



# MARINE MAMMAL COMMISSION

16 February 2021

Dr. Erin Fougères, Stranding Program Administrator  
Southeast Regional Office  
National Marine Fisheries Service  
236 13<sup>th</sup> Avenue South  
St. Petersburg, Florida 33701

Dear Dr. Fougères:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the National Marine Fisheries Service's (NMFS's) proposed amendment to the regulations implementing the Atlantic Pelagic Longline Take Reduction Plan (PLTRP), which are intended to reduce mortality and serious injury of short-finned pilot whales incidental to the Atlantic Ocean, Caribbean, Gulf of Mexico large pelagics longline fishery (pelagic longline fishery, hereafter)(85 Fed. Reg. 81168). In addition, the Commission reviewed the associated "Draft Environmental Assessment (DEA), Regulatory Impact Review, and Regulatory Flexibility Analysis of Short-finned Pilot Whale Conservation Measures to Amend the Pelagic Longline Take Reduction Plan". The Commission generally approves of the proposed amendment and environmental assessment, while providing for NMFS's consideration of the comments and recommendations below, which address certain elements of the amendment.

## Background

Due to the excessive take of cetaceans by the pelagic longline fishery, and in response to a court settlement agreement with the Center for Biological Diversity, NMFS established the Pelagic Longline Take Reduction Team (PLTRT) in 2005. Following recommendations developed by the PLTRT in June 2006, NMFS published a proposed rule to create the PLTRP in June 2008. Following public comment, NMFS published the final rule implementing the PLTRP in June 2009 (74 Fed. Reg. 23349). The 2008 PLTRP included several regulatory and non-regulatory measures, which were intended to reduce the bycatch of pilot whales (*Globicephala spp*)<sup>1</sup> and Risso's dolphins (*Grampus griseus*) to insignificant levels (i.e., less than the zero mortality rate goal, ZMRG).<sup>2</sup>

NMFS classifies the pelagic longline fishery as a Category I fishery<sup>3</sup> based primarily on its take of short-finned pilot whales (*Globicephala macrorhynchus*) from the Western North Atlantic stock.

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<sup>1</sup> At the time the two pilot whale species were assessed together because separate population estimates were not available. Subsequently, individual populations estimates have become available and the MSI of long-finned pilot whales was found to be below the insignificance threshold (ZMRG). Consequently, the proposed plan amendment would remove long-finned pilot whales from the PLTRP.

<sup>2</sup> At the time, take of Risso's dolphin exceeded ZMRG, but subsequently that take decreased and is now less than ZMRG. Consequently, the proposed plan amendment would remove Risso's dolphin from the PLTRP.

<sup>3</sup> A Category I fishery is one that is responsible for a level of mortality and serious injury that exceeds 50 percent of the stock's potential biological removal level.

The level of short-finned pilot whale mortality and serious injury (MSI) due to the pelagic longline fishery exceeds the stock's ZMRG and constitutes a substantial percentage of its potential biological removal level (PBR). The most recent data (2013-2017; Hayes et al. 2020) indicate that an estimated 160 short-finned pilot whales are killed or seriously injured on average per year, which is 68 percent of the PBR of 236 whales.<sup>4</sup> For historical reasons, the PLTRP also addressed the take of long-finned pilot whales (*Globicephala melas*) and Risso's dolphins, although the current level of take of each of these stocks (2.6 and 9.8, respectively) is lower than the ZMRG (3.5 and 12.6 respectively).

In December 2015, the PLTRT reconvened to consider data on the stocks, fishery, and performance of the PLTRP. It was apparent at that meeting, from the information and data presented by NMFS, that the plan had not reduced the take of short-finned pilot whales. NMFS concurred, as evidenced by the first sentence of the DEA, which states “[t]he PLTRP has not been effective at meeting the long-term goal of MMPA section 118(f)(2) (i.e., to reduce incidental mortalities and serious injuries of short-finned pilot whales to a level approaching the insignificance threshold [ZMRG]).” Over the five-year period, 2005-2009, preceding the first full year of the PLTRP implementation, 2010, MSI averaged 114 whales per year. Over the first five full years of the fishery operating under the PLTRP regulations, 2010-2014, MSI averaged 192 whales per year, a 68 percent increase in the MSI rate, although that rate declined somewhat to 148 whales in the most recent three years of available data (2015-2017). During the first decade of this century, the five-year running average of MSI fluctuated between 100 and 150 whales per year. However, after 2009 the MSI rate jumped, and from 2010 to 2017 it varied between 140 and 205 (Figure 1).

