

**BEFORE THE UNITED STATES DEPARTMENT OF COMMERCE:
PETITION TO REQUIRE TRANSITION TO ROPELESS FISHING**

Center for Biological Diversity, Petitioner

Filed With:

**Gina Raimondo, in her official capacity as Secretary,
United States Department of Commerce**



December 9, 2021

Photo: National Park Service (1); NOAA (2)

INTRODUCTION AND PETITIONED ACTION

Commercial fishing gear has been entangling, injuring, and killing endangered whales, sea turtles, and other marine animals for far too long.

These animals often become entangled by swimming into the rope, or vertical line, that runs from a trap set on the seafloor through the water column to a buoy at or near the surface. When they get entangled, heavy fishing rope—often still connected to even heavier traps—can wrap around the animal’s head, mouth, flippers, or tail, sometimes preventing the animal from resurfacing, resulting in drowning. If entangled animals do not immediately drown, the remaining entangling line often impedes basic movement, feeding, and reproduction, and causes chronic infection and damage to bone and muscle.

Entanglements not only cause these animals immense suffering but threaten the very existence of numerous imperiled species such as critically endangered North Pacific right whales, North Atlantic right whales, and Pacific leatherback sea turtles. Fishing gear is also a primary threat endangering blue whales, humpback whales, fin whales, minke whales, sperm whales, and other sea turtles. In 2018 alone there were more than 100 large whales reported entangled in fishing gear. This is likely only a fraction of the actual number of animals that are seriously injured or killed in fishing gear because most entanglements go unobserved.

Fortunately, there is a solution to the entanglement problem afflicting our oceans: ropeless fishing gear. This gear, also known as “on-demand” or “pop-up buoy” gear, eliminates or reduces the risk of entanglement by removing the unattended vertical line running through the water column. It is the only way to prevent entanglements while allowing fishing to continue. The National Marine Fisheries Service (“NMFS”) itself describes the gear as “game changing” and “a future solution to whale entanglement.” But that future will never be realized unless the agency mandates the adoption of this gear.

Accordingly, pursuant to the right to petition the government provided in the First Amendment to the U.S. Constitution¹ and the Administrative Procedure Act,² the Center for Biological Diversity hereby petitions the Secretary of Commerce, through NMFS and the National Oceanic and Atmospheric Administration (“NOAA”), to:

- enact regulations requiring all Category I and II trap/pot fisheries to transition to ropeless only fishing by within the next five years;³
- prioritize this transition in National Marine Sanctuaries—areas that should be safe havens for marine life, not home to dangerous obstacle courses of deadly fishing rope—

¹ U.S. Const. amend. I; see also *United Mine Workers v. Ill. State Bar Ass’n*, 389 U.S. 217, 222 (1967) (explaining that the right “to petition for a redress of grievances [is] among the most precious of the liberties safeguarded by the Bill of Rights”).

² 5 U.S.C. § 553(e).

³ Category I fisheries are those fisheries that NMFS has determined cause “frequent” mortality or serious injury of marine mammals. 86 Fed. Reg. 3,028 (Jan. 14, 2021). Category II fisheries are those fisheries that NMFS has determined cause “occasional” mortality or serious injury of marine mammals. *Id.*

by mandating that any trap/pot fishing to occur within a National Marine Sanctuary use ropeless gear only within three years; and

- amend any existing federal regulations that would otherwise prohibit the use of such gear.

Granting the action requested in this petition is not only fully within the agencies' regulatory authority, but also necessary to ensure NMFS complies with its statutory duties to both protect and recover imperiled marine mammals and enact regulations to ensure a zero mortality and injury rate in commercial fisheries—a standard established by Congress that has eluded the agency (and the animals it is intended to protect) for decades.

SCIENTIFIC AND FACTUAL SUPPORT FOR THE PETITIONED ACTION

A. Entanglements in Trap/Pot Gear Threaten Marine Mammals and Sea Turtles

Entanglements in commercial fishing gear kill, injure, and otherwise harm a wide variety of marine species off all our coasts. The animals can become entangled by swimming into the rope, or vertical line, that runs from a trap set on the seafloor through the water column to a buoy at or near the surface.⁴

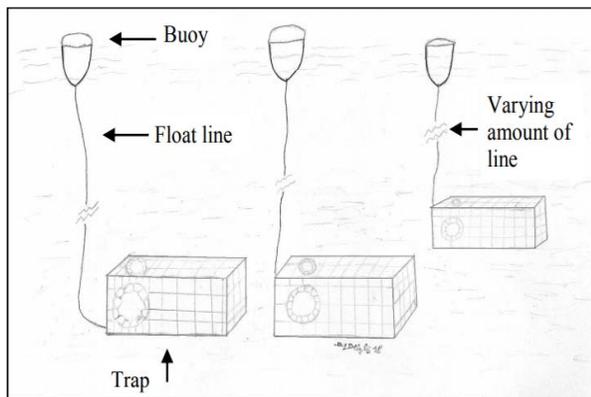


Fig. 1. Basic configuration of California commercial Dungeness crab, spiny lobster, and sablefish gear.⁶

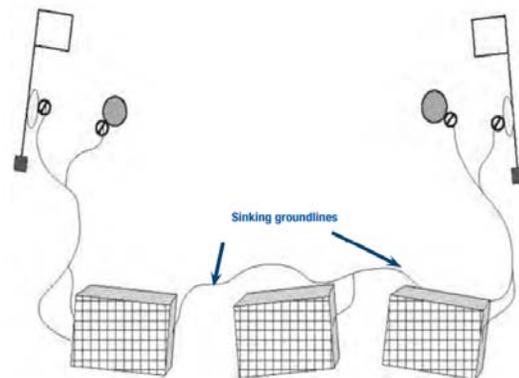


Fig 2. Basic configuration of American lobster gear.⁵

Entanglements cause a variety of detrimental effects. For example, when a whale encounters line, it may thrash and roll, becoming even further entangled.⁷ Lines can get caught in the

⁴ See, e.g., NMFS, 10 Things You Should Know About North Atlantic Right Whales (Oct. 17, 2019), <https://www.fisheries.noaa.gov/feature-story/10-things-you-should-know-about-north-atlantic-right-whales>; 80 Fed. Reg. 22304, 22327 (Apr. 21, 2015).

⁵ NMFS, Atlantic Large Whale Take Reduction Plan Northeast Trap/Pot Fisheries Requirements and Management Areas (July 2018) at 12.

⁶ Saez, L., et al., 2013. Understanding the co-occurrence of large whales and commercial fixed gear fisheries off the west coast of the United States, NOAA-TM-NMFS-SWR-044, Appendix A: Fixed Gear Guide at 5.

⁷ See, e.g., NMFS, 10 Things You Should Know; 80 Fed. Reg. at 22,327.

whale's mouth, fins, or tail, or wrap around its entire body. Entanglements can cause whales to drown immediately or die slowly over time after dragging the heavy gear hundreds if not thousands of miles.⁸

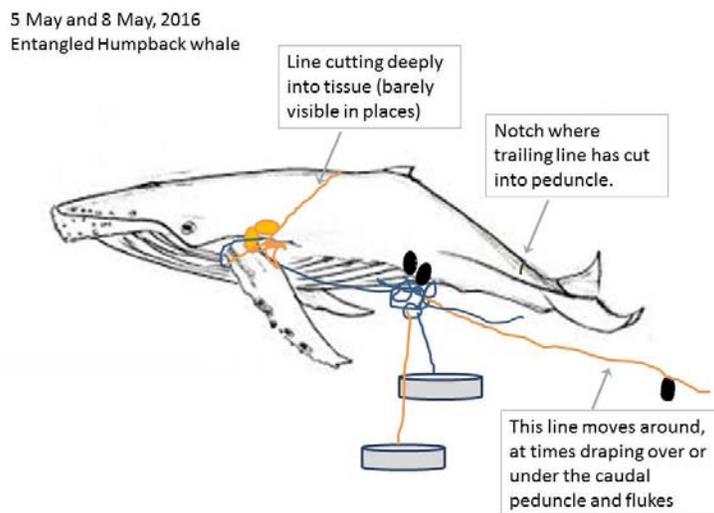


Fig. 3. Diagram of Entanglement Event.⁹

One study found, for example, that “[w]here drowning does not occur, lethally entangled right whales tend to die over periods of about six months” and there are cases where an entanglement can persist for multiple years.¹⁰ Entanglements can also increase a whale’s stress hormone levels, leading to infections; make them more vulnerable to other sources of mortality like vessel strikes; and impede their ability to feed.¹¹ Additionally, the trauma suffered during an entanglement can reduce the chances a whale will reproduce.¹² Indeed, scientists have concluded that females that have suffered a severe entanglement “are significantly less likely to calve again.”¹³

⁸ See, e.g., Michael J. Moore and Julie M. van der Hoop. 2012. The Painful Side of Trap and Fixed Net Fisheries: Chronic Entanglement of Large Whales. *Journal of Marine Biology*. Volume 2012, Article ID 230653. doi.org/10.1155/2012/230653.

⁹ NMFS, Whale Entanglement Case Studies: 20160416Mn (NOAA MMHSRP Permit #: 18786).

¹⁰ *Id.*

¹¹ See, e.g., Julie M. van der Hoop, et al, Douglas P. Nowacek, Michael J. Moore, M. S. Triantafyllou. 2017. Swimming kinematics and efficiency of entangled North Atlantic right whales. *Endang. Species Res.* Vol. 32: 1–17, 2017, doi: 10.3354/esr00781; Julie van der Hoop, Peter Corkeron and Michael Moore. 2016. Entanglement is a costly lifehistory stage in large whales. *Ecology and Evolution*, 7: 92–106, doi:10.1002/ece3.2615; Cassoff RM, Moore KM, McLellan WA, Barco SG, Rotstein DS, Moore MJ. 2011. Lethal entanglement in baleen whales. *Dis. Aquat. Org.* 96: 175–185; NMFS, 10 Things You Should Know.

¹² See, e.g., Julie van der Hoop, et al. 2016.

¹³ *Id.*; see also 80 Fed. Reg. at 22,327 (females with entanglement injuries produced fewer calves than females with no evidence of entanglement).



Fig. 4. Dead North Atlantic Right Whale. Florida Fish and Wildlife Commission.



Fig. 5. Entangled Humpback Whale. National Marine Fisheries Service.

Entanglements also kill, injure, and otherwise harm sea turtles.¹⁴ Once entangled, they can continue to try to swim, exhausting themselves until they eventually drown. In addition, prolonged periods of forced submergence trigger severe metabolic acidosis, which often drains the turtle's strength so significantly that it is unable to recover. As a result, many leatherbacks do not survive even when surfaced before they have drowned.¹⁵ Studies also show sea turtles can suffer severe increases in both a key stress and a metabolic hormone when entangled, sometimes leading to death.¹⁶

¹⁴ See, e.g., NMFS, et al. Bi-National Recovery Plan for the Kemp's Ridley Sea Turtle (*Lepidochelys kempii*), Second Revision at I-49.

¹⁵ *Id.*; Work T.M. and Balazs G.H. 2010. Pathology and distribution of sea turtles landed as bycatch in the Hawaii-based North Pacific pelagic longline fishery. *Journal of Wildlife Diseases* 46:422– 432.

