



Submitted electronically via nmfs.gar.ALWTRT2019@noaa.gov

September 15, 2019

Mr. Michael Pentony
Regional Administrator
National Marine Fisheries Service
55 Great Republic Drive
Gloucester, MA 01930-2276

Re: Comments on Atlantic Large Whale Take Reduction Plan Scoping

Dear Mr. Pentony,

On behalf of the Natural Resources Defense Council (“NRDC”) and our more than 3 million members and activists, we submit these scoping comments on NMFS’ Environmental Impact Statement (“EIS”) for the amendment of the Atlantic Large Whale Take Reduction Plan. 84 Fed. Reg. 37,822 (Aug. 2, 2019).

NRDC and our members are profoundly concerned over the rapid decline of the North Atlantic right whale. As NMFS is aware, the species continues on a trajectory towards extinction. Approximately 400 individuals now remain and less than a quarter of the population is comprised of reproductively-active females, the lifeblood of the species.¹ At least eight right whales, representing two percent of the population, have been found dead so far this year. Half of those animals were females of, or approaching, breeding age.² These deaths have already offset the seven new calves born during the 2018-2019 calving season³ and compound the 20 recorded deaths that have occurred since 2017 alone.⁴ Without immediate and significant action under the Marine Mammal Protection Act and other statutes, including meeting the mandate of “no jeopardy” under the Endangered Species Act,⁵ we will lose this species in mere decades.

- I. The urgent need to reduce serious injury and mortality resulting from incidental entanglement in vertical lines used by commercial pot and trap fixed-gear fisheries in the Northeast U.S.

¹ NOAA Fisheries, “Immediate action needed to save the North Atlantic right whales,” leadership message, July 3, 2019. Available at: <https://www.fisheries.noaa.gov/leadership-message/immediate-action-needed-save-north-atlantic-right-whales>.

² “Right Whale News,” Volume 27, Number 2, September 2019. Available at: <https://www.narwc.org/uploads/1/1/6/6/116623219/rwn-sep19.pdf>.

³ The Scientist, “Seven North Atlantic right whale calves spotted so far this year,” March 5, 2019. Available at: <https://www.the-scientist.com/news-opinion/seven-north-atlantic-right-whale-calves-spotted-so-far-this-year-65561>.

⁴ NOAA Fisheries, “2017-2019 North Atlantic right whale Unusual Mortality Event.” Available at: <https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2019-north-atlantic-right-whale-unusual-mortality-event>.

⁵ 16 U.S.C. § 1536(a)(2), 16 U.S.C. § 1532(5).

There is a clear and urgent need, supported by science, to reduce the risk of serious injury and mortality resulting from incidental entanglement in the vertical lines used by commercial pot and trap fixed-gear fisheries in the Northeast. The leadership of the U.S. to significantly reduce the risk of entanglement in vertical lines, including that posed by the American lobster fishery, is an utmost necessity.

Entanglement remains the leading cause of right whale mortality and a major factor in reproductive loss. While the number of deaths attributable to vessel collisions have increased over the last two years (7 of 28 observed deaths since June 2017)⁶—consistent with the distributional shift of right whales northwards into habitat coinciding with shipping lanes in Atlantic Canada⁷—an increase in fishing gear entanglements has eroded the population over a far longer timeframe. Entanglement accounted for more than half (51.2 percent) of diagnosable deaths from 2003 to 2018,⁸ and that proportion significantly increased to 85 percent of diagnosable deaths between 2010 and 2015.⁹ As mortalities resulting from entanglement may be 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.¹⁰ Of the surviving population, 83 percent bear scars indicating that they have been entangled at least once, and that more than half have been entangled at least twice.¹¹ Moreover, the pervasive sub-lethal effects of entanglement, including impaired reproductive potential and negative health effects, may eventually lead to individual mortalities and currently undermine any opportunity for the species to recover.¹² Notwithstanding the recent increase in vessel collisions, entanglement in fishing gear represents the long-term driver of the right whale's dramatic decline and requires the immediate and concerted attention of the agency.

⁶ NOAA Fisheries, "2017-2019 North Atlantic right whale Unusual Mortality Event," *supra*.

⁷ Meyer-Gutbrod, E.L., Greene, C.H., and Davies, K.T.A., "Marine species range shifts necessitate advanced policy planning: The case of the North Atlantic right whale," *Oceanography*, Vol. 31, pp. 19-23 (2018).

⁸ Sharp, S.M., McLellan, W.A., Rotstein, D.S., Costidis, A.M., Barco, S.G., Durham, K., *et al.*, "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 (2019).

