

# STOP THE NETS

Sustainable Solutions to Catch Swordfish



AUGUST 2018

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World's Oceans

Ocean waters off the U.S. West Coast boast an unparalleled diversity of wildlife. Referred to by scientists as the “Blue Serengeti”, the cold, productive ocean currents off California, Oregon, and Washington host globally significant populations of dolphins, critical shark nurseries, and crucial underwater highways for migrating whales. Yet, off California, in the heart of this biodiversity hotspot, the swordfish drift gillnet (DGN) fleet – one of the nation’s dirtiest fisheries – continues to entangle and kill dolphins, sea turtles, sea lions, whales, sharks and other recreationally and commercially important fish.

**The California-based swordfish drift gillnet fishery catches and throws overboard more animals than are kept, many of them dead or dying**

Swordfish drift gillnets are not used anywhere else in the U.S. and are banned in many places around the world, but they are still allowed off California. Clean, selective fishing methods are available that profitably catch swordfish while drastically reducing interactions with non-target ocean wildlife. It is time to turn the tide in this fishery by phasing out large mesh drift gillnets off California while transitioning to cleaner fishing gears.

**SWORDFISH DRIFT GILLNETS ARE AN ANTIQUATED, INDISCRIMINATE FISHING GEAR**

Nearly one mile long, drift gillnets are an unselective method used to catch swordfish and thresher sharks. The nearly invisible nets drift in the open ocean overnight, indiscriminately entangling many forms of marine life. Despite management efforts made over the decades to reduce unintended catch (e.g., change in mesh size, inclusion of acoustic pingers to deter marine mammals, time and area closures), the fishery continues to

kill dolphins, whales, and sea lions regularly and serious concerns persist due to unacceptably high bycatch. According to data from the National Oceanic and Atmospheric Administration (NOAA) Drift Gillnet Fishery Observer Program, on observed trips the California drift gillnet fishery discarded 52 percent of all animals caught from 2008 to 2018. This discard rate persists despite management measures to curb bycatch. Participation in the fishery

has declined precipitously with a drop in actively used drift gillnet permits plummeting from 119 to just 17 between the years 2000 and 2017. Additionally, less than 30 percent of all fishing trips carry federally trained observers on board who monitor and record all catch. Without a complete record of everything caught and killed on every vessel, the true number of marine mammal and sea turtle deaths is unknown.

**THE SWORDFISH DRIFT GILLNET FISHERY HAS:**

**ENTANGLED AND DISCARDED MORE THAN 70 DIFFERENT SPECIES OF NON-TARGET OCEAN LIFE**

**CAPTURED SPERM WHALES, LOGGERHEAD SEA TURTLES, RISSO'S DOLPHINS, BLUE SHARKS, MARLINS, TUNAS AND MORE**

**KILLED ENDANGERED PACIFIC LEATHERBACK SEA TURTLES – ONE OF EIGHT MARINE ENDANGERED SPECIES MOST LIKELY TO GO EXTINCT IN THE NEAR FUTURE**

**KILLED MORE DOLPHINS EVERY YEAR THAN ALL OTHER OBSERVED WEST COAST FISHERIES COMBINED**

Photos: animals caught and killed in California swordfish drift gillnets. NOAA Observer Program.

**West Coast DGN Landings and Vessel Permits (1981-2017)**

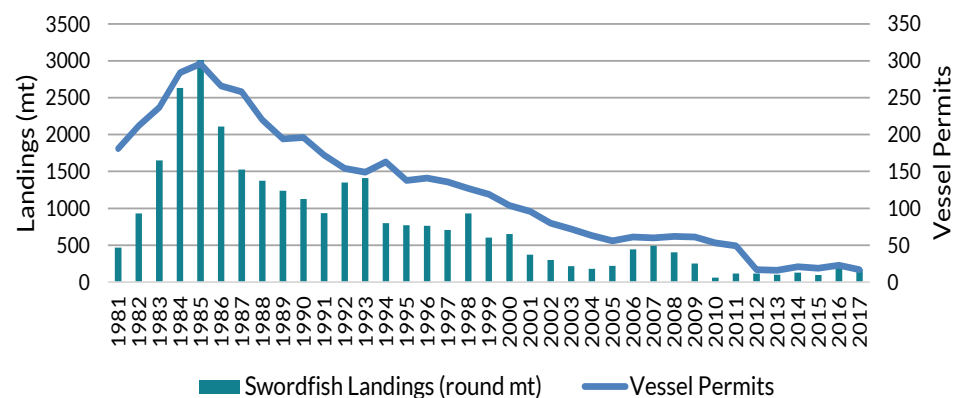


Figure 1 Participation and landing levels in the drift gillnet fishery over time. Sources: PFMCM HMS SAFE 2018, Swordfish Landings by fishery, 2008-2017.

# DEEP-SET BUOY GEAR IS A PROFITABLE, LOW-BY-CATCH ALTERNATIVE

Deep-set buoy gear (DSBG) is an innovative gear type used to target swordfish on the U.S. West Coast that consists of two buoys supporting a fishing line with 1-3 hooks attached. The gear is actively tended by fishermen, and deployed at depths between 250 meters and 350 meters (820 feet to 1,148 feet) during the daytime, far below the surface depths where species like sea turtles frequently swim and feed. The buoys indicate when a fish has been caught, so fishermen can retrieve their catch within minutes of it being hooked.