¹⁶ Kathleen E. Hunt, et al. 2016. Endocrine responses to diverse stressors of capture, entanglement and stranding in leatherback turtles (*Dermochelys coriacea*). *Conserv. Physiol.* 4(1).



Fig. 6. Dead Pacific Leatherback Sea Turtle. National Marine Fisheries Service.

And the entanglement problem is getting worse. For example, in 2020, NMFS issued a report finding that in 2018, there were 103 confirmed large whale entanglements nationwide, and that “[n]early every region of the United States experienced an increase in the number of confirmed large whale entanglements in 2018 when compared to 2017.”¹⁷ NMFS further noted that “some regions experienced near-record numbers of confirmed entanglements in 2018, with the West Coast region and the Northeast and Mid-Atlantic region documenting the second and third highest total number of entanglements during the past 12 years, respectively.”¹⁸

Another NMFS report from 2021 stated that there were 511 large whale entanglements reported off the U.S. West Coast from 1982 through 2017, and that “[d]ata analyses document a recent spike in entanglements, jumping from an annual average of 8 confirmed entangled large whales between 1982 and 2013, to an average of 41 confirmed entangled large whale reports between 2014 and 2017.”¹⁹ And yet another NMFS report found that 26 percent of the North Atlantic right whale population is entangled each year, that the risk of an entanglement is increasing at a rate of 6.3 percent per year, and that the impacts of entanglement events on individual whales have become more severe over the last few years.²⁰

These entanglements not only kill and harm individual animals, they threaten the very existence of numerous endangered species off our coasts, including in waters off Alaska, in the Pacific Ocean, in the Atlantic Ocean, and in the Gulf of Mexico. Even worse, these harms occur in what are supposed to be our nation’s highly protected areas—National Marine Sanctuaries.

¹⁷ NMFS, National Report on Large Whale Entanglements Confirmed in the United States in 2018 (May 2020) at 3.

¹⁸ *Id.*

¹⁹ Lauren Saez, Dan Lawson, and Monica DeAngelis. 2021. Large whale entanglements off the U.S. West Coast, from 1982-2017, NOAA-TM-NMFS-OPR-63A.

²⁰ Sean A Hayes, et al. 2018. North Atlantic Right Whales-Evaluating Their Recovery Challenges in 2018, NOAA-TM- NMFS-NE-247 at 2, 10.

a. North Atlantic Right Whales

As one example, entanglements in commercial fishing gear are not only preventing the recovery of the critically endangered North Atlantic right whale, but are actively driving the species to extinction. Despite being protected as endangered for more than 40 years, North Atlantic right whales have not recovered. To the contrary, the species has been steadily declining since 2010, calving rates have significantly decreased, and the species has been suffering an unprecedented unusual mortality event since 2017.²¹ Scientists recently estimated that the population shrank to only 336 whales in 2020—an eight percent population decline from 2019 and the lowest population in nearly 20 years.²² NMFS has assigned the right whale “a recovery priority #1,” meaning its “extinction is almost certain in the immediate future” absent intervention.²³ NMFS considers protecting right whales from entanglement in fishing gear as the number one priority for saving the species.²⁴

In its most recent stock assessment report, NMFS determined that from 2014 to 2018, the minimum rate of annual human-caused mortality and serious injury to right whales averaged 8.15 per year—6.85 of which were attributed to fishery entanglements and 1.3 of which were attributed to vessel strikes.²⁵ The rate of documented right whale death and serious injury from entanglements *is more than eight times higher* than the species’ potential biological removal level.²⁶ And these are just documented deaths and serious injuries—NMFS’s leading right whale population biologist recently published a paper finding that, from 2010 to 2017, only 29 percent of right whale mortalities were observed, and that “cryptic [i.e., unobserved] deaths due to entanglements significantly outnumber[] cryptic deaths from vessel collisions or other causes.”²⁷ NMFS recently estimated that fisheries in U.S. waters entangle more than 15 percent of the right whale population each year, resulting in the death or serious injury of 7.57 right whales each year from trap/pot gear.²⁸ NMFS also estimated that—even after a rule to amend existing regulations

²¹ NMFS, North Atlantic Right Whale, <https://www.fisheries.noaa.gov/species/north-atlantic-right-whale>.

²² New England Aquarium, Population of North Atlantic right whales continues its downward trajectory, Oct. 25, 2021, <https://www.neaq.org/about-us/news-media/press-kit/press-releases/population-of-north-atlantic-right-whales-continues-its-downward-trajectory/>; *see also* Pettis, H.M., et al. 2021. North Atlantic Right Whale Consortium 2020 Annual Report Card.

²³ NMFS, Species in the Spotlight, <https://www.fisheries.noaa.gov/topic/endangered-species-conservation#species-in-the-spotlight>.

²⁴ NMFS, Species in the Spotlight Priority Actions 2021-2025: North Atlantic Right Whale (March 2021) at 1, 4, https://media.fisheries.noaa.gov/2021-04/SIS%20Action%20Plan%202021_NARightWhale-FINAL%20508.pdf.

²⁵ Sean A. Hayes, et al., US Atlantic and Gulf of Mexico Marine Mammal Stock Assessments 2020, NOAA-TM-NMFS-NE-271 (Apr. 2021) at 18.

²⁶ *Id.* The right whale’s current potential biological removal level is 0.8, *id.*, but will likely decrease to at least 0.7 in light of the recent population decline.

²⁷ Pace, R.M., III, et al. 2021. Cryptic mortality of North Atlantic right whales. *Conservation Science and Practice*, <https://conbio.onlinelibrary.wiley.com/doi/10.1111/csp2.346>.

²⁸ NMFS, Endangered Species Act Section 7 Consultation on the: (a) Authorization of the American Lobster, Atlantic Bluefish, Atlantic Deep-Sea Red Crab, Mackerel/Squid/Butterfish, Monkfish, Northeast Multispecies, Northeast Skate Complex, Spiny Dogfish, Summer Flounder/Scup/Black Sea Bass, and Jonah Crab Fisheries and (b)

to further reduce mortality and serious injury is fully implemented on the water (and assuming that rule is fully effective)—trap/pot fisheries in U.S. waters will continue to entangle more than nine percent of the right whale population each year, killing or seriously injuring an average of 3.17 right whales per year.²⁹ This is still roughly *four times* the species’ current potential biological removal level.

b. North Pacific Right Whales

Entanglements also pose a significant threat to North Pacific right whales—one of the most endangered marine mammals on the planet, with only about 30 individuals remaining in the Eastern population off Alaska.³⁰ NMFS has acknowledged that North Pacific right whales “are one of the rarest of all large whale species and among the rarest of all marine mammal species.”³¹ NMFS has further concluded that, given the very small population abundance estimate, any mortality or serious injury in commercial fishing gear would have a serious population-level impact.³² Indeed, NMFS has determined that the population cannot suffer more than one take every 20 years if it is to have a chance at recovery.³³ Yet there is “considerable fishing activity within portions of the critical habitat of this species, increasing the risk of entanglement.”³⁴

While NMFS has not documented recent incidents of mortalities or serious injuries from entanglements in the population, the agency admits that “the remote nature” of the whale’s habitat makes it “very unlikely that any mortality or serious injury in this population would be observed.”³⁵ As such, “it is possible that the current absence of reported mortality or serious injury due to entanglement in fishing gear . . . is not a reflection of the true situation,” and “the potential for fisheries-caused mortality and serious injury may be greater than is reflected” in the available data.³⁶ This is especially true considering that trap/pot fisheries within the whale’s range do not have observer coverage.³⁷ NMFS believes entanglement in trap/pot gear is a threat to the species given entanglement in such gear “is a significant source of mortality for North

Implementation of the New England Fishery Management Council’s Omnibus Essential Fish Habitat Amendment 2, Consultation No. GARFO-2017-00031 (May 2021) at 226.

²⁹ *Id.*

³⁰ NMFS, North Pacific Right Whale, <https://www.fisheries.noaa.gov/species/north-pacific-right-whale>; Muto, M. et al. 2021. Alaska marine mammal stock assessments, 2020. NOAA-TM- NMFS/AFSC-421 at 257.

³¹ NMFS, North Pacific Right Whale.

³² Alaska Stock Assessment Report at 258, 259.

³³ *Id.* at 258.

³⁴ *Id.* at 259.

³⁵ *Id.*

³⁶ *Id.*

³⁷ *Id.*

Atlantic right whales, and has been documented on Western Arctic bowhead whales which seasonally occupy the same areas as North Pacific right whales.”³⁸

c. Sea Turtles

Critically endangered Pacific leatherback sea turtles and Kemp’s ridley sea turtles are examples of yet two other species whose existence is threatened by entanglement in fishing gear. Though the leatherback sea turtle has been federally protected since 1970,³⁹ the Pacific leatherback sea turtle remains one of the marine animals most at-risk of extinction in the United States.⁴⁰ A recent study found that the Pacific leatherback sea turtle population is declining by nearly six percent a year, suffering an overall 80 percent decline from 1990 to 2017.⁴¹ Scientists have determined that, if current threats are not reduced, the species could be extirpated from the U.S. West Coast within three decades.⁴² NMFS has repeatedly determined that entanglement in fishing gear is the most significant threat to Pacific leatherbacks throughout their migratory and feeding areas.

These animals are getting tangled up in commercial fishing gear, including in trap/pot fisheries off the U.S. West Coast. For example, Pacific leatherback sea turtles have been observed entangled in groundfish pot gear off California in 2008⁴³ and crab trap gear in 2016.⁴⁴ And in 2019, a leatherback sea turtle was found dead in southern California, entangled in rock crab gear.⁴⁵

Interactions of fisheries with leatherback sea turtles off California, Oregon, and Washington have a particularly large impact to the population based on the likelihood that the turtles are adult females.⁴⁶ Given the current estimate of 562 adult nesting leatherbacks in the West Pacific

³⁸ NMFS, North Pacific Right Whale; George, J. Craig, et al. “Frequency of injuries from line entanglements, killer whales, and ship strikes on Bering-Chukchi-Beaufort Seas bowhead whales.” *Arctic*: 37-46 (2017).

³⁹ 35 Fed. Reg. 8491 (June 2, 1970).

⁴⁰ *See, e.g.*, NMFS, Species in the Spotlight: Pacific Leatherback Turtle | PRIORITY ACTIONS: 2021–2025 (March 2021) at 2.

⁴¹ Scott Benson, et al. 2020. A long-term decline in the abundance of endangered leatherback turtles, *Dermochelys coriacea*, at a foraging ground in the California Current Ecosystem. *Global Ecology and Conservation* 24 (2020) e013712.

⁴² *See id.*; Associated Press, Steep Decline in Giant Sea Turtles Seen off US West Coast, Apr. 8, 2021, <https://www.usnews.com/news/news/articles/2021-04-08/steep-decline-in-giant-sea-turtles-seen-off-us-west-coast>.