⁹ Pettis, H.M. and Hamilton, P.K., "North Atlantic Right Whale Consortium 2015 Annual Report Card," Report to the North Atlantic Right Whale Consortium (November 2015); Waring, G.T., Josephson, E., Maze-Foley, K., and Rosel, P.E. (eds.), "US Atlantic and Gulf of Mexico. Marine Mammal Stock Assessments – 2015," NOAA Technical Memorandum NMFS-NE-238 (2016).

¹⁰ Sharp, S.M., *et al.*, "Gross and histopathologic diagnoses from North Atlantic right whale *Eubalaena glacialis*, mortalities between 2003 and 2018," *supra*.

¹¹ Knowlton, A.R., Hamilton, P.K., Marx, M.K., Pettis, H.M., and Kraus, S.D., "Monitoring North Atlantic right whale *Eubalaena glacialis* entanglement rates: a 30 yr retrospective," *Marine Ecology Progress Series*, vol. 466, pp.293-302 (2012).

¹² Rolland, R.M., Schick, R.S., Pettis, H.M., Knowlton, A.R., Hamilton, P.K., Clark, J.S., and Kraus, S.D., "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. 265-282 (2016).

Entanglement in fishing gear occurs in both the U.S. and Canada. Vertical lines used by commercial fixed-gear pot and trap fisheries, mainly the American lobster¹³ and Canadian snow crab fisheries,¹⁴ is the primary gear type implicated in right whale entanglements that result in serious injury and mortality.¹⁵ Rope strength is significantly correlated to the severity of right whale entanglements.¹⁶ Levels of moderate and severe injuries resulting from entanglement increased from 1997 onward, with a statistically significant increase from the year 2000 onwards. Similarly, the number of entanglements with high configuration risk increased starting in the mid-1990s and represented the vast majority of right whale entanglement cases from 1997 to 2009.¹⁷ These trends coincide with a number of gear modifications in the American lobster fishery towards more durable ropes and heavier traps.¹⁸ An additional variable is represented by the groundfish collapse in the U.S. that occurred in the early 1990s and resulted in a shift from gillnetting to lobster fishing.¹⁹ The relatively high degree of drag force resulting from entanglement in trap and pot gear relative to other gear types (3.1-fold in the case of a weighted lobster trap relative to a 1.5-fold average recorded across 15 sets of gear) leads to a greater likelihood of the whale experiencing a negative energy balance and therefore an increased likelihood of serious injury²⁰ and potentially mortality.

Arguments that right whales are no longer occurring in the Gulf of Maine absent comprehensive surveillance, or that right whales are not being entangled in vertical lines associated with the American lobster fishery absent gear-marking requirements across a large proportion of the fishery,²¹ are based on assumptions that simply do not hold up to scrutiny. Gear density is a primary indicator of risk to the species.²² Maine represents 80 percent of the American lobster fishery and issues licenses for almost three

¹³ Moore, M.J., “How we can all stop killing right whales: a proposal to avoid whale entanglement in fishing gear,” *ICES Journal of Marine Science*, vol. 76, pp. 781-786 (2019), citing: Boenish, R. and Chen, Y., “Spatiotemporal dynamics of effective fishing effort in the American lobster (*Homarus americanus*) fishery along the coast of Maine, USA,” *Fisheries Research*, vol. 199, pp. 231-241 (2018); Hayes, S.A., Gardiner, S., Garrison, L.P., Henry, A.G., and Leandro, L., “North Atlantic right whales – evaluating their recovery challenges,” NOAA Technical Memorandum NMFS-NE-247, pp. 24 (2018).

¹⁴ Moore, M.J., “How we can all stop killing right whales: a proposal to avoid whale entanglement in fishing gear,” *supra*, citing: Daoust, P.-Y., Couture, E.L., Wimmer, T., and Bourque, L., “Incident report: North Atlantic right whale mortality in the Gulf of St. Lawrence, 2017,” Collaborative report, Canadian Wildlife Health Cooperative, Marine Animal Response Society, and Fisheries and Oceans Canada (2017); DFO, “Assessment of snow crab (*Chionoecetes opilio*) in the southern Gulf of St. Lawrence (Areas 12, 19, 12E and 12F) to 2016 and advice for the 2017 fishery,” DFO Canadian Science Advisory Secretariat Science Advisory Report 2017/004. Pp. 20 (2017).

