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Mr. Donald Kobayashi, Chair
Pelagics Fishery Ecosystem Plan Team
Western Pacific Fishery Management Council
1164 Bishop Street, Suite 1400
Honolulu, Hawaii 96813

Dear Mr. Kobayashi and Plan Team Members:

Thank you for considering the following comments from Earthjustice regarding Agenda Items 3.B and 4, related to oceanic whitetip sharks.

At its March meeting, the Western Pacific Fishery Management Council must adopt recommendations pursuant to the Magnuson-Stevens Act for domestic regulations to address the relative impact of U.S. fishing vessels on the Western and Central Pacific oceanic whitetip shark stock, as well as recommendations for international actions that will end overfishing and rebuild the stock. *See* 16 U.S.C. § 1854(i)(2).

Domestic management measures also will be important for meeting the requirements of the Endangered Species Act (ESA), as oceanic whitetip shark was declared threatened under the ESA two years ago. *See* 83 Fed. Reg. 4153 (Jan. 30, 2018). The National Marine Fisheries Service (NMFS) currently is developing a Biological Opinion to address the impact of U.S.-managed fisheries on oceanic whitetips, and management measures will likely be necessary to mitigate impacts of U.S. longline fleets in the Western and Central Pacific.

Given the species' overfished and threatened status, the domestic management goal must be to minimize oceanic whitetip catch to the greatest degree possible, and to increase survival rates for any individuals caught. Not only will doing so help fulfill the Council and NMFS's management obligations under the Magnuson-Stevens Act and the ESA, but it can serve to establish best practices for pelagic longline fisheries, which the United States can then work to export through Regional Fishery Management Organizations (RFMOs) to international and foreign management jurisdictions.

The Council will be looking to the Pelagics Plan Team for advice, in developing its recommendations on oceanic whitetip shark. As such, we encourage the Plan Team to consider all possible options thoroughly and forward to the Council a robust suite of management recommendations. The Plan Team specifically should evaluate and consider recommending the following management measures.

1. Require Monofilament Leaders

The Plan Team should consider mandatory monofilament leaders for deep-set longline fisheries. Wire leaders generally prevent sharks from biting through the line and freeing themselves, but monofilament can be cut more easily—both by shark teeth and people.

In at least some situations monofilament leaders can allow for shark bite-offs, although we understand the frequency of bite-offs is reduced when circle hooks (discussed below) are used. Monofilament leaders also can facilitate the minimization of trailing gear, as they are generally more easily cut close to the animal than wire leaders. We encourage the Plan Team to account for this latter benefit in its analysis, as the overall benefits of monofilament leaders may be underestimated if they are evaluated solely in terms of bite-offs (avoided catch).

Given these benefits, and the development of cheap and effective flyback prevention gear, Earthjustice would support a monofilament leader requirement for the U.S. Western Pacific deep-set longline fisheries. We understand the Hawaii Longline Association has voluntarily committed to eliminating wire leaders and commend this action. We also understand the American Samoa longline fleet already largely uses monofilament leaders for selectivity reasons. While these voluntary efforts are valuable, the monofilament leader measure must be placed in regulation, and applied to both fisheries. Doing so will ensure uniform compliance, and is necessary in order for the measure to be considered and accounted for under ESA consultation. It also will provide a solid basis for the U.S. delegation to the Western and Central Pacific Fisheries Commission (WCPFC) to use in advocating for a similar RFMO requirement.

A final factor to be considered with monofilament leaders is that they should be implemented in a way that ensures leaders—as well as branch lines—have a sufficiently high breaking strength to be able to straighten hooks under the False Killer Whale take reduction measures. We understand there is some concern that current line strength requirements are not sufficient, *see* 50 C.F.R. § 229.37(c), and that branch lines and/or leaders are breaking before hooks are straightened. The Pelagics Plan Team should consider what can be done to address this issue.

2. Eliminate Shallow Hooks in the Hawaii Deep-Set Longline Fishery

In its November 2020 meeting report, this Plan Team noted that “Strong patterns in hook position were exhibited in records with oceanic whitetip shark catch, particularly hooks closest to the floatline.” Pelagics Fishery Ecosystem Plan Team, Inter-Sessional Meeting Report, at 2 (Nov. 19, 2020) (“November Pelagics Team Report”). Given the evidence of stronger selection for whitetip sharks by shallow hooks, the Pelagics Plan Team should consider a gear configuration requirement for the Hawaii deep-set fishery to eliminate shallow hooks.

One approach to eliminating shallow hooks would be to simply carry over the American Samoa gear configuration requirements to the Hawaii-based deep-set fishery. *See* 50 C.F.R. § 665.813(k) (requiring 30-meter float lines and prohibiting branch lines within 70 meters of any float line). Other formulations of the requirement could be used as well, so long as they accomplish the goal of eliminating hooks at depths of less than 100 meters. *See, e.g.,* Steve Beverly et al., *Effects of Eliminating Shallow Hooks from Tuna Longline Sets on Target and Non-Target Species in the Hawaii-Based Pelagic Tuna Fishery*, 96 *Fish. Res.* 281 (2009) (providing sample gear configuration, though finding overall shark bycatch not reduced); Mariana Travassos Tolotti et al., *Vulnerability of the Oceanic Whitetip Shark to Pelagic Longline Fisheries*, 10 *PLoS One* 141396 (2015) (discussing importance of vertical depth in whitetip shark distribution).

