HI Deep-Set (Tuna Target) Longline/Set Line Fishery

Fishing gear type: Longline/set line

Current category: Category I*

Basis for current classification on the LOF: The total annual mortality and serious injury of false killer whales (HI insular stock) and false killer whales (HI pelagic stock) in this fishery exceeds 50% of the stocks Potential Biological Removal (PBR) levels.

Current list of marine mammal species/stocks injured/killed (a (1) indicates those stocks driving the fishery's classification): Bottlenose dolphin, HI Pelagic; False killer whales, MHI insular; False killer whales, HI pelagic (1); False killer whales, Palmyra Atoll; Humpback whale, Central North Pacific; Pantropical spotted dolphin, HI; Risso's dolphin, HI; Short-finned pilot whale, HI; Sperm Whale, HI; Striped dolphin, HI.

Estimated number of current participants: 129

Take Reduction Teams/Plans that affect this fishery: False Killer Whale Take Reduction Team (FKWTRT). This fishery is subject to the Take Reduction Plan from November 2012.

Year added to the LOF: 1996

Category when originally listed: Category III

Basis for original classification on the LOF: Observer data indicated that interactions occur with various marine mammal stocks (for example, there was an interaction with a humpback whale in 1991); however, estimates of PBR levels and annual mortality and serious injury for many stocks were not available. Therefore the fishery was placed in Category III.

Estimated number of participants when originally listed: 140

Past names, if any: HI swordfish, tuna, billfish, mahi mahi, wahoo, oceanic sharks longline/set line (until 2009).

Gear description/method for fishing: This fishery uses longline gear. Deep-set longline gear typically consists of a continuous mainline set below the surface and supported in the water column horizontally by floats with branch lines attached at intervals on the mainline. Mainline is 3.2-4.0mm diameter monofilament and stored on large hydraulic reels. In addition, radio buoys are also used to keep track of the mainline as it drifts at sea. A line shooter is used on deep-sets to deploy the mainline faster than the speed of the vessel, thus allowing the longline gear to sink to its target depth (target depth for bigeye tuna is approximately 400 m). The mainline is typically 25 to 45 nmi long. A minimum of 15, but typically 25 to 30, weighted branch lines (gangions) are clipped to the mainline at regular intervals between the floats. All float lines must be at least 20 m in length. Each branch line terminates with a single baited hook. The branch lines are typically 11 to 15 m (25 to 50 ft) long. Sanma (saury) or sardines are used for bait. The use of light sticks (or any light emitting device) is prohibited. Unlike the shallow-set fishery, the deep-set does not have regulations regarding the time of day that the gear may be set. However, it is common for fishermen to set their gear in the morning and haul in the afternoon/night, mainly to maximize their target catch rates.

Target species: Tuna.

Spatial/temporal distribution of effort: This fishery operates inside and outside the US EZZ, primarily around the main Hawaiian Islands and Northwestern Hawaiian Islands, with some trips to the EEZs around the U.S. Pacific

* The fishery is classified based on mortalities and serious injuries of a marine mammal stock greater than 50% (Category I) of the stock's Potential Biological Removal (PBR) level.

Remote Island Areas. Vessels vary their fishing grounds depending on their target species. Most of the deep-set fishing occurs north and south of the Hawaiian Islands, according to fishing conditions. This fishery operates year-round, although vessel activity increases during the fall and is greatest during the winter and spring months..

Levels of observer coverage each year[†]: This fishery has been observed since 1994. Initially, observer coverage was less than 5%, increased to 10% in 2000, and exceeded 20% in 2001 and 2002. Observer coverage was 22.2% in 2003; 24.6% in 2004; 26.1% in 2005; 21.2% in 2006; and 20.1% in 2007.

Management and regulations: This fishery is a Federal limited access program and is managed by the Western Pacific Fishery Management Council under the Fishery Ecosystem Plan for Pelagic Fisheries of the Western Pacific Region, and is subject to Federal regulation. Measures that are currently applicable to the fishery include, but are not limited to, limited access (permit requirement), vessel and gear marking, vessel length restrictions, Federal catch and effort logbooks, large longline restricted areas around the Hawaiian Archipelago, vessel monitoring system (VMS), annual protected species workshops, and the possession and use of sea turtle and seabird mitigation gear and safe handling techniques. The vessel operator must notify NMFS prior to departure whether the vessel is undertaking a deep-set or shallow-set trip. Once the trip type is set, it cannot be changed during the trip. Vessel operators must take a NMFS contracted observer if requested by NMFS – target observer coverage is 20% of trips. If any marine mammal interaction (hooking or entanglement) resulting in injury or mortality occurs, the vessel operator must complete and mail a pre-addressed, postage paid form to NMFS within 48 hours of the end of the trip. Additional information on all applicable regulations for the deep-set longline fishery is available at *http://www.fpir.noaa.gov/SFD/SFD_regs_2.html*. This fishery is subject to the FKWTRT. NMFS is currently implementing the Take Reduction Plan and, potentially, associated regulations.