⁴³ Eguchi, T. et al. 2017. 2016 Leatherback sea turtle estimated bycatch reporting requirements as set out in the NMFS Biological Opinion for the continuing authorization of the Pacific Coast groundfish fisheries, http://www.pcouncil.org/wpcontent/uploads/2017/03/F5a_NMFS_Rpt3_ElectricOnly_Leatherback_Turtle_rpt_2017_Apr_2017BB.pdf; Jannot, A.J., et al. 2011. Estimated bycatch of marine mammals, seabirds, and sea turtles in the US west coast commercial groundfish fishery, 2002-2009. West Coast Groundfish Observer Program.

⁴⁴ *E.g.*, Letter from the National Marine Fisheries Service to California State Senator McGuire (May 26, 2016).

⁴⁵ NMFS, 2019 West Coast Whale Entanglement Summary, Spring 2020, https://media.fisheries.noaa.gov/dam-migration/wcr-nmfs_2019_entanglement_report_final-508_5-11-2020_rev.pdf.

⁴⁶ Scott Benson et al. 2007. Post-Nesting Migrations of Leatherback Turtles (*Dermochelys coriacea*) from Jamursba-Medi, Bird’s Head Peninsula, Indonesia. *Chelonian Conservation and Biology* 6:150–154; NMFS. 2018.

population,⁴⁷ any interaction with an adult female is significant to the population. Indeed, NMFS has stated that “every turtle” that is taken from the water off the U.S. West Coast “counts” when it comes to survival of the species.⁴⁸

Of the seven species of sea turtles in the world, the Kemp’s ridley has declined to the lowest population level and is considered the most endangered sea turtle internationally.⁴⁹ Kemp’s ridley sea turtles are unique among sea turtles in that they have a restricted distribution, with the majority of the population spending their entire life in the Gulf of Mexico.⁵⁰ They nest exclusively on beaches in the western Gulf of Mexico.⁵¹

NMFS considers entanglement in fishing gear to be the biggest threat to endangered Kemp’s ridley sea turtles.⁵² NMFS has determined that “[h]istorically, commercial fisheries have been a major threat to the Kemp’s ridley” and that, despite measures to reduce bycatch, commercial fisheries “continue to pose a significant threat to the Kemp’s ridley.”⁵³ In fact, entanglements are continuing to occur throughout the Gulf of Mexico and northwest Atlantic Ocean and “Kemp’s ridleys have the highest rate of interaction with fisheries operating in the Gulf of Mexico and Atlantic Ocean than any other species of turtle.”⁵⁴ This includes entanglement in trap/pot gear.⁵⁵ Scientists suspect Kemp’s ridleys are vulnerable to entanglement in trap lines because of their attraction to, or attempts to feed on, species caught in the traps and epibionts (i.e., living organisms) growing on traps, trap lines, and floats.⁵⁶

According to a 2020 report from NMFS, the agency has documented elevated sea turtle strandings in the Gulf of Mexico, the vast majority of which have been Kemp’s ridleys.⁵⁷ While the agency has not identified a definitive cause for these strandings “necropsy results indicate a

Endangered Species Act (ESA) Section 7(a)(2) Biological Opinion on Consideration of an Exempted Fishing Permit to Fish with Longline Gear in the West Coast Exclusive Economic Zone, NMFS Consultation Number: 2018-9553.

⁴⁷ NMFS. 2017b. Biological and Conference Opinion on the Proposed Implementation of a Program for the Issuance of Permits for Research and Enhancement Activities on Threatened and Endangered Sea Turtles. FPR-2017-9230, Dec. 21, 2017.

⁴⁸ See, e.g., *Ctr. for Biological Diversity v. Ross*, No. 4:19-cv-03135-KAW, 2019 U.S. Dist. LEXIS 220065, *18 (Dec. 20, 2019).

⁴⁹ Gulf of Mexico OCS BiOp at 182, 183.

⁵⁰ NMFS, Kemp's Ridley Turtle, <https://www.fisheries.noaa.gov/species/kemps-ridley-turtle>.

⁵¹ See, e.g., *id.*; NMFS, et al., Bi-National Recovery Plan for the Kemp’s Ridley at I-4.

⁵² *Id.*

⁵³ NMFS, Kemp’s Ridely Sea Turtle (*Lepidochelys Kempii*) 5-Year Review: Summary and Evaluation (July 2015) at 33, 38.

⁵⁴ *Id.* at 38.

⁵⁵ See, e.g., NMFS, Kemp's ridley Turtle (noting the species “primarily caught in trawls, gillnets, hook and lines, pot/traps, and dredges in the Gulf of Mexico and northwest Atlantic.”); see also Nicole M. Adimey, et al. 2014. Fishery gear interactions from stranded bottlenose dolphins, Florida manatees and sea turtles in Florida, U.S.A. Marine Pollution Bulletin 81:103–115 (documenting bycatch in trap/pot gear).

⁵⁶ Bi-National Recovery Plan at I-58.

⁵⁷ Gulf of Mexico OCS Oil and Gas BiOp at 185.

significant number of stranded turtles from these events likely perished due to forced submergence, which is commonly associated with fishery interactions.”⁵⁸ NMFS has concluded that these events “potentially represent a serious impact to the recovery and survival of the local sea turtle populations.”⁵⁹

d. National Marine Sanctuaries

Many entanglements are occurring in National Marine Sanctuaries—waters that should be a haven for marine animals, not home to deadly obstacle courses of fishing rope. For example, a humpback whale was found so severely entangled and weighed down by multiple sets of trap/pot gear in Monterey Bay National Marine Sanctuary that the whale was anchored in place, meaning it could not move.⁶⁰ In fact, NMFS has determined that of the 184 reported humpback whale entanglements between 1982 and 2017, reports “most frequently came from Monterey,” meaning within the sanctuary.⁶¹ And while report location does not necessarily coincide with where the whale originally got entangled, NMFS has further determined that when known, “approximately 79% of the gear involved in entanglements is set in a location that is within the same regional area where the report is made.” As such, “[t]his suggests that there is some relationship between the patterns of entanglement reporting and the origins of entanglements, at least at the regional level, in areas where entanglements are commonly reported.”⁶² Other whales have similarly been reported entangled in Cordell Bank National Marine Sanctuary off California,⁶³ and are also at risk in other sanctuaries off California, Washington, the U.S. East Coast, Florida, Hawaii, and other areas where commercial trap/pot fishing occurs.⁶⁴

⁵⁸ *Id.* at 186.

⁵⁹ *Id.*

⁶⁰ NMFS, Team Frees Severely Entangled Humpback Whale, May 19, 2020, <https://www.fisheries.noaa.gov/feature-story/team-frees-severely-entangled-humpback-whale-monterey-bay>.

⁶¹ Saez, et al. 2021 at 18.

⁶² *Id.* at 38.

⁶³ *See, e.g.*, NMFS 2016 Entanglement Spreadsheet

⁶⁴ *See, e.g.*, NOAA, Stellwagen Bank National Marine Sanctuary: Human Uses, <https://stellwagen.noaa.gov/management/mpr/humanuse.html> (stating that “Stellwagen Bank is one of several areas receiving concentrated [commercial] fishing effort”); NOAA, Fishing Impacts: Olympic Coast, <https://sanctuaries.noaa.gov/science/sentinel-site-program/olympic-coast/fishing-impacts.html> (stating that commercial fishing occurs within the sanctuary); NOAA, Fishing Impacts: Channel Islands, <https://sanctuaries.noaa.gov/science/sentinel-site-program/channel-islands/fishing-impacts.html> (stating that commercial fishing occurs within the sanctuary); National Marine Sanctuary Foundation, Successful Shoreline Cleanup Marks the Launch of Goal, Aug. 28, 2020, <https://marinesanctuary.org/blog/successful-shoreline-cleanup-marks-the-launch-of-goal-clean-seas-channel-islands-and-removes-131-lost-lobster-traps/> (describing effort to clean up lost lobster traps in the Channel Islands National Marine Sanctuary); NOAA, Florida Keys National Marine Sanctuary: Caribbean spiny lobster and spotted spiny lobster are found throughout the Caribbean and Florida Keys, <https://floridakeys.noaa.gov/animals/lobster.html>; National Marine Sanctuary Foundation Goal: Clean Seas Florida Keys, <https://marinesanctuary.org/goalcleanseas/> (describing lost lobster traps in Florida Keys National Marine Sanctuary).

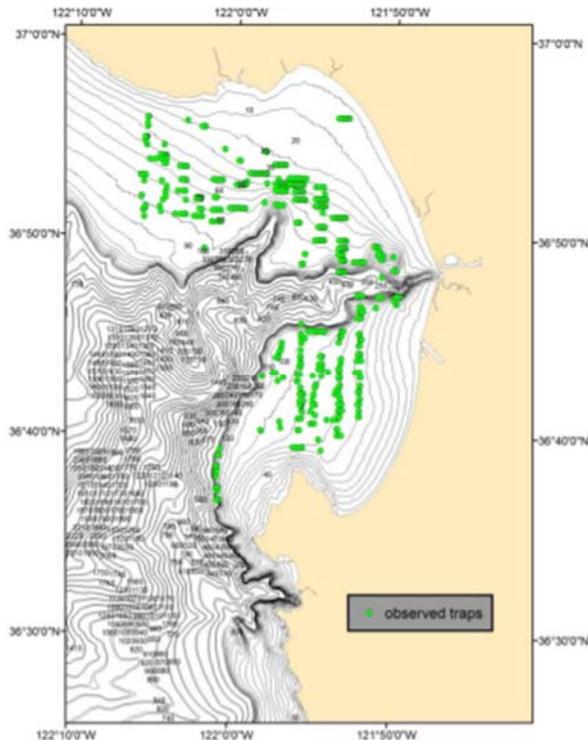


Fig. 7 Map of fishing gear observed in Monterey Bay National Marine Sanctuary from aerial survey in 2016.⁶⁵



Fig. 8 Density of crab posts observed during cruises in National Marine Sanctuaries.⁶⁶

Entanglements of marine mammals and sea turtles in these sanctuaries are antithetical to the very purposes of the National Marine Sanctuary Program “to maintain the natural biological communities in the national marine sanctuaries, and to protect, and, where appropriate, restore and enhance natural habitats, populations, and ecological processes.”⁶⁷ To accomplish these goals, the National Marine Sanctuaries Act generally prohibits any person from “caus[ing] the loss of, or injury [to] any sanctuary resource” and the unpermitted take of marine mammals and sea turtles is generally prohibited within the boundaries of each National Marine Sanctuary.⁶⁸ Yet unpermitted entanglements are occurring.

⁶⁵ Final Project Report to the California Dungeness Crab Fishing Gear Working Group: Exploring the use of manned aerial overflight surveys to estimate the spatial distribution and abundance of Dungeness crab fishing effort in Monterey Bay, Aug. 2016, http://www.opc.ca.gov/webmaster/ftp/project_pages/whale-entanglement/AerialSurvey-July2016.pdf.

⁶⁶ R. Cotton Rockwood and Jaime Jahncke 2020. Co-occurrence of whales and Dungeness crab-pot fishing gear in north-central California, https://www.opc.ca.gov/webmaster/_media_library/2020/10/M.2-S.2_Rockwood_Fishing-Dynamics.pdf.

⁶⁷ 16 U.S.C. § 1431(b)(3).