¹⁵ Entanglement in gillnets represented only 15 percent of entanglement case studies carried out up to and including 2016 (17 of 115 case studies). Dr. A.R. Knowlton, New England Aquarium, *pers. comm.* to Dr. F. Kershaw, September 13, 2019.

¹⁶ Knowlton, A.R., Robbins, J., Landry, S., McKenna, H.A., Kraus, S.D., and Werner, T.B., “Effects of fishing rope strength on the severity of large whale entanglements,” *Conservation Biology*, vol. 30, pp. 318-328 (2016).

¹⁷ *Id.*

¹⁸ *Id.*

¹⁹ Knowlton, A.R., *et al.*, “Monitoring North Atlantic right whale *Eubalaena glacialis* entanglement rates: a 30 yr retrospective,” *supra*.

²⁰ van der Hoop, J.M., Corkeron, P., Kenney, J., Landry, S., Morin, D., Smith, J., and Moore, M.J., “Drag from fishing gear entangling North Atlantic right whales,” *Marine Mammal Science*, vol. 32, pp. 619-642 (2016).

²¹ Seventy percent of Maine waters are exempt from gear-marking requirements; *see*, 79 Fed. Reg. at 36,587 (Jun. 27, 2014); Maine Department of Marine Resources, “Whale Rules,” Final Rule published June 27, 2014. Available at: <https://www.maine.gov/dmr/science-research/species/lobster/documents/summary07-11-14.pdf>.

²² Farmer, N.A., Gowan, T.A., Powell, J.R., and Zoodsma, B.J., “Evaluation of alternatives to winter closure of black sea bass pot gear: Projected impacts on catch and risk of entanglement with North Atlantic right whales *Eubalaena glacialis*,” *Marine and Coastal Fisheries*, vol. 8, pp. 202-221 (2016).

million traps.²³ Right whales are at risk of becoming entangled whenever line occurs in their proximity;²⁴ thus the vertical lines associated with Maine lobster traps pose a significant entanglement risk. Even with the recent distributional shift into Atlantic Canada, a significant proportion of the right whale population necessarily transits through Maine waters during their annual migration, and multiple sightings have been made over the last five years in spite of reduced survey effort.²⁵ Moreover, the possibility that the western Gulf of Maine may once again represent an important feeding area for the species in the future cannot be discounted.²⁶ For these reasons, right whales may be at greater risk of entanglement in Maine waters than they are anywhere else in the U.S.

II. Recommendations for the Draft Environmental Impact Statement and subsequent Proposed Rulemaking

We submit several recommendations intended to support the development of a robust Environmental Impact Statement to modify the Take Reduction Plan, for protection of the North Atlantic right whale. Specifically, we recommend that NMFS (1) strive for an 80 percent risk-reduction target for serious injury and mortality; (2) include fishing-area closures in the “preferred alternative” of the EIS; (3) include robust gear-marking regulations in the preferred alternative; (4) provide a detailed plan for testing and implementation of ropeless fishing systems; (5) base its alternatives analysis on the best available scientific information, and particularly accounting for right whale distribution and habitat use from 2010 onwards; and (6) expand surveillance efforts in U.S. waters, particularly the Gulf of Maine.

1. NMFS should strive for an 80 percent risk-reduction target

It remains clear that the right whale cannot withstand additional serious injuries or mortalities, nor can it cope with the insidious sub-lethal effects of entanglement in fishing gear, which can lead to impaired health, food stress, and reduced reproductive ability.²⁷ The Marine Mammal Protection Act requires the reduction of serious injury and mortality below potential biological removal (“PBR”) within six months and to “insignificant levels approaching a zero mortality and serious injury rate within five years.”²⁸ PBR is defined in NMFS’ most recent Stock Assessment Report for the North Atlantic right whale as 0.9 individuals; by comparison, the 2012-2016 average annual fishery-related observed mortality and serious injury for both the U.S. and Canada is 5.15 individuals.²⁹ Of this number, NMFS estimates that U.S.

²³ Hayes, S.A., *et al.*, “North Atlantic right whales – evaluating their recovery challenges,” *supra*.

²⁴ Sharp, S.M., *et al.*, “Gross and histopathologic diagnoses from North Atlantic right whale *Eubalaena glacialis*, mortalities between 2003 and 2018,” *supra*.

²⁵ NOAA Northeast Fishery Science Center, “NOAA Right Whale Sighting Advisory System.” Available at: <https://www.nefsc.noaa.gov/psb/surveys/MapperiframeWithText.html>.

