

GROUND FISH ENDANGERED SPECIES WORKGROUP REPORT: HUMPBACK WHALE EXCERPTED SECTION

The following is the excerpted humpback whale section from the 2019 Groundfish Endangered Species Workgroup Report ([Agenda Item I.6.a, Groundfish ESA Workgroup Report, June 2019](#)). The detailed information regarding estimated humpback whale bycatch, including estimation methodologies, in the West Coast groundfish fishery was presented to the workgroup at their April 2019 meeting and was provided to the Pacific Fishery Management Council (Council) as [Agenda Item I.4.a, NMFS Report 4, June 2019](#).

Humpback Whales

The Workgroup received a presentation from Dr. Brad Hanson on the bycatch of humpback whales in the groundfish fishery. The Incidental Take Statement (ITS) for humpback whales is a five-year average of one humpback whale injury or mortality per year, and up to three humpback whale injuries or mortalities in any single year.

There have been two documented takes of a humpback whale in the Pacific Coast groundfish fisheries—one in the Limited Entry (LE) sablefish pot fishery sector in 2014 and one in the Open Access (OA) Fixed Gear pot fishery sector in 2016. Although there have been no other observed takes in the groundfish fishery since data collection began in 2002, pot and trap fisheries generally represent the majority of documented fishery interactions with humpbacks along the U.S. west coast.

The bycatch report used Bayesian procedures to estimate annual mean fleet-wide bycatch and a running five-year fleet-wide average in two West Coast groundfish pot sectors. The estimated fleet-wide entanglements/takes the combined LE Sablefish and OA Fixed Gear sectors were consistently above the five-year running average threshold over the time period examined (2002-2017). While the estimated fleet-wide entanglements/takes in the Limited Entry Sablefish pot sector were consistently below the five-year running average threshold, the estimated fleet-wide entanglements/takes in the Open Access Fixed Gear pot sector was consistently above the five-year running average threshold. Based on the analysis in the bycatch report, it appears the incidental take amount was exceeded.

Recent research has provided information on changes in whale population size (Calambokidis et al., PSRG presentation). The Workgroup discussed additional efforts to document changes in occurrence (Calambokidis et al. 2017) would be useful for updating distribution models (Becker et al. 2016, Feist et al. in prep.). The Workgroup also discussed incorporating outputs from estimates of abundance and occurrence, as well as potential climate effects on whale prey distribution, into the Workgroup's Bayesian analysis framework could potentially improve the precision of the incidental take estimates.

In 2016, National Marine Fisheries Service (NMFS) published a final rule revising the listing status of humpback whales which included 14 distinct population segments (DPS). Nine DPS did not warrant listing under the ESA, one DPS was listed as threatened, and four DPS were listed as endangered. In the North Pacific, there are four DPS identified by breeding location (Hawaii, Central America, Mexico, and Western North Pacific). The Mexico DPS is listed as threatened,

the Central American DPS is listed as endangered, and the Hawaii DPS is not at risk of extinction. Humpback whales found in waters off the Oregon, Washington, and California coast are from the Central America, Mexico, and Hawaii DPS.

The revised listing met one of the reinitiation criteria of the Biological Opinion (BiOp) and necessitated reevaluating the effects of the fishery on humpback whales. Prior to the Workgroup meeting, NMFS requested reinitiation of formal section 7 ESA consultation for the continued operation of the groundfish fishery based on the humpback whale DPS changes. NMFS is working to provide additional information needed for the consultation, including the recent data on groundfish fishery interactions to humpback whales compiled for the 2016-2017 bycatch report. This information along with a comparison to the ITS will be factored into the consultation. NMFS explained to the Workgroup that the timeline for completion of the new humpback whale BiOp was still under development, but noted it intends to bring draft conditions to the Council in a similar process to the recent eulachon BiOp.

