

UPDATE ON HUMPBACK WHALE ENDANGERED SPECIES ACT CONSULTATION

The National Marine Fisheries Service (NMFS) prepared this summary report to update the Council on what we are currently analyzing and proposing for this reinitiation of the Pacific Coast Groundfish Fishery (PCGF) biological opinion (Opinion). This summary report represents the full breadth of what we are currently considering. Therefore, some of the items contained in this report may not appear in the final Opinion, and we do not expect to include any additional measure(s) beyond what is outlined in this report in the final Opinion. We welcome any input from the Council and will consider the Council's advice prior to finalizing the Opinion later this fall.

Background

In 2012, NMFS prepared an Opinion on the Continuing Operation of the Pacific Coast Groundfish Fishery that addressed a number of non-salmonid species listed under the Endangered Species Act (ESA) including humpback whales (*Megaptera novaengliae*). The 2012 Opinion concluded the PCGF is likely to adversely affect, but not likely to jeopardize the continued existence of humpback whales.

NMFS reinitiated ESA consultation because two criteria for reinitiation were met. These criteria included: (1) a change in the species listing, and (2) an exceedance of the incidental take amount.

In 2016, NMFS revised the listing of humpback whales from a single global listing to fourteen Distinct Population Segments (DPS) of humpback whales, each having their own status under ESA ([81 FR 62260](#)). Humpback whales found in waters off the Oregon, Washington, and California coast are from the Mexico, Central America, and Hawaii DPSs. Under the ESA, the Mexico DPS was listed as threatened, the Central America DPS was listed as endangered, and the Hawaiian DPS was not warranted for listing.

Since the 2012 Opinion, there have been two documented takes of humpback whales in the groundfish fishery, one in the limited entry fixed gear sablefish pot fishery in 2014 and one in the open access sablefish pot fishery in 2016. The Council's Groundfish Endangered Species Workgroup reported in June 2019 that the incidental take amount for humpback whales from the 2012 Opinion was exceeded. The Workgroup also made several recommendations which focused mainly on the need to improve our ability to know where entanglements happen and trace it to the gear type and fishery sector. Many of these recommendations are reflected in the potential conservation measures discussed below.

In addition, critical habitat for the endangered Central America DPS and the threatened Mexico DPS of humpback whales was proposed for specific marine areas located off the coasts of California, Oregon, Washington, and Alaska on October 9, 2019 ([84 FR 54354](#)). Only one physical and biological feature (PBF) was determined to be essential to the conservation of ESA-listed humpback whales, and that is prey.

Proposed Action – Pacific Coast Groundfish Fishery (PCGF)

The proposed action is the continued operation of the PCGF. The PCGF is a year-round, multi-species fishery occurring in the Exclusive Economic Zone (EEZ) off the Washington, Oregon, and California coasts. The PCGF includes commercial and recreational harvest of more than 90 species including Pacific whiting (*Merluccius productus*), sablefish (*Anoplopoma fimbria*), lingcod (*Ophiodon elongatus*), rockfish, and flatfish species. The PCGF includes both tribal and non-tribal fisheries. The PCGF includes vessels that use a variety of gear types portioned into different sectors to directly harvest groundfish or to land groundfish incidentally caught while targeting non-groundfish species.

Due to the geographic overlap of the PCGF and humpback whales, humpback whales can and will encounter PCGF fishing gear with varying results. Entanglements with fixed fishing gear, especially sablefish pots, occur when whales and other marine species encounter lines and other parts of the gear that may be suspended in the water, laying on the seafloor bottom, and/or floating on the surface.

According to NMFS (2020), over 80 percent of confirmed entanglement cases in 2018 involved gear used in fishing (line and buoys, traps, nets, and monofilament line), and 54.4 percent of all confirmed entanglements could be directly attributed to a specific fishery. In recent years, NMFS has been working to better investigate the sources of entanglements. By identifying the source of entangling gear, NMFS can work with fishermen to identify areas, fisheries, and gear configurations that are more likely to result in whale entanglements, and thereby better understand the threat in order to mitigate the risk and its impacts (NMFS 2020).

Furthermore, while the PCGF captures Pacific sardine, northern anchovy, and Pacific herring as bycatch (primarily in the trawl sectors), our preliminary evaluation indicates the impact of the PCGF on humpback whale prey availability is limited.

PCGF – Observer program and entangled whales

In order to determine the exposure and response of ESA-listed humpback whales to the PCGF, NMFS relies upon several sets of data and information that are available: (1) bycatch and fishing effort data provided by fisheries observers deployed in the groundfish fishery; (2) fishing effort data provided through records of groundfish landings; and (3) opportunistic reporting of entangled whales reported to the NMFS West Coast Region (WCR) Marine Mammal Stranding Program.

Since 2001, NMFS has been deploying observers in the PCGF; and from observer data, annual bycatch estimates of marine mammal species have been generated by NMFS's Northwest Fisheries Science Center (NWFSC) (e.g., Jannot et al. 2011, Jannot et al. 2018, and Hanson et al. 2019). Also, NMFS has whale entanglement records from opportunistic sightings, including some records involving gear attributed to the PCGF – specifically sablefish pot gear. Besides the whale entanglement records that can be identified to specific whale species and fisheries, there are many other entanglement records that could not be. Therefore, it is possible that some of these whale entanglements may be resultant from PCGF gear. By using estimates of historical humpback whale bycatch from PSGF observer data, we can project potential future bycatch in the fishery.