²⁶ Record, N.R., Runge, J.A., Pendleton, D.E., Balch, W.M., Davies, K.T.A., Pershing, A., *et al.*, “Rapid climate-driven circulation changes threaten conservation of endangered North Atlantic right whales,” *Oceanography*, vol. 32, pp. 163-169 (2019).

²⁷ Sharp, S.M., *et al.*, “Gross and histopathologic diagnoses from North Atlantic right whale *Eubalaena glacialis*, mortalities between 2003 and 2018,” *supra*; Rolland, R.M., *et al.*, “Health of North Atlantic right whales *Eubalaena glacialis* over three decades: from individual health to demographic and population health trends,” *supra*.

²⁸ 16 U.S.C. § 1387(f)(2).

²⁹ NOAA Fisheries, “North Atlantic right whale (*Eubalaena glacialis*): Western Atlantic Stock,” 2018 Stock Assessment Report, p. 16 (February 2019).

fisheries are responsible for 2.5 to 2.6 observed mortalities per year. The agency assumes that 40 percent of serious injuries and mortalities go unobserved or unrecorded, meaning that U.S. fisheries are therefore ultimately responsible for approximately 4.3 serious injuries and mortalities per year.³⁰ There are reasons to believe that this assumption understates the percentage of unobserved and unrecorded serious injuries and mortalities, due to the low likelihood of finding carcasses at sea and the reluctance and/or unawareness of various parties to report mortalities to the proper authorities.³¹ Further, it is likely that unobserved and unrecorded deaths are biased towards entanglements, due to the right whale being of lower weight at the time of death, which leads to an increased likelihood of the carcass sinking.³² Even accepting NMFS' 40 percent assumption, however, achieving PBR requires *a minimum 80 percent reduction* in serious injuries and mortalities from U.S. fisheries.

In April, the Atlantic Large Whale Take Reduction Team voted with near consensus on a package of measures that would achieve at least a 60 percent reduction in serious injuries and mortality in each of the lobster management areas.³³ While we generally support the methodology taken by NMFS in developing the risk-reduction target, which is based on known levels of serious injury and mortality in the U.S. and attributes unknown serious injuries and mortalities equally between the U.S. and Canada, the emphasis placed by the agency on achieving a 60 percent target risk reduction overlooks the fact that this will not achieve PBR. To fulfil its legal obligations, the agency must strive for a risk-reduction target of at least 80 percent. Meeting this target will require NMFS to set a higher bar in determining strong regulations and to prioritize methods proven effective in reducing the risk of entanglement in commercial fishing gear, such as vertical line reduction and fishing-area closures. The meaningful participation of all Northeast states will also be essential.

2. *NMFS should analyze new fishing-area closures, including in waters south of Nantucket and Martha's Vineyard, and offshore areas, in the preferred alternative*

Since 2010, right whale distribution and habitat use has shifted in response to climate change-driven shifts in prey availability.³⁴ Best available scientific information, including aerial surveys,³⁵ acoustic

³⁰ See NOAA Fisheries, "Team reaches nearly unanimous consensus on right whale survival measures," News Article (April 26, 2019). Available at: <https://www.fisheries.noaa.gov/feature-story/team-reaches-nearly-unanimous-consensus-right-whale-survival-measures>.

³¹ Sharp, S.M., *et al.*, "Gross and histopathologic diagnoses from North Atlantic right whale *Eubalaena glacialis*, mortalities between 2003 and 2018," *supra*, citing: Knowlton, A.R. and Kraus, S.D., "Mortality and serious injury of northern right whales (*Eubalaena glacialis*) in the western North Atlantic Ocean," *Journal of Cetacean Research and Management*, vol. 2, pp. 193-208 (2001); Henry, A.G., Cole, T.V.N., Hall, L., Ledwell, W., Morin, D., and Reid, A., "Mortality determination for baleen whale stocks along the Gulf of Mexico, United States east coast, and Atlantic Canadian Provinces, 2007-2011," Northeast Fisheries Science Center Reference Document 13-18 (2013).

³² Sharp, S.M., *et al.*, *id.*

³³ NOAA Fisheries, "Team reaches nearly unanimous consensus on right whale survival measures," *supra*.

³⁴ Record, N., *et al.*, "Rapid Climate-Driven Circulation Changes Threaten Conservation of Endangered North Atlantic Right Whales," *supra*.