While eliminating shallow hooks can reduce catch of target species, redistribution of hooks is possible and some studies show catch rates of tunas can be maintained. *See, e.g.,* Beverly et al., 96 *Fish. Res.* at 284 (showing increase in tuna catch); Jordan T. Watson & Keith A. Bigelow, *Trade-Offs Among Catch, Bycatch, and Landed Value in the American Samoa Longline Fishery*, 28 *Conserv. Biol.* 1012 (2014) (discussing redistribution of hooks).

Earthjustice recommends the Pelagics Plan team consider a gear configuration requirement for the Hawaii deep-set fishery. Adding such a requirement would harmonize regulations for both deep-set fleets, and position the United States to push for a similar requirement at the WCPFC.

3. Require Circle Hooks in the American Samoa Longline Fishery

Circle hooks are already required in the Hawaii deep-set fishery under the terms of the False Killer Whale Take Reduction Plan. *See* 50 C.F.R. § 229.37(c)(1)(i). In the American Samoa longline fishery, however, they are not currently required and the fleet uses a mix of hook types. The Pelagics Plan Team should evaluate the effect of adding a circle hook requirement for the American Samoa longline fishery.

While circle hooks may increase the number of sharks that remain on the line after being caught, research indicates that circle hooks reduce injury and post-release mortality of these sharks. One significant benefit of circle hooks from a shark perspective is the near elimination of gut- or esophagus-hooking, which results in either evisceration or—in the best case—a hook with trailing gear lodged in a sensitive and potentially harmful location. Because circle hooks nearly always set in the side of the shark’s mouth, these injuries are avoided. At the same time, circle hooks can lead to higher stress for sharks due to reduced bite-offs and, accordingly, a longer time spent on the line and having to undergo haul-back and handling. This in turn can be offset to some extent by good handling practices, if which hooks can be removed or trailing gear minimized. *See generally* Shelley Clarke et al., U.N. FAO Fisheries & Aquaculture Technical Paper No. 588, *Bycatch in Longline Fisheries for Tuna and Tuna-Like Species*, at 24 (2014).

Overall, the Council and NMFS must work towards minimizing both the number of sharks and other non-target species caught in these fisheries, and injury and death of animals that are caught. Given the apparent benefit of circle hooks in increasing shark survival, we believe that requiring use of circle hooks along with careful bycatch monitoring, counting, and careful handling practices would benefit oceanic whitetip sharks and other species. The alternative is to rely on bite-offs that can leave a gut-hooked animal with unclear chances of survival, and no good way of accounting for the bycatch or take. For these reasons, we concur with the Plan Team’s report from last November that “use of circle hooks would be beneficial for the recovery of species of concern, such as oceanic whitetip sharks.” November Pelagics Team Report, at 4.

4. Require Non-Stainless Hooks

The Hawaii deep-set and American Samoa longline fisheries currently are not required to use corrodible hooks. *See* 50 C.F.R. §§ 665.798-819. This stands in contrast to the U.S. Atlantic and Gulf of Mexico longline fisheries for swordfish and tuna, *see id.* § 635.21, recreational shark fisheries, *id.* § 635.22, and the reef fish fisheries in the Southeast, *id.* § 622.30; *id.* § 622.188.

Corrodible hooks, also known as non-stainless hooks, are made from metals other than stainless steel, which allows the hooks to corrode and break down over time in salt water. Because bycatch species like sharks can be released with hooks embedded and some amount of trailing gear, corrodible hooks offer the potential for lower post-release mortality as they eventually break free of the animal after some time. *See, e.g.,* Michel Bègue et al., *Prevalence, Persistence and Impacts of Residual Fishing Hooks on Tiger Sharks*, 224 *Fisheries Res.* 105462 (2020).

A non-stainless hook requirement also is a logical complement to a circle hook requirement: together they ensure that the vast majority of hooks lodge in the sides of sharks' mouths (rather than internally), that sharks are hauled back with the opportunity to count the interaction and minimize or remove trailing gear, and that animals released with hooks embedded will eventually be freed from those embedded hooks.¹ *See, e.g.,* Heather M. Patterson & Michael J. Tudman, Australian Fisheries Management Authority, *Chondrichthyan Guide for Fisheries Managers*, at 69 (2009) (pointing out that “[c]ertain combinations of the mitigation options identified may compliment each other and achieve better results than if working in isolation,” and specifically, “changing from non-corrodible J-hooks to corrodible circle hooks at the same time will be more cost efficient and likely more effective than making a single gear change”).

The Pelagics Plan Team should consider a non-stainless hook requirement for the Hawaii deep-set and American Samoa longline fisheries, as an oceanic whitetip shark mortality reduction measure. While it may be difficult to estimate a precise mortality reduction associated with this management measure, the principles are well-established and numerous other fisheries in the United States demonstrate its use.

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Thank you for your consideration, and we look forward to the discussion at the Plan Team's upcoming meeting.

Yours truly,



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¹ Combining circle hooks with corrodible hooks also may address the occasionally-voiced concern about metal corrosion harming the animal, because circle hooks help ensure placement in a relatively less-sensitive part of the shark (i.e., the side of mouth) rather than in internal areas.