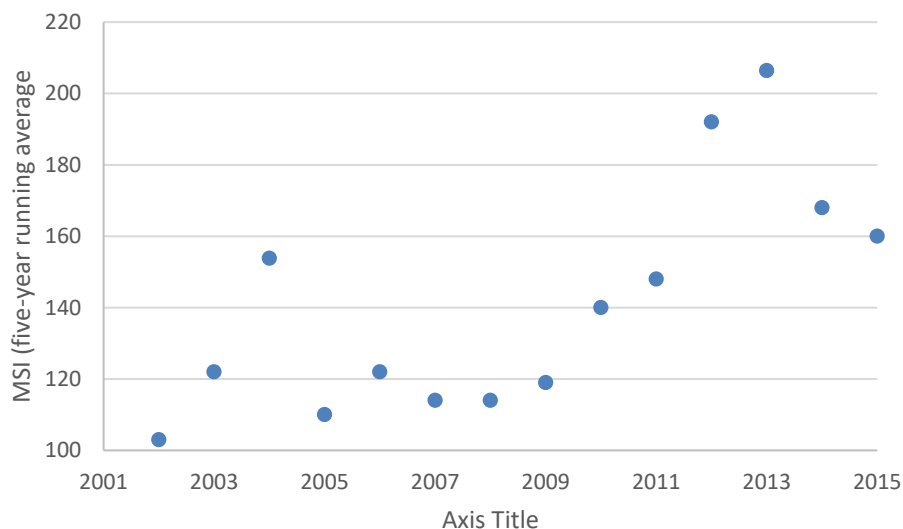


Figure 1. Five-year running average of short-finned pilot whale MSI in the pelagic longline fishery. The year associated with each point is the mid-point of the five-year period; i.e., the first point (2002) represents the five-year average for the years 2000-2004, and the last point (2015) the average for the years 2013-2017 (data extracted from NMFS's short-finned pilot whale – Western North Atlantic stock assessment reports).<sup>5</sup>

<sup>4</sup> The minimum population estimate for this stock is 23,637.

<sup>5</sup> Available at: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-species-stock>

During the December 2015 meeting, and subsequently at an October 2016 meeting, the PLTRT developed recommendations to amend the PLTRP. The PLTRT's recommendations to NMFS included several regulatory and non-regulatory measures, such as specifying limits on the breaking strengths of the circle hooks and terminal lines (the terminal gear) used by the pelagic longline fishery. The terminal gear requirements were intended to make the hook the weakest part of the gear, anticipating that hooks would straighten or break before the line broke, thus releasing the cetacean, hopefully with non-serious injuries. Specifically the recommendation stated that "monofilament nylon leaders and/or branch lines...all have a diameter of 1.8 mm or larger (certified by the manufacturer to at least 300lbs breaking force)" and required 16/0 or 18/0 circle hooks with "a wire diameter of 4.05mm if 16/0 or 4.4mm if 18/0...[with] no more than 300lbs straightening force based on manufacturer's specifications." NMFS selected this recommendation as its preferred alternative (#2), but in the DEA offers an alternative (#3) that would require 1) the use of a heavier hook (4.5mm wire diameter) without specifying its breaking strength, and 2) branch lines with a diameter of 2.0 mm or greater, which should have a breaking strength of 400 pounds or greater. In both alternatives, the hooks are required to have a 'round wire shank' as research has shown those hooks to straighten gradually along their entire length and pull out of a whale's lip, slicing the tissue cleanly (McLellan et al. 2015a, b). In contrast, forged, flattened hooks do not open fully, jaggedly tear the tissue, and can leave broken barbs in the tissue (McLellan et al. 2015a, b).