³⁵ Kraus, S.D., Leiter, S., Stone, K., Wikgren, B., Mayo, C., Hughes, P., *et al.*, "Northeast large pelagic survey collaborative aerial and acoustic surveys for large whales and sea turtles. Final Report," OCS Study, BOEM 2016-054, pp. 118 (2016); Leiter, S.M., Stone, K.M., Thompson, J.L., Accardo, C.M., Wikgren, B.C., Zani, M.A., *et al.*, "North Atlantic right whale *Eubalaena glacialis* occurrence in offshore wind energy areas near Massachusetts and Rhode Island, USA," *Endangered*

detections,³⁶ stranding data,³⁷ a series of Dynamic Management Areas (“DMAs”) declared by NMFS pursuant to the ship strike rule,³⁸ and prey data,³⁹ indicate that right whales now heavily rely on waters south of Nantucket and Martha’s Vineyard. In January 2019, an aggregation representing a quarter of the population—100 whales—was seen in this area⁴⁰ engaged in both foraging and social activities. This demonstrates that this area now represents important foraging habitat for the species, as well as remaining part of the migratory corridor. Previous studies had detected seasonally consistent aggregations of right whales feeding and possibly mating in this area from at least March through April, leading the area to be considered by scientists as a right whale “hotspot” from March to May.⁴¹ Right whales were observed feeding during the first half of May for the first time in 2017,⁴² indicative of a broader temporal shift in distribution resulting in the occurrence of right whales at greater densities south of Nantucket and Martha’s Vineyard later in the year, through May and into the summer months.⁴³ NMFS established at least 12 DMAs south of Martha’s Vineyard and Nantucket between January and August of 2019, including four that were simultaneously active through the end of May.⁴⁴ Pregnant females are known to travel through the area in November and December and females of reproductive age are also present in the area in February and March, with April appearing particularly important for mothers and calves.⁴⁵ Passive acoustic data also indicate that some whales are using these waters year-round.⁴⁶

Given the multiple lines of evidence supporting the increased importance of the waters south of Nantucket and Martha’s Vineyard, especially in the winter and spring, we urge NMFS to propose and analyze a new fishing closure in this area as part of the preferred alternative in its EIS. We recommend that the boundaries of the closure reflect the highest relative density of right whales, based on best

Species Research, vol. 34, pp. 45-59 (2017); Quintana, E., “Monthly report No. 3: May 2017,” Report prepared for the Massachusetts Clean Energy Center by the New England Aquarium, pp. 26 (May 15, 2017).

³⁶ Kraus, S.D., *et al.*, *id*; Davis, G.E., Baumgartner, M.F., Bonnell, J.M., Bell, J., Berchick, C., Bort Thornton, J., *et al.*, “Long-term passive acoustic recordings track the changing distribution of North Atlantic right whales (*Eubalaena glacialis*) from 2004 to 2014,” *Scientific Reports*, vol. 7, p. 13460 (2017).

³⁷ Asaro, M.J., “Update on US Right Whale Mortalities in 2017,” NOAA Fisheries, November 30, 2017. Available at: https://www.greateratlantic.fisheries.noaa.gov/protected/whaletrp/trt/meetings/2017%20Nov/asaro_usstrandings_nov2017.pdf.

³⁸ NOAA Fisheries Interactive DMA Analyses: <https://www.nefsc.noaa.gov/rcb/interactive-monthly-dma-analyses/>.

³⁹ Pendleton, D.E., Pershing, A., Brown, M.W., Mayo, C.A., Kanney, R.D., Record, N.R., and Cole, T.V.N., “Regional-scale mean copepod concentration indicates relative abundance of North Atlantic right whales,” *Marine Ecology Progress Series*, vol. 378, pp. 211-225 (2009); NOAA Northeast Fisheries Science Center, “Ecology of the Northeast US Continental Shelf – Zooplankton.” Available at: <https://www.nefsc.noaa.gov/ecosys/ecosystem-ecology/zooplankton.html>.

⁴⁰ NOAA Fisheries Greater Atlantic Region, “Voluntray vessel speed restriction zone in effect south of Nantucket to protect right whales,” (January 28, 2019). Available at: https://www.greateratlantic.fisheries.noaa.gov/mediacenter/2019/01/28_voluntary_vessel_speed_restriction_zone_in_effect_south_of_nantucket_to_protect_right_whales.html.

⁴¹ Leiter, S.M., *et al.*, “North Atlantic right whale *Eubalaena glacialis* occurrence in offshore wind energy areas near Massachusetts and Rhode Island, USA,” *supra*.

⁴² Quintana, E., “Monthly report No. 3: May 2017,” *supra*.

⁴³ Davis, G.E., *et al.*, “Long-term passive acoustic recordings track the changing distribution of North Atlantic right whales (*Eubalaena glacialis*) from 2004 to 2014,” *supra*.