⁶⁸ *Id.* § 1436(1); 15 C.F.R. § 922.132(a)(5) (prohibiting take of marine mammals and sea turtles in Monterey Bay National Marine Sanctuary); *id.* § 922.72(a)(9) (prohibiting take of marine mammals and sea turtles in Channel Islands National Marine Sanctuary); *id.* § 922.82(a)(7) (prohibiting take of marine mammals and sea turtles in Greater Farallones National Marine Sanctuary); *id.* § 922.112(a)(5) (prohibiting take of marine mammals and sea turtles in Cordell Bank National Marine Sanctuary); *id.* § 922.142(a)(5) (prohibiting take of marine mammals and sea turtles in Stellwagen Bank National Marine Sanctuary).

B. Ropeless Gear Eliminates the Risk of Entanglement in Vertical Line

Scientists have concluded that the only way to eliminate the risk of entanglement in vertical lines is to eliminate rope from the water column.⁶⁹ Ropeless gear accomplishes this end while allowing fishing to continue. NMFS itself has described “[t]he ability to use gear retrieval devices that do not require the use of stationary buoy lines in the water column” as “a truly game changing development” to prevent entanglements.⁷⁰ And it considers ropeless gear “a future solution to whale entanglement.”⁷¹

While various types of ropeless gear exist, the goal of each type is to eliminate the static rope that tethers pots to a buoy at the water’s surface. The gear has been developed with the input of fishermen and is based on technology that has been used in other oceanographic applications for decades, such as the marine salvage industry.

Some types of ropeless gear use little to no rope at all while others use rope only during active gear retrieval. There are three main types of ropeless gear: (1) bottom-stowed rope; (2) inflatable lift bags; and (3) grappling.

The first involves buoyant rope and one or more buoys that are attached to the gear and stored at the seafloor until the fisher wishes to retrieve it. The rope is placed into a mesh bag or container or coiled around a spool. The release of the rope is triggered with an acoustic signal sent from the fisher’s vessel to an acoustic device attached to the bag, container, or spool. Once triggered, the buoy floats to the surface bringing the rope along with it, and the fisher hauls the gear using the rope.⁷²

The second mechanism involves the use of a deflated bag deployed on the top of a single trap or at one end of a trawl. Upon receiving an acoustic signal from the fisher’s vessel, the bag is

⁶⁹ Michael J. Moore et al. 2021. Assessing North Atlantic right whale health: threats, and development of tools critical for conservation of the species. *Diseases of Aquatic Organisms* (“Ultimately, removal of rope from the water column will better enable species recovery.”); see also Michael J. Moore. 2019. How we can all stop killing whales: a proposal to avoid whale entanglement in fishing gear. *ICES Journal of Marine Science*. 76(4), 781–786. doi:10.1093/icesjms/fsy194 (“eliminating end lines in the water column by fishing with ropeless gear is the only long term option to end NARW entanglements”); Hannah Myers, et al. 2019. Ropeless fishing to prevent large whale entanglements: Ropeless Consortium report. *Marine Policy* 107 (2019) 103587 (“Removing the vertical buoy lines used to mark traps on the sea floor and haul them up would dramatically reduce or eliminate entanglements.”); id.; (“Ropeless fishing offers a very strong option to eliminate the threat of entanglement to NARWs and other marine species in the long term”); Mark Baumgartner et al. 2019. Urgent Need for Ropeless Fishing. *Sea Technology* (ropeless gear “has the potential to significantly reduce or even eliminate entanglements of all marine animals”); Ashifa Kassam, Ropeless fishing tech could help save rare whale, say scientists, *The Guardian*, Apr. 8, 2021, <https://www.theguardian.com/environment/2021/apr/08/ropeless-fishing-north-atlantic-right-whale-us-canada> (scientist describing gear as “the only actual solution to the [entanglement] problem.”).

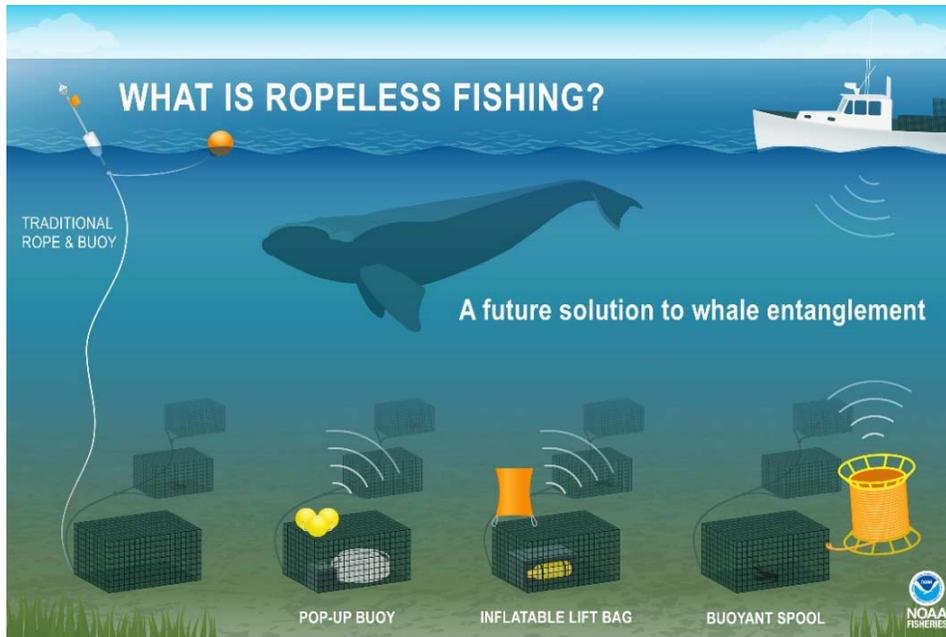
⁷⁰ NMFS, *North Atlantic Right Whales and the Dangers of Vessel Strikes and Entanglement*, Feb. 19, 2020, <https://www.fisheries.noaa.gov/feature-story/north-atlantic-right-whales-and-dangers-vessel-strikes-and-entanglement>.

⁷¹ NMFS, *Protected Species Gear Research*, <https://www.fisheries.noaa.gov/new-england-mid-atlantic/science-data/protected-species-gear-research>.

⁷² See, e.g., Mark Baumgartner et al. 2019; Myers et al. 2019.

inflated from a connected compressed air tank, and the buoyancy provided by the inflated bag brings the first trap in the trawl to the surface. The fisher can retrieve this first trap, and then haul the rest of the gear using the ground line that connects the first trap to the other traps.⁷³

The third method—grappling—is already widely used by fishers to retrieve lost gear. In some fisheries, grappling is the norm because of logistical considerations. The golden crab fishery off the U.S. Southeast Coast, for example, uses grappling to retrieve gear because very strong persistent currents in the Gulf Stream do not allow buoys attached to the end line to remain afloat at the surface.⁷⁴



Ropeless gear for trap/pot fisheries with acoustic release devices is currently made by a variety of different companies and institutions. Some of those devices include:



EdgeTech 5112 Ropeless Fishing System. Photo: EdgeTech

The EdgeTech 5112 Ropeless Fishing System is a bottom-stowed rope device. It consists of a release cage with line and floatation cover and an integrated acoustic release and transponder and a trap tracker application running on an IOS or Android device. The cage is deployed like any other rope-and-buoy trap; it can be attached to a single trap or at the head or tail of a trawl of traps. Recovery is accomplished by sending a unique

⁷³ Mark Baumgartner et al. 2019; Myers et al. 2019.

⁷⁴ Mark Baumgartner et al. 2019; Myers et al. 2019.

	<p>recovery command. The device responds, releasing the top flotation cover bringing the cover and line to the surface where it can be retrieved like any other trap with a buoy line from the surface.⁷⁵</p>
 <p>Desert Star Systems Ropeless Fisher. Photo: Desert Star.</p>	<p>The Desert Star Systems Ropeless Fisher is an all-inclusive ropeless fishing system for pot trap fishing, comprised of three components: (1) an acoustic release mechanism; (2) a deck box for acoustic sonar; and (3) bottom-stowed rope & hard float buoys. An application tracks where the gear is located and has a user-specified visibility radius. It was first developed for commercial use in 2012, operates at depths of up to 300 meters and can be used offshore, inshore, in singles or trawling.⁷⁶</p>
 <p>SMELTS Crab Raft. Photo: SMELTS</p>	<p>The SMELTS Crab Raft uses compressed air with variable buoyancy lift bags to bring gear to the surface. The system completely eliminates the vertical line and buoy. It uses an acoustic modem to track gear location and trigger lift bag inflation. A similar system exists for lobster gear, called SMELTS Lobster Raft.⁷⁷</p>

⁷⁵ EdgeTech, 5112 Ropeless Fishing System, https://www.edgetech.com/wp-content/uploads/2019/07/ETN-5112-RFS-9_17_19.pdf.

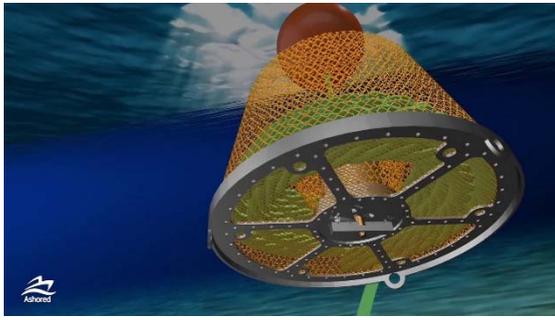
⁷⁶ Desert Star Systems, <https://www.desertstar.com/ropeless-fishing>.

⁷⁷ SMELTS, Ropless Crab Raft, <https://www.smelts.org/crab-raft>.



Fiobuoy AC200. Photo: Fiobuoy

The Fiobuoy systems are bottom-stowed gear, consisting of a spool of rope, acoustic modem, floatation, and release mechanism. Each unit has a unique identification code and release is activated upon receiving an acoustic command from a boat. They can also be programmed to release at a specific date and time. The devices can be customized so features such as rope length can be modified to suit specific applications.⁷⁸



Ashored Rope on Command System

Ashored's bottom-stowed system works with existing lobster/crab traps/trawl lines; the gear is activated via acoustics (or a backup timer). Once the buoy and connecting rope rise to the surface, fishers can use existing onboard equipment and processes to retrieve the gear and prepare it for redeployment. It includes a rope containment and release module that also uses sensors to collect and transmit data to an onboard gear tracking system.⁷⁹



Lobster Lift. Photo: Lobster Lift

The LobsterLift inflates a buoy, creating enough buoyancy to raise the system to the surface, attached to the rest of the trawl. The gear is located via a dropped pin on a map; when nearby the gear, an acoustic signal is sent from the boat to the LobsterLift attached to the lead trap. The fisher can put the LobsterLift into its docking station, where it resets.

Ropeless gear can be marked by GPS tracking and acoustic devices which replace the need to mark the gear with a surface buoy.⁸⁰ For example, the EdgeTech 5112 Ropeless System has a

⁷⁸ FioMarine, Fiobuoy Models, <https://fiomarine.com/fiobuoy-models/>; FioMarine, Fiobuoy v Acoustic Release <https://fiomarine.com/fiobuoy-v-acoustic-release/>.