At the October 2016 meeting of the PLTRT, NMFS stated that it expected to publish the corresponding proposed rule to implement the plan amendments in the spring of 2017. That proposed rule, considered herein, was posted on the Federal Register in December 2020.

## **Recommendations**

*Terminal gear measure.* As described above, the stated intention of the terminal gear recommendation was to make the hook the weakest element of the gear, with the expectation that force exerted by a hooked cetacean against the gear secured by the crew would straighten or break the hook before the line broke. This weak-hook approach has been investigated in this fishery (Bayse and Kerstetter 2010, Kerstetter 2012, Bergmann and Foster 2015), a tuna longline fishery in the Gulf of Mexico (Foster and Bergmann 2010), and the Hawaii longline fishery (Bigelow et al. 2012), which similarly takes substantial numbers of depredating false killer whales, and occasionally pilot whales. These studies have focused primarily on whether 'weak hooks' are equally effective at catching the target species (swordfish and various tuna species) as 'strong hooks' already in use, but have also opportunistically collected data on marine mammal interactions. The studies have typically found no significant differences in target species catch statistics between 'weak' and 'strong' hooks, while in one case the 'weak' hooks performed better. In Hawaii, the False Killer Whale Take Reduction Team and NMFS implemented a 'weak hook – strong branch line' measure in the deep-set longline fishery that targets large tunas. As of 2018, 56 interactions had been documented by fisheries observers. Unfortunately, only 22 percent had 'successful' outcomes in which the hook straightened or broke, or the whale was released spontaneously. Seventy-eight percent of the interactions 'failed' because the branch line broke or was cut (presumably, because the hook was not straightening in time). Nonetheless, experts at NMFS and on the two take reduction teams remain convinced that the right combination of hook and branch line strength can be found that will greatly reduce the severity of injuries.

Animals released when ‘weak hooks’ straighten would be less likely to suffer a serious injury that could lead to death, compared to animals released with embedded hook and trailing gear (NMFS 2012). Using terminal gear in which the hook is significantly weaker than the terminal line, is believed to be the key to the success of this approach. Some results suggest that large odontocetes can straighten hooks that are not straightened by the target species, although there are few hard data available to support or refute the idea (Foster and Bergmann 2010, Bayse and Kerstetter 2010, Bigelow et al. 2012, Kerstetter 2012). For this gear configuration to work most of the time, the terminal line must be substantially stronger than the hook, for two reasons. First, the probability that the hook straightens before the line breaks, while likely dependent on several factors, will certainly be related to their relative breaking strengths—the greater the positive difference the more likely the hook straightens first. Second, the wear from use and exposure to the elements almost certainly causes the breaking strength of terminal lines to decrease much more rapidly than that of hooks. Thus, to maintain a sufficient strength differential, new branch lines must be substantially stronger than the hooks.

However, as described above, the hook and line strengths recommended by the team and proposed by NMFS could be very similar. The proposed regulations (preferred alternative) would require only that the 1.8 mm terminal lines have a breaking strength of 300 pounds or greater, and the hooks a breaking strength of 300 pounds or less. Thus, fishermen would be permitted to use hooks and lines of the same or very similar breaking strength (300 pounds), which would likely lead to nearly as many lines breaking as hooks failing. Fishermen on the PLTRT, and industry experts, have asserted that nylon monofilament used for branch lines has a greater breaking strength than the nominal strength published by the manufacturer. They report that the published value is a minimum (PLTRT 2020), and suggest that the actual breaking strength is more than 350 lbs. While this is likely true, neither the team nor NMFS has confirmed the assertion using industry or experimental data. Unfortunately, the manufacturers do not publish data on the actual line strength or its variability. The most important problem with this assertion is not its veracity, but rather that there are no publicly available data that provide estimates of how much stronger the lines are. There are two, compounding uncertainties here. First, it is not known what the strength differential between lines and hooks needs to be to ensure that most hooked pilot whales will be released by the hook’s straightening rather than the line’s breaking. And, second, it is not publicly known what the differential is between the actual and published breaking strength of 1.8 mm line. Therefore, the Commission recommends that NMFS, as a precaution until better information is available, select alternative 3 line, which would require the pelagic longline fishery to use 2.0 mm monofilament nylon line, or if using other materials, the terminal line elements must have a breaking strength of 400 pounds or greater when new.