⁴⁴ NOAA Fisheries Interactive DMA Analyses, *supra*.

⁴⁵ Dr. C. Good *pers. comm.* to Dr. F. Kershaw and M. Jasny, October 24, 2017.

⁴⁶ Kraus, S.D., *et al.*, “Northeast large pelagic survey collaborative aerial and acoustic surveys for large whales and sea turtles. Final Report,” *supra*; Davis, G.E., *et al.*, “Long-term passive acoustic recordings track the changing distribution of North Atlantic right whales (*Eubalaena glacialis*) from 2004 to 2014,” *supra*.

available scientific information, and should be reviewed annually to adaptively manage for future distribution shifts. The closure could be lifted if best available scientific information demonstrates that right whales are no longer using the area to the same extent. A closure south of Nantucket and Martha's Vineyard could also represent a valuable opportunity to advance the testing of ropeless fishing systems (see recommendation #4).

In addition, we recommend that NMFS evaluate the potential for new fishing closures in the offshore areas of the Gulf of Maine (*i.e.*, offshore areas of Lobster Management Area 1) and Lobster Management Area 3 as part of its preferred alternative. Arguably, the most severe entanglements originating in the U.S. occur in the offshore fishery, due to the use of more durable vertical line that is comparatively more likely to contribute to serious injury and mortality.⁴⁷ Moreover, statements made by the representative of the Atlantic Offshore Lobstermen's Association at the meeting of the Atlantic Large Whale Take Reduction Team in April 2019 implied that the fishery operating in Lobster Management Area 3 would prefer to undertake a five-year research program prior to implementing vertical line reduction or any other risk-reduction measure, such as gear modifications.⁴⁸ Clearly, the right whale cannot withstand a lengthy research and phase-in period before risk is significantly reduced, nor can NMFS legally endorse this approach given the obligation to reduce levels of serious injuries and mortalities within a six-month timeframe, as required by the Marine Mammal Protection Act.⁴⁹ In lieu of other measures, the most effective way to reduce risk of serious injury and mortality in the offshore fishery is for the agency to propose and analyze new fishing-area closures in these waters.

3. *NMFS should include robust gear-marking regulations in the preferred alternative*

There is a critical need for improved accountability for entanglement by U.S. fisheries. This will only be possible with the issuance of regulations that require gear marking in all fisheries, including the currently exempt areas that comprise 70 percent of Maine's waters.⁵⁰ The agency should require new gear markings on all fishing gear every 40 feet so that gear can be traced back to a specific fishery, area fished, and country. This is the only way to assess the true extent to which U.S. fisheries are causing entanglements, and is of obvious importance for management going forward. Until gear marking is regulated in this manner, the agency *must* assume, consistent with its stock assessments, that U.S. fisheries are contributing towards entanglements of right whales.

4. *NMFS should provide a detailed plan for testing and implementation of ropeless fishing systems*

While ropeless fishing systems for Northeast fixed-gear pot and trap fisheries are still in development, NMFS should include a "ropeless roadmap" in the EIS, detailing how ropeless fishing systems will be advanced to a point that they are commercially viable, and how they will subsequently be implemented

⁴⁷ Knowlton, A.R., *et al.*, "Effects of fishing rope strength on the severity of large whale entanglements," *supra*; van der Hoop, J.M., *et al.*, "Drag from fishing gear entangling North Atlantic right whales," *supra*.

⁴⁸ David Borden, Executive Director, Atlantic Offshore Lobstermen's Association, *pers. comm.* to the Atlantic Large Whale Take Reduction Team, April 26, 2019.

⁴⁹ 16 U.S.C. § 1387(f)(2).

⁵⁰ Maine Department of Marine Resources, "Whale Rules," *supra*.

for commercial fishing, both within certain closed areas and elsewhere. Ropeless fishing systems are the most effective way to reduce the risk of right whale entanglement—given the complete removal of the vertical line from the water column—while allowing fishing with pot and trap gear,⁵¹ and are likely to be essential to achieving PBR.