⁷⁹ Ashored Innovations, <https://ashored.ca/>.

⁸⁰ See, e.g., Myers et al. 2019 (describing acoustic marking).

Trap Tracker available for both Android and IOS systems. It syncs with the cloud and other devices; stores history for all units; reads ID tags for easy input; and includes charts and displays positions. It pulls information from the fisheries cloud database and displays the location of other 5112 cages within five miles of the device's current position. The system pulls in data of units within 25 miles but only displays other fishermen's units within five miles of current location.⁸¹

And Desert Star's Ropeless Fisher has an application which runs on a GPS-integrated smartphone or tablet. It logs trap deployment locations and displays those locations to other fishers when operating within a "visibility radius" of the traps, defined by the fisher. Regulators can see submerged gear from any location at any time.⁸²

Ropeless gear is already used in some fisheries and is being extensively tested in others around the world. For example, commercial fishers in a lobster fishery in New South Wales, Australia have been using ropeless gear for many years. They started using the gear to reduce lost gear and ghost fishing; to reduce the opportunity for theft of gear and lobsters; and to reduce entanglement risk.⁸³ After the first six months of using the gear to fish commercially in 2013 in depths of 100-120 meters, fishers reported that the gear works and has reduced lost gear.⁸⁴

Numerous tests of the gear have occurred, and are occurring, in U.S. waters.⁸⁵ These tests have occurred off California, New England, and the South Atlantic. Fishermen report that the gear works, especially in areas where it has been more extensively tested.⁸⁶ Researchers have stated that "[t]he technology is just as solid as technology gets."⁸⁷

Likewise, the Acadian Crabbers Association has been testing ropeless gear in Canadian waters since 2018. Following trials in the Gulf of St. Lawrence last year, the director of the association

⁸¹ EdgeTech, 5112 Ropeless Fishing System, https://ropeless.org/wp-content/uploads/sites/112/2019/11/03.-MacEachern_Edgetech_RFS_20191113.pdf.

⁸² Desert Star, Ropeless Fisher™ App, <https://www.desertstar.com/page/rope-less-fisher-app>.

⁸³ Fisheries Research & Development Corporation, Final Report Communications and Extension in the Southern Rock Lobster Fishery, FRDC Project No 2012/511, Mar. 2015.

⁸⁴ *Id.*

⁸⁵ *See, e.g.*, 85 Fed. Reg. 36,379, 36,379 (June 16, 2020) (considering a permit to allow "an exemption from Federal lobster regulations that would authorize a federally-permitted commercial lobster vessel to participate in a ropeless lobster gear study . . . to potentially prevent entanglements of protected species, primarily North Atlantic right whales"); 85 Fed. Reg. 30,948, 30,948 (May 21, 2020) (describing another permit that "would authorize five federally permitted commercial lobster vessels to participate in a ropeless lobster gear study . . . as a potential technique to prevent entanglements of protected species, primarily North Atlantic right whales"); 84 Fed. Reg. 16,651, 16,651 (Apr. 22, 2019) (describing another permit to allow "an exemption from Federal lobster regulations that would authorize two federally-permitted commercial lobster vessels to participate in a ropeless lobster gear study").

⁸⁶ *See, e.g.*, Eve Zuckoff, Is 'Ropeless' Fishing the Solution to End Fatal Entanglements for Endangered Whales?, CAI, Feb. 1, 2021, <https://www.capeandislands.org/science-environment/2021-02-01/is-ropeless-fishing-the-solution-to-end-fatal-entanglements-for-endangered-whales>; Meeting of the Atlantic Large Whale Take Reduction Team, Apr. 30, 2021.

⁸⁷ Ethan Genter, Researchers Test Ropeless Fishing, Mount Desert Islander, Aug. 4, 2021, <https://www.mdislander.com/maine-news/waterfront/researchers-test-ropeless-fishing>.

stated that “[w]e’re quite enthusiastic about [ropeless gear] because we think that this can work and this is going to work.” He further stated that “it’s the ideal solution to fish in areas that are closed to fishing because of the presence of whales.”⁸⁸ Fishers reported a 100 percent success rate in the performance of the acoustic release mechanism and a 97 percent success rate in the overall performance of the gear.⁸⁹ There has been extensive gear testing by other fishers in other waters in various depths and during various sea states, including Coldwater Lobster Association in southwest Nova Scotia, Grand Manan Fishermen’s Association in the Bay of Fundy.⁹⁰

While cost and other factors have hampered the widespread adoption of ropeless gear, a legal requirement to use such gear will further technological developments and investments that bring down the cost. Indeed, scientists have concluded that with widespread adoption, “the commercial opportunities for ropeless fishing may be significant” and “if every fisherman converted to ropeless methods, the market would be massive.”⁹¹ NMFS has also recognized that “[t]he more vessels that switch over to using ropeless devices, the more affordable the equipment will become in the future, minimizing the future costs.”⁹²

A requirement to adopt ropeless fishing gear in all Category I and II fisheries—rather than in particular areas—is necessary ensure adequate protections are in place, particularly as climate change continues to wreak havoc on ocean ecosystems. The increasing number of entanglements occurring in nearly all regions coincides with changing ocean conditions driven by climate change. Warming waters, for example, can shift the distribution of prey, forcing whales to look for food in areas that increase the overlap between whales and fishing gear.⁹³ In short, climate change is exacerbating the risk of entanglement faced by numerous marine animals. As one scientist has explained, “as climate change and consequent prey distribution shifts continue to change the nature of optimal whale habitat, the high mobility of both the whales and the relevant fisheries will result in ongoing entanglements unless ropeless technology is adopted over wide areas.”⁹⁴

⁸⁸ Kassam 2021.

⁸⁹ See, e.g., Philippe Cormier, CORBO Engineering, Ropeless Consortium Annual Meeting. Using ropeless in closed fishing areas: Sea trials of snow crab fishing gear in the Gulf of St. Lawrence, Presentation to the Ropeless Consortium, Aug. 26, 2020, Session 2.

⁹⁰ See, e.g., Edward Trippel, Fisheries and Oceans Canada, Canadian Support for Ropeless Fishing and Gear Innovation Summit, Presentation to the Ropeless Consortium, Nov. 2019.

⁹¹ Mark Baumgartner et al. 2019.

⁹² NMFS, Final Environmental Impact Statement, Regulatory Impact Review and Final Regulatory Flexibility Analysis for Amending the Atlantic Large Whale Take Reduction Plan: Risk Reduction Rule, Vol. I (June 2021) at 283.

⁹³ See, e.g., Jarrod A. Santora, et al. 2020. Habitat compression and ecosystem shifts as potential links between marine heatwave and record whale entanglements. *Nature Comm.* Vol. 11: 536; Moore, M. 2021. Assessing North Atlantic right whale health: threats, and development of tools critical for conservation of the species. *Dis. Aquat. Org.* Vol. 143: 205–226; Feist, Blake E., et al. “Footprints of fixed-gear fisheries in relation to rising whale entanglements on the US West Coast.” *Fisheries Management and Ecology* 28.3: 283-294 (2021).

⁹⁴ Moore 2019.

A patchwork of various regulatory requirements cannot adequately address this risk. Numerous studies have concluded that NMFS cannot adequately address entanglement risk without adopting comprehensive, large-scale changes to how commercial fisheries operate. For example, a 2007 scientific review panel deemed the various regulatory measures NMFS has adopted so far ineffective at sufficiently reducing entanglement risk:

In general, [NMFS] should set higher standards of protection and place greater reliance on the ability of industry to adapt to those standards, rather than continuing to depend on a complex, shifting, inefficient, and ineffective network of regulatory measures to protect the whales. The guiding principle should be to separate high-risk human activities from right whales, in both space and time, to the maximum extent feasible.⁹⁵

Studies issued since then only reinforce this point. For example, a 2014 study by agency scientists concluded that incremental gear modifications under the Atlantic Large Whale Take Reduction Plan from 1999 to 2009 were “generally ineffective in abating whale deaths from entanglements in fishing gear.”⁹⁶ And in October 2018, a NMFS Technical Memorandum observed that, starting in 1997 when the original Plan was put in place, including the 2009 sinking groundline and 2014 vertical line rules, data from 2000 through 2017 showed that “absolute entanglements appear to be on the rise.”⁹⁷ The same document noted the “unintended consequences” of the 2015 vertical line rule that required trawling up potentially contributed to the increased severity of entanglements.⁹⁸

More than two decades ago, NMFS recognized that “extensive closures of large areas of the ocean to . . . fishermen . . . would guarantee reduction of entanglements causing serious injury and mortalities.”⁹⁹ Yet the agency has avoided enacting these necessary measures. Requiring the use of ropeless fishing gear in Category I and II trap/pot fisheries would help accomplish this end by closing large areas of the ocean to the unattended vertical line that entangles whales and other animals.

C. Other Benefits of Ropeless Gear

In addition to significantly reducing the risk of entanglements, ropeless gear will also help eliminate lost, abandoned, or discarded gear (i.e., “ghost” gear) and plastic debris in our oceans. This will benefit both marine life and fishers.

⁹⁵ Reeves, R.R., A.J. Read, L. Lowry, S.K. Katona, and D.J. Boness. 2007. Report of the North Atlantic right whale program review, 13-17 March 2006, Woods Hole, Massachusetts. Marine Mammal Commission, Bethesda, MD.

⁹⁶ Pace, R. M. III et al. 2014.

⁹⁷ Right Whale Recovery Tech Memo at 8.

⁹⁸ *Id.*; see also Kenney, R. 2018. What if there were no fishing? North Atlantic right whale population trajectories without entanglement mortality. Endangered Spec. Res. 37:233 (“[d]espite legal requirements to reduce fishery-related mortality, little or no real progress has been made over the last 2 decades”).

⁹⁹ 62 Fed. Reg. 39,157, 39,159 (July 22, 1997).

Trap/pot fishers lose a significant amount of gear each season. For example, the Massachusetts Department of Marine Fisheries estimates that its lobster fishers lose upwards of 20 percent of their gear each year.¹⁰⁰ The Florida Fish and Wildlife Commission determined that between the 1997 and 2005 fishing seasons commercial lobster trap fishers lost between 18 and 65 percent of their traps per season.¹⁰¹ Another study estimated that Mississippi blue crab fishers lose 10 to 20 percent of their traps each year.¹⁰² And the Pacific Fishery Management Council has reported that as many as 40,000 Dungeness crab pots—or roughly 10 percent of the estimated number of traps fished each season—may be lost each year from central California to the Canadian border.¹⁰³ An analysis of data from the 2013–2014 commercial Dungeness crab fishing season in California found that fishers lost thousands of pots due to interactions with vessels, kelp beds, winter storms, and/or strong currents:

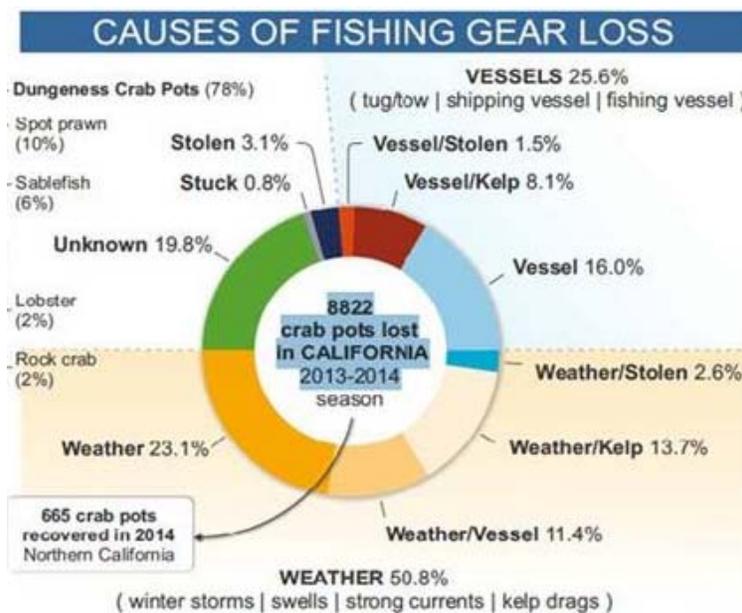


Fig. 7. Causes of Lost Fishing Gear During the 2013-2014 California Dungeness Crab Fishing Season. Data provided by CDFW.

