantially to make it more specific throughout, to set clear targets and evaluation criteria, and to address key threats to right whales much more comprehensively. We welcome the opportunity to discuss these comments and to work with DFO and the United States Government to recover this shared population.

Sincerely,

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¹⁰⁰ Critical Habitat of the North Atlantic Right Whale (*Eubalaena glacialis*) Order, SOR/2017-262.

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