While several pilot tests for ropeless fishing systems are already underway, there is a significant need to improve the sample size of these tests, allow for replication, and perhaps most importantly, provide more fishermen with the opportunity to use the technology and provide feedback to system developers on how to improve and tailor the design to meet their specific needs. Setting the expectation that testing of ropeless fishing systems will be an iterative process where improvements will be developed over multiple trials based on ongoing dialogue between the fishing community and engineers will be a key to success. We recommend that the “ropeless roadmap” explicitly include the following:

- a. A clear account of how projects will be carried out in partnership with the fishing community, setting forth the parameters of those partnerships;
- b. Creation of a large-scale demonstration trial involving multiple fishermen and enforcement staff to best inform future regulations and technology development;
- c. A trial design that focuses on practical modifications to existing ropeless equipment recovery systems to improve efficiency and reduce costs for fishermen (*e.g.*, improving efficiency of deployment, engineering adjustments to improve compatibility with specific fishing vessels, assessing other potential economic benefits such as gear loss reduction, etc.);
- d. A detailed and robust methodology that describes the types of data and information that will be collected at certain milestones and how that data will be used to advance the viability of ropeless fishing systems;
- e. Adequate sample size and replication to ensure the results of the project can be interpreted in a meaningful way;
- f. Development of solutions to track and share the location of ropeless fishing systems to prevent potential gear conflicts among fishermen and enable enforcement (*i.e.*, developing electronic tracking systems that allow for gear detection and protect sensitive business information); and
- g. A plan for collaboration and/or knowledge sharing with other stakeholders, including members of the Atlantic Large Whale Take Reduction Team and of other government and non-government entities working on this issue (*e.g.*, Department of Fisheries and Oceans – Canada, California Department of Fish and Wildlife, relevant fisheries councils and commissions, etc.).

⁵¹ Myers, H.J., Moore, M.J., Baumgartner, M.F., Brilliant, S.W., Katona, S.K., Knowlton, A.R., *et al.*, “Ropeless fishing to prevent large whale entanglements: Ropeless Consortium report,” *Marine Policy*, vol. 107, art. 103587 (2019).

Finally, we want to express our serious concern over the level of interest and investment in certain other gear modification approaches, particularly in “breaking-strength” rope or “weak links.” There is little evidence to suggest that these modifications will be effective in reducing serious injury and mortality, the incidence of entanglement, or the sub-lethal effects of entanglement that are associated with reduce reproductive output.⁵² The agency’s reliance on breaking-strength rope, weak links, and similar methods to significantly contribute towards the risk-reduction target is optimistic at best and, at worst, subjects a critically endangered species to what is essentially a scientific experiment with no guarantee of success—and no way to meaningfully demonstrate success without years of data compilation that the urgency of the situation cannot support. Moreover, we echo concerns raised by the Marine Mammal Commission⁵³ that current difficulties in identifying a reliable source of breaking-strength rope will prevent NMFS from implementing this as a risk-reduction measure within a time frame meaningful for the species. We instead recommend that resources be placed on measures most likely to be effective in guaranteeing a significant reduction in entanglement, such as vertical line reduction, fishing-area closures, and ropeless fishing systems.

5. *NMFS must base its alternatives analysis on the best available scientific information, and particularly right whale distribution and habitat use from 2010 onwards*

The agency must base its alternatives analysis for the EIS and rulemaking on the best available scientific information. In the development of its “decision-support tool” to carry out the comparative evaluation of potential risk-reduction measures, NMFS relied on estimates of marine mammal densities derived from the habitat-based density model for the U.S. east coast.⁵⁴ However, this model, as its designers admit,⁵⁵ is limited in its incorporation of data sources. Most notably, in founding its density estimates entirely on shipboard and aerial line-transect surveys, the model necessarily excludes data obtained through additional sightings data, including aerial surveys flown in the Massachusetts and Rhode Island Wind Energy Areas from 2010-2015 and 2017, opportunistic sightings, and passive acoustic monitoring. The density maps currently being used by the agency to assess right whale risk, and the effectiveness of risk-reduction measures, therefore do not accurately reflect current levels of right whale habitat use, including in inshore and nearshore areas.

The agency has a significant amount of recent data from state monitoring efforts, passive acoustic monitoring data, opportunistic marine mammal sightings data, and other data sources⁵⁶—that are

⁵² E.g., “A whale entangled in gear with attached bullet buoys (EgNEFL1235 / 4193) had weak links present near the base of the buoys, neither of which separated as designed.” Sharp, S.M., *et al.*, “Gross and histopathologic diagnoses from North Atlantic right whale *Eubalaena glacialis*, mortalities between 2003 and 2018,” *supra*.

⁵³ Letter from Dr. Peter O. Thomas, Executive Director, Marine Mammal Commission, to Mr. Chris Oliver, Assistant Administrator for Fisheries, National Marine Fisheries Service, August 12, 2019.