The incidental take of a second humpback whale in the federally managed groundfish fisheries within the last five years highlights the need for additional actions to improve the precision of interactions estimates and to identify potential mitigation measures. The Workgroup discussed several of the conservation recommendations from the humpback whale bycatch report including gear marking issues, storing of gear at-sea, and lost fishing gear. Given that a sizeable portion of entangled gear remains unidentifiable (Caretta et al. 2018), the Workgroup identified the need for improved marking of fixed gear in order to better track gear interactions with humpback whales by sector or fishery. The Workgroup did not think lost fishing gear interactions with humpback whales was a major issue as observer-derived estimates indicate low levels of lost gear. Rough estimates derived from the fishing effort report ranged between 0.1 to 1.0 percent per year lost pots in IFQ and Limited Entry fixed gear. If lost gear continues to be a topic of concern, mandatory reporting of lost gear in logbooks would provide a clearer picture of the risks facing humpback whales. The Workgroup saw utility in a Federal fixed gear logbook requirement for all fixed gear types, including pot gear. A fixed gear logbook could reduce uncertainty in bycatch estimates for humpback whales, especially for fixed gear sectors that are not monitored at high observer coverage rates, by providing better estimates on location-specific effort and total effort. The Workgroup thought fields such as the number of pots, lost gear, and the location of fishing effort would be most beneficial to include in a fixed gear logbook.

Penny Ruvelas (NMFS PRD) provided some clarifications to the Workgroup on humpback whale related issues. She explained the ESA consultation conducted by NMFS would be based on the listed species, with the focus on the Mexico and Central America DPS. However, a separate process under the Marine Mammal Protection Act (MMPA) would focus on the overall humpback whale population. She noted NMFS Headquarters is currently working on updating the MMPA criteria. Ms. Ruvelas also noted when there are interactions, even things like collecting tissue samples and taking photographs can help parse out the issues and make DPS identifications. Jason Jannot pointed out that in the observer program, when there are interactions, observers are required to take photographs but observers are usually not close enough for tissue samples.

There was some concern among the Workgroup over how aware the groundfish fleet is of the potential for encounters with humpback whales. The Workgroup thought that having conversations at the Groundfish Advisory Subpanel (GAP) on lost fishing gear and storing of gear at-sea would help raise awareness on whale entanglement concerns and provide further context on

the scale of the potential issue. The Workgroup encourages a proactive dialogue with fishermen to identify gear or operation modifications that could reduce entanglements, in particular incidents that result in serious injury or mortality (e.g., using lines that have a lower breaking strength such as in Knowlton et al 2016) and be compatible with their fishing practices.

Workgroup recommendations:

1. The Workgroup supports NMFS moving forward with the re-consultation process for humpback whales to address the DPS changes and incidental take amount exceedance. The Workgroup recommends the Council encourage NMFS to use a collaborative process in the re-consultation process that includes input from the Council and its advisory bodies.
2. The Workgroup recommends the Council and NMFS pursue a coastwide Federal fixed gear logbook requirement for all fixed gear sectors, including pot gear, to improve bycatch estimates for humpback whales.
3. The Workgroup understands NMFS is going through the re-consultation process and no specific actions are being taken or are imminent in terms of conservation and management measures to minimize humpback whale entanglements. The ideas discussed by the Workgroup focused mainly on the need to improve our ability to know where entanglements happen and trace it to the gear type and fishery sector. In the interim, the Workgroup recommends the Council encourage NMFS, industry, and other partners to:
 - a. Explore gear modifications that would reduce the risk of humpback entanglements/mortalities. As an example, evaluate the maximum breaking strength of ropes used in the sablefish pot fishery similar to a recent study conducted on the east coast (Knowlton et al, 2016).
 - b. Consider changes to fixed gear marking requirements in order to better track gear interactions with humpback whales to specific sectors or fisheries.
 - c. Have discussions on the extent of lost gear and storage of gear at-sea in order to provide further context on the scale of these potential issues.
 - d. Identify methods or improved procedures for identification of humpback whales at the DPS level. This might include mechanisms such as photos or genetic samples to differentiate between the Mexico, Central America, and Hawaii DPS.

Appendix A

Table 1. Incidental take amounts of humpback whale from 2012 - 2017

Incidental Take Amount or Extent of Take from BiOps	Estimated Catch	Incidental Take Amount Potentially Exceeded?
Injury or mortality from entanglement - 5-year average of 1 whale/year and up to 3 whales/year in a single year.	Estimate: Over 5-year average of 1 whale/year <ul style="list-style-type: none"> • 2013 – 0 • 2014 – 1 (LEFG) • 2015 – 0 • 2016 – 1 (OA) • 2017 – 0 	Yes