By eliminating the unattended vertical line that runs through the water column, ropeless gear can eliminate many of these causes of lost gear. It will for example, eliminate lost gear caused by the

¹⁰⁰ NMFS, Final Environmental Impact Statement, Regulatory Impact Review and Final Regulatory Flexibility Analysis for Amending the Atlantic Large Whale Take Reduction Plan: Risk Reduction Rule, Vol. I (June 2021) at 259.

¹⁰¹ Florida Fish and Wildlife Commission, An Overview of Trap Loss in Florida’s Spiny Lobster Trap Fishery, <https://myfwc.com/research/saltwater/crustaceans/lobster/fishery/overview/>.

¹⁰² Mississippi State University, Derelict Crab Traps in the Gulf of Mexico, 2019, Publication No: P3334, <http://extension.msstate.edu/publications/derelict-crab-traps-the-gulf-mexico>.

¹⁰³ See, e.g., Pacific Fishery Management Council. 2013. Pacific Coast Fishery Ecosystem Plan for the U.S. Portion of the California Current Large Marine Ecosystem, at 155–56, <http://www.pcouncil.org/ecosystem-basedmanagement/fep/>; Steve Gorman, Crab traps pose growing threat to whales along U.S. West Coast, July 2, 2016, Reuters, <https://www.reuters.com/article/us-california-whale-crabbing/crab-traps-pose-growing-threat-to-whales-along-u-s-west-coast-idUSKCN0ZI0CN>.

surface buoy and/or vertical line getting caught in, dragged away, and/or cut by the propeller on a vessel. It will also eliminate the chances strong swells will drag gear away from increased strain on the surface buoy and/or vertical line.

And given ropeless gear comes equipped with GPS or other tracking devices, this gear can help fishers locate their gear in the event the device is lost in a storm event. NMFS itself recently recognized that ropeless gear “could reduce the likelihood of gear lost compared with current gear losses after storm events or other incidents.”¹⁰⁴ Further, much of the gear is built with a back-up system such that in the event the release unit fails, a galvanic time release attached to the release cord operates as a trigger system after a given period of time allowing the bag or container to open and release the head gear.¹⁰⁵

Lost gear has numerous harmful effects, including continued trapping and killing of crustaceans and other target species when no longer under a fisher’s control; damage to marine habitats; and increased plastic pollution.¹⁰⁶ Marine animals can also be entangled in the trailing rope. Entangling debris may cause drowning, lacerations, infection, strangulation, increased energy expenditure, and mortality.¹⁰⁷

The number of animals that succumb each year to derelict fishing gear and other plastic debris which they become entangled in and/or ingest cannot be reliably known, but estimates are in the millions.¹⁰⁸ Ropeless fishing gear will help reduce the scale of this problem by reducing the extent of lost gear.

The overall amount of lost gear in the ocean is staggering. Studies estimate that lost fishing gear makes up at least 10 percent of the marine litter in the ocean, meaning somewhere between 500,000 and one million tons of fishing gear is left in the ocean every year.¹⁰⁹ Ghost gear represents a much higher percentage of large plastics found floating at the surface of the water; and in some areas, it makes up the vast majority of the of marine debris, including at least 46

¹⁰⁴ NMFS, Final Environmental Impact Statement, Regulatory Impact Review and Final Regulatory Flexibility Analysis for Amending the Atlantic Large Whale Take Reduction Plan: Risk Reduction Rule, Vol. I (June 2021) at 229.

¹⁰⁵ Fisheries Research & Development Corporation.

¹⁰⁶ See, e.g., NOAA Marine Debris Program, Derelict Fishing Gear, <https://marinedebris.noaa.gov/types/derelict-fishing-gear>.

¹⁰⁷ See, e.g., Gregory, M.R., 2009. Environmental implications of plastic debris in marine settings-- entanglement, ingestion, smothering, hangers-on, hitch-hiking and alien invasions. *Philosophical transactions of the Royal Society of London. Series B, Biological sciences*, 364:1526, pp.2013–25.

¹⁰⁸ Moore, Charles James, 2008. Synthetic polymers in the marine environment: A rapidly increasing, long-term threat. *Environmental Research*, 108(2), pp.131–139.

¹⁰⁹ World Wildlife Fund, Stop Ghost Gear: The Most Deadly Form of Marine Plastic Debris (Oct. 2020) (citing Jambeck, J. R. , et al. 2015. Plastic waste inputs from land into the ocean. *Science*. 347:6223 at 768-771; Macfadyen, G. et al. 2009. Abandoned, lost or otherwise discarded fishing gear. UNEP Regional Seas Reports and Studies 185. FAO Fisheries and Aquaculture Technical Paper 523).

percent of the Great Pacific Garbage Patch.¹¹⁰

Much of the gear used in commercial trap/pot fishing is made with plastic. According to NMFS's Fixed Gear Guide for fisheries on the U.S. West Coast, for example, the buoys used are made mostly of plastic and much of the line is also made with plastic.¹¹¹ NMFS has reported that the line taken off North Atlantic right whales was made from polypropylene and lobster fishers on the U.S. East Coast have reported a preference for types or brands of rope made with plastic.¹¹² In general, most fishing ropes used now are made of plastic.¹¹³

One model looked at the mass of plastic used in fishing gear and estimated that 100 kt of plastic from industrial fishing gear is lost each year into the ocean.¹¹⁴ It noted that the marine ecosystem experiences greater damage from lost fishing gear than other sources of plastic.¹¹⁵

The plastic in lost fishing gear contributes to both macro- and microplastic pollution. Studies examining microplastics in crabs and lobster, for example, determined that “the majority of recovered plastics” ingested by the animals “consisted of clear balled fibers that were observed to match those originating from fisheries,” including the rope.¹¹⁶

Because of their large surface-area-to-volume ratio and their tendency to attract contaminants more readily than natural sediments, plastic fragments concentrate organic pollutants; these concentrations can be up to 1,000,000 times higher than that of the surrounding seawater.¹¹⁷

Aquatic species may ingest these pollutant-laden plastic particles, resulting in lethal and sublethal harms. Ingestion of plastic has many detrimental consequences, including

¹¹⁰ See, e.g., L. Lebreton, et al. 2018. Evidence that the Great Pacific Garbage Patch is rapidly accumulating plastic. Scientific Reports volume 8, Article number: 4666; WWF, Stop Ghost Gear at 10.

¹¹¹ NMFS, Fixed Gear Guide at 4, 16.

¹¹² NMFS, ALWTRT entanglement update, SI/M and gear analysis, Apr. 1, 2021, at 9, 12, <https://media.fisheries.noaa.gov/2021-04/2021%20Spring%20ALWTRT%20gear%20update.pptx%20%281%29.pdf?null>; McCarron, P. and Tetreault, H., 2012. Lobster Pot Gear Configurations in the Gulf of Maine, https://www.bycatch.org/sites/default/files/Lobster_Gear_Report_0.pdf.

¹¹³ Gilman, E. et al., Highest risk abandoned, lost and discarded fishing gear, 11 Scientific Reports 7195 (2021).

¹¹⁴ Kuczenski, B., et al. Plastic gear loss estimates from remote observation of industrial fishing activity, 00 Fish and Fisheries 1– 12 (2021).

¹¹⁵ *Id.*

¹¹⁶ Waddell, E., et al. 2020. Microplastic contamination in Corpus Christi Bay blue crabs, *Callinectes sapidus*. Limnology and Oceanography Letters 5, 2020, 92–102.

¹¹⁷ Rios, Lorena M., Charles Moore & Patrick R. Jones. 2007. Persistent organic pollutants carried by synthetic polymers in the ocean environment. Marine Pollution Bull. 54:1230.; Bakir, Adil et al., Enhanced desorption of persistent organic pollutants from microplastics under simulated physiological conditions, 185 Env'tl. Pollution 16 (2014); Anbumani, S. and Kakkar, P. 2018. Ecotoxicological Effects of Microplastics on Biota: A Review. Env'tl. Sci. & Pollution Res. 25:14,373; Guzzetti, E. et al. 2018. Microplastic in Marine Organisms: Environmental and Toxicological Effects. Env'tl. Toxicology & Pharmacology 64:164.

gastrointestinal blockages, ulceration, internal perforation, and death.¹¹⁸ Even those animals whose innards remain intact may suffer from false sensations of satiation, or experience reduced reproductive output.¹¹⁹

The absorbed toxins can leach from ingested plastics into animal tissues, resulting in adverse effects such as endocrine disruption (i.e., the disruption of hormone systems), neurotoxicity, and carcinogenesis.¹²⁰ Plastic bioaccumulates in animals higher on the food chain when these animals eat prey that have ingested plastic.¹²¹

Scientists have documented over 2,200 species impacted by ocean plastic pollution and at least 690 that have ingested microplastics.¹²² This includes a variety of species of fish, sea birds, sea turtles, and marine mammals.

Marine species from plankton to invertebrates to large pelagic fish have been shown to ingest microplastics (or prey that contain them).¹²³ Freshwater, estuarine, and marine fish ingest microplastics and their adsorbed pollutants either directly or through contaminated prey.¹²⁴ Such ingestion induces physiological effects and harm, including liver toxicity, endocrine disruption, behavioral changes, and intestinal effects.¹²⁵ One study found that “Pacific mole crabs exposed to polypropylene rope had increased adult crab mortality, and decreased retention of egg clutches, causing variability in embryonic development rates.”¹²⁶

¹¹⁸ Teuten, E.L. et al. 2009. Transport and release of chemicals from plastics to the environment and to wildlife, *Phil. Trans. R. Soc. B.* 364:1526.

¹¹⁹ Auman, H.J. et al. 1997. Plastic ingestion by Laysan albatross chicks on Sand Island, Midway Atoll, in 1994 and 1995, *Albatross Biology and Conservation*, 239, 42.