⁵⁴ Roberts J.J., Best B.D., Mannocci L., Fujioka E., Halpin P.N., Palka D.L., *et al.*, “Habitat-based cetacean density models for the U.S. Atlantic and Gulf of Mexico,” *Scientific Reports*, vol. 6, p. 22615 (2016); 84 Fed. Reg. at 36,075.

⁵⁵ Roberts, J.J., *et al.*, *id.* See, also, NOAA Fisheries, “Risk Reduction Decision Support,” Atlantic Large Whale Take Reduction Team Webinar,” PowerPoint, slides 18, 42, 43, and 47 (April 20, 2019). Available at: https://www.greateratlantic.fisheries.noaa.gov/protected/whaletrp/trt/meetings/April%202019/apr_16_risk_reduction_decision_tool_webinar_full_slide_deck.pdf.

⁵⁶ At minimum, data sources should include, *inter alia*: NOAA Interactive Sightings Map: <https://www.nefsc.noaa.gov/psb/surveys>; Kraus, S.D., *et al.*, “Northeast large pelagic survey collaborative aerial and acoustic

particularly informative for some of the areas that are most at issue here, such as south of Nantucket and Martha's Vineyard. All these sources should be used to develop and inform the risk-reduction measures in the EIS.

6. *NMFS should expand right whale surveillance efforts in U.S. waters, particularly in the Gulf of Maine*

The significant distributional shift of right whales further into Atlantic Canada, including the Gulf of St. Lawrence, over the past three years has necessitated increased monitoring and surveillance of right whales in Canadian waters. This shift has resulted in a displacement of NMFS-led surveillance effort from U.S. waters to Canada. While there exists a real research need for continued surveillance in Canada (e.g., individual identification studies), a significant portion (over two-thirds) of the right whale population are not utilizing these waters.⁵⁷ As risk to the species cannot be effectively managed without a sound understanding of distribution and habitat use, it should be a NMFS' priority to expand surveillance efforts in U.S. waters, and particularly in the Gulf of Maine.

We are encouraged to hear that the agency will be embarking on year-round passive acoustic study of right whales off coastal Maine and during the fall and winter in offshore areas.⁵⁸ In addition to passive acoustic monitoring, we recommend the use of multiple platforms, including aerial and shipboard surveys, to maximize detection probability in the Gulf of Maine and elsewhere. In addition to improving understanding of right whale habitat use, visual observers can report observed entanglements and serious injuries and mortalities that may be occurring in U.S. waters but are currently going undetected due to lack of surveillance effort. In combination with improved gear marking (see recommendation #3), right whale surveillance will improve our understanding of the contribution of U.S. fisheries to the right whale's decline, as well as that of other sectors, such as shipping.

III. Conclusion

We believe the recommendations we have made are essential to satisfy NMFS' responsibilities under the Marine Mammal Protection Act and NEPA and to help arrest the decline of the North Atlantic right whale. We would welcome the opportunity to discuss these issues with you and your staff.

surveys for large whales and sea turtles. Final Report," *supra*; Updates to Kraus, S.D., *id.*; NOAA Dynamic Management Area Tracker: <https://www.nefsc.noaa.gov/rcb/interactive-monthly-dma-analyses/>; Northeast Data Portal: <https://www.northeastoceandata.org/data-explorer/?mammals-turtles|individual-specie> (Marine Life and Habitat – North Atlantic right whale; Robots for whales: <http://dcs.who.edu/>; Davis, G.E., *et al.*, "Long-term passive acoustic recordings track the changing distribution of North Atlantic right whales (*Eubalaena glacialis*) from 2004 to 2014," *supra*.

⁵⁷ 126 unique individuals were identified in the Gulf of St. Lawrence in 2019 (data as of September 2019); "Right Whale News," *supra*.

⁵⁸ Letter from Mr. Chris Oliver, Assistant Administrator for Fisheries, National Marine Fisheries Service, to Ms. Regina Asmutis-Silvia, Executive Director North America, Whale and Dolphin Conservation, September 3, 2019.

Mr. Michael Pentony
September 15, 2019
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Sincerely,

A handwritten signature in black ink, appearing to read "Michael Jasny". The signature is fluid and cursive, with a large initial "M" and a long, sweeping tail.

Michael Jasny
Director, Marine Mammal Protection

A handwritten signature in black ink, appearing to read "Francine Kershaw". The signature is cursive and somewhat compact, with a large initial "F" and a prominent loop at the end.

Francine Kershaw, Ph.D.
Project Scientist, Marine Mammal Protection &
Oceans Division