History of Changes on the LOF

2014 LOF: Added sperm whale (HI). Changed false killer whale (HI insular) to (MHI insular) and removed "[1]".

2013 LOF:

- Removed Blainville's beaked whales from the list of species/stocks killed/injured in the fishery. The most recent five year period had no documented mortalities or injuries.
- Estimated number of participants updated from 124 to 129.

2012 LOF: Estimated number of participants reduced from 127 to 124.

2011 LOF:

- Added false killer whale (HI stock) to the list of species/stocks killed/injured in the fishery. The draft 2010 SAR clarifies that this stock includes animals found both within the Hawaiian Islands EEZ and in adjacent international waters. Also, six serious injuries and one non-serious injury of false killer whales were observed in this fishery outside of U.S. EEZs from 2004 – 2008
- Added false killer whale (HI Insular stock) to the list of species/stocks killed/injured. One false killer whale was non-seriously injured within the range of the HI Insular stock from 2004-2008. Based on the pro-rating method used by the NMFS Southwest and Pacific Islands Fisheries Science Centers to estimate takes using the proportions of observed interactions that resulted in death, serious injury, or non-serious injury, this non-serious injury results in an average mortality and serious injury rate of 0.6 whales per year for the period 2004-2008, or 98.3 percent of the stock's PBR of 0.61. Therefore, included a superscript "1" following this stock, indicating that this stock is driving the classification of the fishery.
- Added false killer whale (Palmyra Atoll stock) to the list of species/stocks killed/injured. One false killer whale was seriously injured in this fishery inside the Palmyra Atoll EEZ in 2007, resulting in an average mortality and serious injury rate of 0.3 whales per year for the period 2004-2008, or 4.7 percent of the stock's PBR of 6.4.

[†] Observer coverage levels include the latest information reported in the most current final Stock Assessment Reports (SAR).

- Changed stock name of bottlenose dolphins “HI” to “HI Pelagic.” The bottlenose dolphin stock structure was revised for the 2010 SAR, and the stock that interacts with the deep-set longline fishery is now the HI Pelagic stock. One bottlenose dolphin was seriously injured in this fishery in 2006 inside the Hawaiian Islands EEZ, resulting in an average mortality and serious injury rate of 0.2 bottlenose dolphins per year, or 1.1 percent of the stock’s PBR of 18.
- Changed stock name of Pantropical spotted dolphins from "unknown" to "HI." The draft 2010 SAR clarifies that this stock includes animals found both within the Hawaiian Islands EEZ and in adjacent international waters. Also, one Pantropical spotted dolphin was observed incidentally killed in this fishery on the high seas in 2008.
- Changed stock name of bottlenose dolphin from "HI" to "HI Pelagic". The draft 2010 SAR clarifies that this stock includes animals found both within the Hawaiian Islands EEZ and in adjacent international waters.
- Estimated number of participants reduced from 129 to 127.

<u>2010 LOF:</u>

- False killer whale stock name changed from "HI" to “HI pelagic" to match the names used in the 2008 SARs.
- Added Pantropical spotted dolphin (stock unknown) to the list of species/stocks killed/injured in this fishery. A Pantropical spotted dolphin was observed killed in 2008.
- Removed spinner dolphin (HI) from the list of species/stocks killed/injured in this fishery. There were no observed interactions in the past 5 years and observer coverage exceeded 20%.