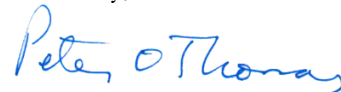
Based on the hook straightening studies of McLellan et al. (2015a, b), the Commission supports the proposed requirement that fishermen use non-forged hooks with round-wire shanks. However, the Commission does not support the use of 18/0 hooks. As reported in the DEA, McLellan et al. (2015a, b) found that “18/0 hooks...regardless of material or manufacturing process, were more likely than 16/0 hook[s] to be able to be hooked onto the deep, lingual surface of the mandible, particularly in smaller animals, which can result in fracturing the bone.” Such injuries are more likely to be life-threatening (NMFS 2012). The Commission therefore recommends that NMFS select and implement the “hooks” sub-action of alternative 3 with the following changes (see deleted text in strikeout font): “In the EEZ portion of the FEC, SAB, MAB, and NEC fishing areas, the owner or operator of an Atlantic PLL vessel must use only circle hooks meeting the criteria

specified at 50 CFR § 635.21 and the following specifications: (i) 16/0 ~~or 18/0~~ circle hooks; (ii) hook shanks must be made of round wire that can be measured with a caliper or other appropriate gauge; (iii) hook wire diameter does not to exceed 4.05 mm ~~if 16/0 or 4.4 mm if 18/0~~; and (iv) each hook has a straightening force not to exceed 300 pounds based on manufacturer's specifications when new.

*Delays in taking regulatory action.* The Marine Mammal Protection Act requires NMFS to publish a draft rule within 60 days (roughly 2 months) of receiving TRP recommendations from a TRT (Sec. 118(f)(8)(B)(i)). In this case, NMFS published the draft plan amendments 4 years and 4 months later. The Commission understands that there were extenuating circumstances (e.g., ongoing response to the DWH oil spill) that meant NMFS's Southeast Regional Office (SERO) did not have the staff capacity to produce the draft plan until recently. The Commission also understands that SERO explored several options for acquiring the needed resources. Nonetheless, the MMPA is clear and unambiguous in its requirement to publish draft plans or plan amendments within 60 days. Even with the resources normally available, completing draft plan amendments within 60 days can be difficult, but more than four years is not acceptable under any circumstances. The reason for the delay might be more convincing if delays had not occurred in the past. When the PLTRP was developed, given the requirements of the MMPA, NMFS had roughly seven months (210 days) after receiving the PLTRT's recommendations to promulgate a rule implementing the final plan (MMPA Sec. 118(f)(7)(B-C)). However, it took NMFS two years to publish the final plan. If we assume that the measures recommended by the team in 2015/16 had been implemented over 4 years ago (December 2016), and had had a moderate effect on the rate of MSI, for instance reducing it by half from 68 to 34 percent of PBR, then it is likely that nearly 200 fewer short-finned pilot whales would have been killed in the pelagic longline fishery in the last four-plus years. If MSI had been reduced to ZMRG, then nearly 600 whales would have been prevented from dying as a result of bycatch in this fishery. Delays such as this result in unnecessary deaths of marine mammals that are meant to be prevented under the MMPA. In order to avoid such lengthy delays, the Commission recommends that TRT funding be prioritized in the regions and backed up by headquarters to ensure that required regulatory actions are evaluated and completed within statutory timeframes. The Commission suggests that responses to TRT-recommended regulatory actions that have been delayed by more than 50 percent of the statutorily mandated period be funded and fast-tracked to be completed within no more than an additional 90 days.

Thank you for the opportunity to comment on the proposed PLTRP amendment. Please contact me if you have any questions about our recommendations or rationale.

Sincerely,



Peter O. Thomas, Ph.D.,  
Executive Director

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