¹²⁰ Teuten et al. 2009; Hammer et al. 2012. Plastics in the Marine Environment: The Dark Side of a Modern Gift. *Rev. Environ. Contamination & Toxicology* 220:2012; Rochman et al. 2013. Ingested plastic transfers hazardous chemicals to fish and induces hepatic stress. *Scientific Reports* 3:3263; Anbumani & Kakkar 2018; O'Donovan, Sarit et al. 2018. Ecotoxicological Effects of Chemical Contaminants Adsorbed to Microplastics in the Clam *Scrobicularia plana*. *Frontiers in Marine Sc* 5:2018.

¹²¹ Teuten et al. 2009.

¹²² Gall, S.C. & R.C. Thompson. 2015. The Impact of Debris on Marine Life. *Marine Pollution Bull.* 92:170; Center for International Environmental Law, *Plastic & Climate: The Hidden Costs of a Plastic Planet* (May 2019), <https://www.ciel.org/wp-content/uploads/2019/05/Plastic-and-ClimateFINAL-2019.pdf>; Litterbase: Online Portal for Marine Litter (2019), <https://litterbase.awi.de/>.

¹²³ Romeo, Teresa et al. 2015. First evidence of presence of plastic debris in stomach of large pelagic fish in the Mediterranean Sea. *Marine Pollution Bull.* 95:358.

¹²⁴ Anbumani & Kakkar 2018; Duncan, Emily M. et al. 2019. Microplastic ingestion ubiquitous in marine turtles. *Global Change Biology* 25:744; Herrera, A. et al. 2019. Microplastic ingestion by Atlantic chub mackerel (*Scomber colias*) in the Canary Islands coast, *Marine Pollution Bull.* 139: 127.

¹²⁵ Anbumani & Kakkar 2018; CIEL 2019; Guzzetti et al. 2018.

¹²⁶ Horn, D. 2020. Effects of environmentally relevant concentrations of microplastic fibers on Pacific mole crab (*Emerita analoga*) mortality and reproduction. *Limnology and Oceanography Letters* 5, 2020, 74–83.

Seabirds are among the most sensitive wildlife species to plastic pollution due to a high frequency of ingestion, impacts on body condition, and transmission of toxic chemicals.¹²⁷ Ingested plastic may stay in seabirds' stomachs for months, potentially interfering with feeding behavior and increasing leached contaminant loads.¹²⁸ Laboratory studies show that contaminants from microplastics ingested by shearwater chicks are released once inside the bird's body.¹²⁹ Plastic contaminants like endocrine-disrupting phthalates affect seabirds across the globe, even in remote environments like the Arctic.¹³⁰ Scientists estimate that by 2050, the percentage of seabird species ingesting plastic will reach 99.8 percent, resulting in increased mortality and decreased reproduction.¹³¹



Fig. 8. The remains of dead baby albatrosses on Midway Atoll where nesting chicks are fed lethal quantities of plastic by their parents, who mistake the floating trash for food as they forage over the vast polluted Pacific Ocean. Photo: Chris Jordan

Plastic pollution also poses a serious risk to sea turtles.¹³² Scientists have documented ingestion of microplastic particles in all seven species of sea turtles.¹³³ For example, adult loggerhead turtles have been found to ingest soft plastic, ropes, styrofoam, and monofilament lines.¹³⁴

¹²⁷ Wilcox, Chris, et al. 2015. Threat of plastic pollution to seabirds is global, pervasive, and increasing. *Proc. Nat'l Acad. Sci.* 112:11899; CIEL 2019.

¹²⁸ Gall & Thompson 2015.

¹²⁹ Teuten et al. 2009; Hammer et al. 2012; Gall & Thompson 2015; O'Donovan et al. 2018.

¹³⁰ Sample, Ian, *Plastics Reach Remote Pristine Environments, Scientists Say*, *The Guardian*, Feb. 17, 2019, <https://www.theguardian.com/science/2019/feb/17/plastics-reach-remote-pristineenvironments-scientists-say>.

¹³¹ Wilcox et al. 2015.

¹³² See CIEL 2019.

¹³³ Guzzetti et al. 2018; Duncan et al. 2019; Garrison, S. et al. 2019. Marine Debris at Nesting Grounds Used by the Northern Gulf of Mexico Loggerhead Recovery Unit. *Marine Pollution Bull.* 139:59.

¹³⁴ Lazar, B, Gracan, R. 2011. Ingestion of marine debris by loggerhead sea turtles, *Caretta caretta*, in the Adriatic sea. *Mar. Pollut. Bull.* 62, 43-4.

Autopsies of leatherback sea turtles found that 34 percent had plastic in their stomach, which can lead to blockage in the gut and even death.¹³⁵ This plastic consumption exposes sea turtles to dangerous toxins and pathogens that affect reproduction and survival.¹³⁶ For sea turtles, even small quantities can be deadly.¹³⁷

Moreover, a recent study found that 66 percent of marine mammals, including whales and seals, are affected by marine debris.¹³⁸ This includes the ingestion of and harm from plastic pollution and adsorbed contaminants. For example, in 2008, two endangered sperm whales found stranded along the California coast had large amounts of fishing net scraps, rope, and other plastic debris in their stomachs.¹³⁹ The suspected cause of death was from gastric impaction due to ingesting plastic.¹⁴⁰ Such ingestion occurs directly as a consequence of feeding activity or through predation on contaminated prey.¹⁴¹ There also exists the possibility that whales inhale microplastics when they surface to breathe.¹⁴² Besides leaching contaminants, microplastics can clog baleen, which impedes feeding behavior, reduces body condition, and suppresses immune response.¹⁴³ One study found evidence of a possible relationship between a cetacean's body burden of microplastics and cause of death—specifically that animals dying from infectious disease contained a higher number of plastic particles than those dying from other causes.¹⁴⁴

NMFS AND NOAA HAVE BOTH THE LEGAL AUTHORITY AND THE LEGAL DUTY TO GRANT THE PETITIONED ACTION

NMFS and NOAA have more than ample authority to enact regulations to protect marine animals from entanglement in commercial fishing gear. Indeed, both the ESA and the MMPA mandate that NMFS protect and recover endangered marine mammals. To meet these statutory mandates, NMFS and NOAA must ensure that these vulnerable animals are protected from entanglement in commercial trap/pot gear by requiring the use of ropeless fishing gear. Doing so would also be consistent with numerous other federal laws and policies that seek to protect the environment.

¹³⁵ Mrosovsky, N., Ryna, G., James, M. 2009. Leatherback turtles: the menace of plastic. *Mar. Pollut. Bull.* 58, 287-289.

¹³⁶ Duncan et al. 2019; Garrison et al. 2019; Guzzetti et al. 2018.

¹³⁷ Bjorndal, K., Bolten, A., Lagueux, C. 1994. Ingestion of marine debris by juvenile sea turtles in coastal florida habitats. *Mar. Pollut. Bull.* 28 (3), 154-158.

¹³⁸ WWF, Stop Ghost Gear at 10.

¹³⁹ Jacobsen, J., Massey, L., Gulland, F. 2010. Fatal ingestion of floating debris by two sperm whales. *Mar. Pollut. Bull.* 60, 765-767.

¹⁴⁰ *Id.*

¹⁴¹ Zhu et al. 2019. Cetaceans and microplastics: First report of microplastic ingestion by a coastal delphinid, *Sousa chinensis*. *Sci. Total Env.* 659:649.

¹⁴² Nelms, S.E. et al. 2019. Microplastics in marine mammals stranded around the British coast: ubiquitous but transitory? *Scientific Reports* 9: 1075.

¹⁴³ Guzzetti et al. 2018.

¹⁴⁴ Nelms et al. 2019; *see also* Donohue et al. 2019; Gall & Thompson 2015) (discussing microplastics' effects on seals and sea lions).

A. The Endangered Species Act Requires NMFS and NOAA to Protect and Recover Imperiled Marine Animals

Enacted in 1973, the ESA is a broad statutory scheme designed to protect endangered and threatened species and conserve the habitats upon which they depend.¹⁴⁵ Considered “the most comprehensive legislation for the preservation of endangered species ever enacted by any nation,” the ESA embodies the “plain intent” of Congress to “halt and reverse the trend toward species extinction, whatever the cost.”¹⁴⁶

To that end, section 2(c) of the ESA establishes that it is the “policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes [of the ESA].”¹⁴⁷ Similarly, section 7(a)(1) mandates that all federal agencies, “utilize their authorities in furtherance of the purposes of [the Act] by carrying out programs for the conservation of endangered species and threatened species.”¹⁴⁸ The ESA defines “conserve” as “the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary.”¹⁴⁹ Section 7 “substantially amplifie[s] the obligation of [federal agencies] to take steps within their power to carry out the purposes of” the ESA.¹⁵⁰

In addition, section 4(f) specifically requires that NMFS “develop and implement plans (hereinafter...referred to as ‘recovery plans’) for the conservation and survival of endangered species.”¹⁵¹ Consistent with the intent that recovery plans actually be implemented, Congress required that recovery plans “incorporate . . . a description of such site-specific management actions as may be necessary to achieve the plan’s goal for the conservation and survival of the species.”¹⁵²

And section 9 of the ESA prohibits the unauthorized “take” of any endangered species.¹⁵³ The ESA broadly defines take to include engaging in or attempting to engage in conduct that will “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect” an individual of a listed species.¹⁵⁴ The ESA prohibits the acts of parties directly causing a take as well as the acts of

¹⁴⁵ 16 U.S.C. § 1531(b).

¹⁴⁶ *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 180, 184 (1978).

¹⁴⁷ 16 U.S.C. § 1531(c)(1).

¹⁴⁸ *Id.* § 1536(a)(1).

¹⁴⁹ *Id.* § 1532(3).

¹⁵⁰ *Tenn. Valley Auth.*, 437 U.S. at 183–84 (citing 119 Cong. Rec. 42913 (1973)).

¹⁵¹ 16 U.S.C. § 1533(f).

¹⁵² *Id.* § 1533(f)(1)(B)(i).

¹⁵³ *Id.* § 1538(a)(1)(B), (C).

¹⁵⁴ *Id.* § 1532(19). NMFS defines “harm” to include “an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures fish or wildlife by

third parties, such as governmental agencies, whose acts cause such taking to occur.¹⁵⁵ Section 12 vests NMFS with broad authority to enact regulations to enforce the ESA.¹⁵⁶

The recovery plans for numerous ESA-protected species recognize the threat that entanglements pose to these imperiled animals. This includes, for example, the recovery plan for the critically endangered North Atlantic right whale which explicitly requires NMFS “to reduce or eliminate” deaths and injuries from entanglement in commercial fishing gear and concludes that “rigorous and urgent action is needed” to reduce these threats.¹⁵⁷ NMFS also considers entanglement in fishing gear “[t]he most significant threat to Pacific leatherbacks” and “[r]educ[ing] fisheries bycatch” as the number one priority for saving the species.¹⁵⁸ And NMFS considers entanglement in fishing gear as a significant threat to two of the most endangered whales on the planet: North Pacific right whales and Gulf of Mexico (or Rice’s) whales.¹⁵⁹

For NMFS and NOAA to meet their mandates under sections 2, 4, and/or 7 of the ESA, the agency must act to reduce the continuing threat of death, serious injury, and other harms from entanglement in fishing gear by requiring the use of ropeless fishing gear in all Category I and II trap/pot fisheries. Enacting a rule to require the use of ropeless fishing gear would also reduce or eliminate NMFS’s liability for causing unauthorized take in any fishery it permits or manages, such as the American lobster fishery.