<u>2009 LOF:</u>

- Listed as a separate Category I fishery on the LOF. Listed by splitting the Category I “HI swordfish, tuna, billfish, mahi mahi, wahoo, oceanic sharks longline/set line” fishery into this Category I deep-set (tuna target) fishery and the Category II shallow-set (swordfish target) fishery based on different target species, operating patterns, management regimes, and marine mammal interaction rates. This fishery remained a Category I because the level serious injury and mortality of false killer whales (HI stock) in this fishery exceeds the stock’s PBR.
- Retained the species/stocks on the list of those incidentally killed/injured in the “HI swordfish, tuna, billfish, mahi mahi, wahoo, oceanic sharks longline/set line” fishery that were documented as taken in the deep-set (tuna target) fishery (see list above under “Current list of marine mammal species/stocks injured/killed” and explanations below for the addition and deletion of species/stocks from this list).
- Retained the superscript “1” after false killer whales (HI stock) in the list of species/stocks killed/injured in this fishery to indicate that takes of this stock are driving the Category I classification of this fishery. The mean annual level of serious injury and mortality in this fishery exceeds the stock’s PBR.

Changes on the LOF for the “HI swordfish, tuna, billfish, mahi mahi, wahoo, oceanic sharks longline/set line”

<u>2008 LOF:</u> Added Bryde's whale (HI) and striped dolphin (HI) to the list of species/stocks killed/injured in this fishery. A Bryde's whale was observed injured in 2005 and a striped dolphin was observed killed in 2006.

<u>2006 LOF:</u> Added Blaineville's beaked whale (HI) and Pantropical spotted dolphin (HI) to the list of species/stocks killed/injured in this fishery. One Blainesville’s beaked whale was observed killed in 2002 and one Pantropical spotted dolphin was observed killed in 2001.

<u>2004 LOF:</u> Elevated to Category I based on the level of incidental mortality and serious injury and revised PBR levels of false killer whale (HI). Also, NMFS had information of serious injury and mortality of interactions with all other stocks listed under this fishery. As a result of the a 2002 NMFS survey of cetacean abundance in waters where the HI longline fishery operated (throughout the HI EEZ in conjunction with 1993-98 aerial survey data conducted within 25 nmi of the main HI Islands), and the 2002 SARs using data from observer coverage, false killer whales were determined to be a strategic stock. The previous PBR for false killer whales was set with 1993-1998 data that did not cover the entire range of the species. Based on extrapolations of available data, the total annual mortality

and serious injury of false killer whales (HI) was 4.4 animals/year, which exceeded 50% of PBR (PBR= 1.2). The continued take of false killer whales and other cetaceans, including endangered humpback (Pacific Islands Observer Program annual reports list one humpback whale released injured from deep-set gear in both 2002 and 2004) and sperm whales, warranted elevation to a Category I. Observer coverage would be high from then on as a result of an ESA B.O. requiring 100% coverage in the shallow-set component of the fishery and 20% coverage in the deep-set component.

2001 LOF:

- NMFS proposed to elevate the fishery to Category II based on 1) observer data indicating that interactions with marine mammal stocks was not a rare occurrence, 2) the diversity of species documented as incidentally killed or seriously injured in this fishery, and 3) by analogy with other longline fisheries in the U.S. that use similar gear and target similar species, which are Category I or II. NMFS did not elevate the fishery at that time because: 1) there were plans to conduct new abundance surveys in 2002 for all marine mammals inhabiting HI waters; 2) changes in the operation of the fishery were predicted as a result of a Biological Opinion (B.O.) under the Endangered Species Act (ESA) on the proposed FMP for Pelagic fisheries in the Western Pacific Region, which provided several Reasonable and Prudent Alternatives to address adverse effects on endangered sea turtles; and 3) the B.O. included terms to continue the observer program at 20% coverage annually. These 3 factors would increase data and knowledge about the level of mortality and serious injury of marine mammals. NMFS indicated that reclassification may be warranted in a future LOF.
- Added sperm whale (HI) and false killer whale (HI) to the list of species/stocks killed/injured in this fishery. Sperm whales added because of an interaction in 1999, and because sperm whales are an ESA listed species. False killer whales added because the species has been documented to interact with the fishery, and this stock was listed as strategic in the 2000 SAR.
- Deleted monk seal (HI) from the list of species/stocks killed/injured in this fishery. A monk seal has not been observed to interact with this fishery since 1991.
- Humpback whale (Central North Pacific) retained on the list of species/stocks incidentally killed even though the last observed interaction was in 1991. NMFS scientists determine the most appropriate date to use on a case-by-case basis. This data was peer reviewed by the Pacific Scientific Review Group.

1999 LOF: Observer coverage was expanded and NMFS began developing expanded take estimates for consideration of reclassification of this fishery in a future LOF.

1998 LOF: Added spinner dolphin (HI) and short-finned pilot whale (HI) added to the list of species/stock killed/injured in this fishery because these stocks have been documented to interact with the fishery.