By also considering historical bycatch estimates from opportunistic sightings, we can consolidate our understanding of what has occurred in the past into what may occur in the future.

Since humpback whale distributions vary by DPS, we examined fishing effort distribution using PCGF observer and landings data to determine PCGF overlap with humpback whale distribution, at the DPS level, and, thus, entanglement risk. We also examined trends and patterns of different PCGF sectors over time to help understand future risks from each PCGF sector. Using this information, we can determine what impacts transpired in the historical PCGF into expectations in the future PCGF for both the Central America DPS and Mexico DPS at two different thresholds: 1) what could be expected to occur in any one year; and 2) what could be expected to occur over a five-year time period. By tracking entanglements at two different time scales, this will provide the PCGF with coverage during any short-term stochastic events beyond the PCGF's control while protecting the humpback whales from any long-term impacts from the PCGF.

Conservation Measures

Besides including the Terms and Conditions, Reasonable and Prudent Measures, and Conservation Recommendations already approved in the 2012 Opinion, we are currently considering the following conservation measures for inclusion in this Opinion:

1. Enhanced marking of PCGF pot gear: This would increase NMFS's ability to determine which fishery's gear is responsible for marine mammal entanglements. From 2011 through 2019, 38.7 percent of humpback whale entanglements (75 of 194) involved fishing gear that could not be attributed to any specific fishery. Therefore, we propose:
 - a. Line marking – as an example, proposed Washington Department of Fish and Wildlife Dungeness crab regulations (October 2, 2019)¹
 - b. Additional markings on buoys/surface gear – as an example, California Department of Fish and Wildlife Commercial Trap Gear marking regulations²
2. NMFS shall provide guidance to the Groundfish Endangered Species Workgroup (Workgroup) on PCGF bycatch issues: Need for assessing bycatch events, fishing effort, and any additional measures associated with this Opinion or other entanglement mitigation initiatives of the Pacific Fishery Management Council (PFMC), NMFS, or the fishing industry. Further, this could include periodic review and guidance, for consideration by PFMC and NMFS, on relevant and updated entanglement data, science, and other developments.
3. Encourage the exploration and implementation of new and existing scientific tools and frameworks through the Workgroup to help reduce real-time geographic overlap of whales and the PCGF pot fishery. To reduce this entanglement likelihood, we propose consideration of:

¹ https://www.psmfc.org/crab/2019%20-2020%20files/letter%20to%20license%20holders_Oct%202%202019%20FINAL.pdf

² <https://wildlife.ca.gov/Notices/Regulations/Marking>

- a. Use of near-real time environmental data streams to predict whale concentrations (Forney et al. in prep, Abrahms et al. 2019) and forage conditions (Santora et al. 2020)
 - b. Use of environmental data to predict patterns of fishing effort
 - c. Use of observational/survey data to identify spatial/temporal areas of concern to avoid
4. Development and testing of gear modifications: To reduce the severity/frequency of whale entanglements with groundfish pot gear, we encourage testing and development of:
 - a. Weak link and Anchoring Techniques – as an example, see NOAA Fisheries Atlantic Large Whale Take Reduction Plan – Supplement B: Weak Links & Anchoring Techniques³
 - b. Reduction of the maximum breaking strength of ropes used in the sablefish pot fishery – similar to a recent study conducted on the U.S. East Coast (Knowlton et al. 2016).⁴
 - c. Buoyless/ropeless gear innovation
 5. Logbook requirements: Pursue a coast-wide Federal fixed gear logbook requirement for all fixed gear sectors, including pot gear, to improve bycatch estimates for humpback whales and better understand the distribution of fishing effort. If upgraded to an automated/electronic reporting system, then comprehensive fishery effort at spatial scales can be fed into available data streams on whale distributions and forage conditions to analyze fishing dynamics and assess entanglement risks.
 6. Collection of gear characteristic data: To better understand fishery gear configurations and how they might attribute to an increased entanglement likelihood and severity (likelihood of mortality), track gear configuration characteristics through the logbook and/or fishery observers. This information could result in the development of new gear innovation ideas.
 7. Observer coverage in the fixed gear Open Access (OA) fishery sector: To decrease uncertainty in whale bycatch estimates and increase understanding of the fishery dynamics (including gear characteristics), we encourage observer coverage at or above historic levels for this sector.
 8. Lost and stored pot/gear: Track through the logbook and minimize the at-sea loss of sablefish pot/gear and promote use of appropriate tracking technology (i.e., Gearfinder technology). Study and encourage minimizing the impact of storing sablefish pot/trap gear at-sea in the context of conservation issues by providing additional regulations, if needed.

³ <https://www.fisheries.noaa.gov/webdam/download/94698533>

⁴ June 2019 Groundfish Endangered Species Workgroup recommendation

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