B. The Marine Mammal Protection Act Mandates that NMFS Safeguard Marine Mammals

As courts have recognized, the MMPA’s “primary goal” is to “protect[] marine mammals” and “[t]he interest in maintaining healthy populations of marine mammals comes first” under the statute.¹⁶⁰ Specifically, in enacting the MMPA in 1972, Congress declared that

[M]arine mammals have proven themselves to be resources of great international significance, esthetic and recreational as well as economic, and it is the sense of the Congress that they should be protected and encouraged to develop to the greatest extent feasible commensurate with sound policies of resource management and that the primary objective of

significantly impairing essential behavioral patterns, including, breeding, spawning, rearing, migrating, feeding or sheltering.” 50 C.F.R. § 222.102.

¹⁵⁵ 16 U.S.C. § 1538(g); *Strahan v. Coxe*, 127 F.3d 155 (1st Cir. 1997).

¹⁵⁶ 16 U.S.C. § 1540(f).

¹⁵⁷ NMFS, Recovery Plan for the North Atlantic Right Whale (*Eubalaena Glacialis*) Revision, May 2005 at v, II.

¹⁵⁸ NMFS, Species in the Spotlight: Pacific Leatherback Turtle, Priority Actions: 2021–2025 at 5.

¹⁵⁹ NMFS, North Pacific Right Whale, <https://www.fisheries.noaa.gov/species/north-pacific-right-whale>; NMFS, Gulf of Mexico Bryde’s Whale, <https://www.fisheries.noaa.gov/species/gulf-mexico-brydes-whale>.

¹⁶⁰ *Kokechik Fishermen’s Ass’n v. Sec’y of Comm.*, 839 F.2d 795, 800, 802 (D.C. Cir. 1988) (citing 16 U.S.C. § 1371(a)(2)); see also *Animal Welfare Institute v. Krepes*, 561 F.2d 1002, 1007 (D.C. Cir. 1977) (“the MMPA is an unusual statute . . . motivated by considerations of humaneness towards animals, who are uniquely incapable of defending their own interests”).

their management should be to maintain the health and stability of the marine ecosystem.¹⁶¹

Congress further found that “certain species and population stocks of marine mammals are, or may be, in danger of extinction or depletion as a result of man’s activities.”¹⁶² The MMPA thus contains an array of provisions designed to protect and recover marine mammal populations and to protect individual animals from harm.¹⁶³

The MMPA establishes a “moratorium on the taking” of marine mammals,¹⁶⁴ and specifically prohibits “any person . . . or any vessel or other conveyance subject to the jurisdiction of the United States to take any marine mammal on the high seas;” “any person or vessel or other conveyance to take any marine mammal in waters or on lands under the jurisdiction of the United States;” and any person from “us[ing] any port, harbor, or other place under the jurisdiction of the United States to take or import marine mammals or marine mammal products.”¹⁶⁵ The statute broadly defines take to mean “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal.”¹⁶⁶

To address the bycatch of marine mammals in fishing gear—viewed as one of the primary threats to marine mammals and a major impetus for enacting the MMPA—the statute sets an “immediate goal that the incidental kill or incidental serious injury of marine mammals permitted in the course of commercial fishing operations be reduced to insignificant levels approaching a zero mortality and serious injury rate.”¹⁶⁷ In restating this goal in the 1994 amendments to the statute, Congress stated that “it shall be the immediate goal that the incidental mortality or serious injury of marine mammals occurring in the course of commercial fishing operations be reduced to insignificant levels approaching a zero mortality and serious injury rate within 7 years after April 30, 1994”—i.e., May 1, 2001.¹⁶⁸

The MMPA requires NMFS to “prescribe such regulations as are necessary and appropriate to carry out the purposes of [the statute].”¹⁶⁹ Notably, as NMFS has recognized, “[t]he MMPA’s

¹⁶¹ 16 U.S.C. § 1361(6).

¹⁶² *Id.* § 1361(1).

¹⁶³ *See, e.g., id.* §§ 1362(18)(A) (definition of “harassment” includes acts that affect “a marine mammal or marine mammal stock in the wild”) (emphasis added); 1372(b) (requiring that authorized take of a marine mammal be humane).

¹⁶⁴ *Id.* § 1371(a),

¹⁶⁵ *Id.* § 1372(a).

¹⁶⁶ *Id.* § 1362(13) (emphasis added); see also *id.* § 1362(18)(A) (definition of “harassment” includes acts that affect “a marine mammal or marine mammal stock in the wild”).

¹⁶⁷ *Id.* § 1371(a)(2).

¹⁶⁸ *Id.* § 1387(a)(1).

¹⁶⁹ *Id.* § 1382(a).

legal authority applies without regard to whether a fishery occurs in state waters or Federal waters.”¹⁷⁰

NMFS must use this authority to require the use of ropeless fishing gear. Indeed, commercial fisheries are still killing and seriously injuring marine mammals at rates well-beyond “insignificant levels approaching a zero mortality and serious injury rate” *decades* after Congress intended NMFS to remedy such incidents via regulations adopted by the MMPA.

C. The Petitioned Action Would Be Consistent with Other Federal Laws

The petitioned action would be consistent with other federal laws. For example, Congress enacted the Magnuson-Stevens Fishery Conservation and Management Act—the primary law governing marine fisheries management in U.S. federal waters—“to balance the twin goals of conserving our nation’s aquatic resources and allowing U.S. fisheries to thrive.”¹⁷¹ Courts have determined that under the Magnuson-Stevens Act, NMFS “must give priority to conservation measures” when implementing its provisions.¹⁷²

To accomplish these goals, the Magnuson-Stevens Act establishes national standards with which all fishery management plans must be consistent.¹⁷³ Regulations established to implement those plans must, to the extent practicable, “minimize bycatch.”¹⁷⁴ Granting the petitioned action would eliminate bycatch in unattended vertical line while allowing fishing to continue, and thereby enable NMFS to comply with both the national standard to minimize bycatch and achieve the overall purpose of the Magnuson-Stevens Act. It would also help NMFS ensure that all fishery management plans, plan amendments, and regulations implementing those plans comply with the Magnuson-Stevens Act and all other applicable laws and requirements, particularly where fisheries are entangling threatened and endangered marine animals and marine mammals in vertical line without the requisite take authorizations.¹⁷⁵

Granting the petitioned action would also be consistent with the purposes and policies of the National Marine Sanctuaries Act “to maintain the natural biological communities in the national marine sanctuaries, and to protect, and, where appropriate, restore and enhance natural habitats, populations, and ecological processes;” to provide for “comprehensive and coordinated conservation and management of these marine areas, and activities affecting them, in a manner which complements existing regulatory authorities;” and “to create models of, and incentives for, ways to conserve and manage these areas, including the application of innovative management techniques.”¹⁷⁶ Further, Magnuson-Stevens Act regulations anticipate that fishing regulations

¹⁷⁰ 62 Fed. Reg. 39,157, 39,170 (July 22, 1997).

¹⁷¹ *Conservation Law Found. v. Ross*, 422 F. Supp. 3d 12, 17 (D.D.C. 2019) (citation and quotation marks omitted).

¹⁷² *Nat. Res. Def. Council v. Daley*, 209 F.3d 747, 753 (D.C. Cir. 2000).

¹⁷³ 16 U.S.C. § 1851(a).

¹⁷⁴ *Id.* § 1851(a)(9).

¹⁷⁵ *Id.* § 1854(a), (b).

¹⁷⁶ *Id.* § 1431(b)(2), (3), (8).

specific to (and, by implication, more protective of) National Marine Sanctuaries will be implemented.¹⁷⁷

And because a requirement to use ropeless fishing gear would help reduce lost, abandoned, or discarded fishing gear—and the plastic pollution that comes along with it—granting the petitioned action would also be consistent with the objectives of the Clean Water Act. Specifically, Congress enacted the Clean Water Act with the express purpose of “restor[ing] and maintain[ing] the chemical, physical, and biological integrity of the Nation’s waters”¹⁷⁸ and to guarantee “water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation” and to promptly eliminate pollution into our waterways, including the ocean.¹⁷⁹

Additionally, over the past few decades, a series of Presidential Executive Orders have required federal agencies to implement more environmentally sound policies and procedures to eliminate threats to the environment, thereby protecting wildlife and the habitats on which they depend. These Executive Orders, authorized by the United States Constitution, help direct officers of the executive branch to carry out their delegated duties¹⁸⁰ and serve as further evidence that granting the petitioned action would be consistent with NMFS’s duties to protect and recover vulnerable marine animals.¹⁸¹

CONCLUSION

Endangered marine animals are getting regularly entangled, injured, and killed in commercial fishing gear. NMFS and NOAA must remedy this ongoing conservation and animal welfare tragedy by requiring the use of ropeless fishing gear as requested in this petition. Ropeless fishing is the only way to eliminate the risk of entanglements in vertical lines while allowing fishing to continue. And it will have other benefits to our ocean environment by reducing the

¹⁷⁷ 50 C.F.R. § 600.705(f) (“(f) Marine sanctuaries. Regulations governing fishing activities inside the boundaries of national marine sanctuaries are set forth in 15 CFR part 922.”).

¹⁷⁸ 33 U.S.C. § 1251(a).

¹⁷⁹ *Id.*; *id.* § 1362(6) (defining pollutant to include discarded equipment).

¹⁸⁰ *See* U.S. Const. Art. II, § 1, cl. 1; Art. II, § 3.

¹⁸¹ For example, Executive Order 13990 “Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis” establishes that “[o]ur nation has an abiding commitment to . . . promote and protect our . . . environment.” As such, it is the policy of the current administration “to listen to the science . . . and protect . . . the environment; and conserve our national treasures.”¹⁸¹ Moreover, Executive Order 13514, “Federal Leadership in Environmental, Energy and Economic Performance” is a broad executive mandate aimed at encouraging all federal agencies to establish environmentally sound policies. Specifically, EO 13514 instructs federal agencies to implement policies that “focus[] on making improvements in their environmental, energy, and economic performance[s],” and directs that “Federal agencies shall . . . eliminate waste, recycle, and prevent pollution” and mandates that federal agencies “promote pollution prevention and eliminate waste by minimizing the generation of waste and pollutants through source reduction.”¹⁸¹ Additionally, pursuant to Executive Order 13423 “Strengthening Federal Environmental, Energy and Transportation Management,” federal agencies are reminded that “[i]t is the policy of the United States that Federal agencies conduct their environmental. . . activities under the law in support of their respective missions in an environmentally, . . . integrated, continuously improving, efficient, and sustainable manner.”¹⁸¹

amount of lost gear and resulting plastic pollution that continues to kill and harm a wide variety of marine species long after it leaves a fishing vessel.

For further information or to discuss this petition, please contact the organizational representative listed below.

Respectfully submitted,

/s/ Kristen Monsell

Kristen Monsell

Oceans Legal Director

Center for Biological Diversity

1212 Broadway, Ste. 800

Oakland, CA 94612

kmonsell@biologicaldiversity.org