Four years of research and three years of commercial use off California demonstrate that 83 percent of the catch using deep-set buoy gear was swordfish, 98 percent of all animals caught were marketable, and all non-marketable species were released alive.

Swordfish caught with deep-set buoy gear is a higher value product than drift gillnet caught swordfish due to greater freshness, quality, and market demand for sustainable seafood. Over the last three fishing seasons, the average vessel using deep-set buoy gear brought in more revenue from swordfish catch than the average drift gillnet vessel.

Additionally, harpoons can also optimize swordfish catch with zero bycatch. Harpoons were once the primary method used to catch swordfish off California, supporting a lucrative domestic fishery prior to the introduction of drift gillnets in 1980. Similar to deep-set buoy gear, harpoon-caught swordfish garners a higher price per pound than drift gillnet-caught swordfish. There is some continued harpoon use off California with the opportunity for expansion. Harpoons and deep-set buoy gear are both financially viable methods to optimize swordfish catch and responsible fishing.

Average ex-vessel price per pound for California landed swordfish (2015-2017)

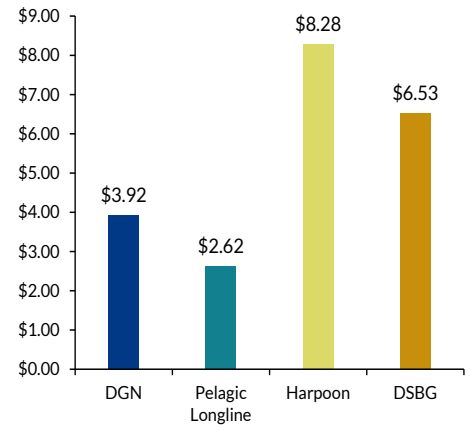


Figure 2 DGN = drift gillnet; DSBG = deep-set buoy gear  
Source: PFMC. Swordfish Landings by fishery, 2008-2017. June 2018. Agenda Item G.7 Attachment 2.

## PELAGIC LONGLINES ARE NOT A LOW-BY-CATCH ALTERNATIVE

LIKE DRIFT GILLNETS, PELAGIC LONGLINES ARE HIGHLY UNSELECTIVE AND HAVE A WIDE SUITE OF SEVERE BYCATCH CONCERNS

For good reason, pelagic longlines have been banned off the state of California since 1989. Shallow-set longline gear, for example, consists of a continuous mainline supported by floats that typically stretches 30 to 60 miles long. Anywhere from 700 to 1,200 hooks are attached, posing a high risk for ensnarement of non-target marine life.



An endangered Pacific leatherback sea turtle ensnared by a Hawaii-based shallow-set longline. NOAA, 2013.

Percentage of total catch that is swordfish

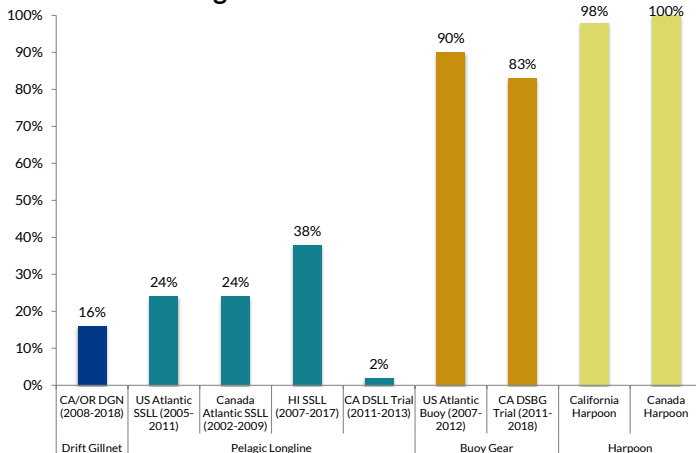


Figure 3 Percentage of total catch that is swordfish across select fisheries and gear types. SSL = shallow-set longline; DSSL = deep-set longline

Swordfish fishery discard rates

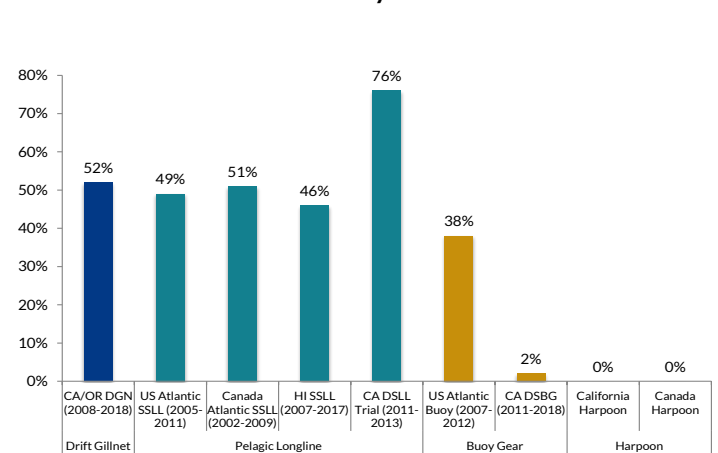


Figure 4 Percentage of animals caught that were discarded across select swordfish fisheries and gear types.

# CALIFORNIA CAN HAVE A DOMESTICALLY PROFITABLE SWORDFISH FISHERY WHILE SAFEGUARDING OCEAN WILDLIFE



Photo Credit L to R, Clockwise: Pilot whale, Adam Li, NOAA/NMFS/SWFSC; Leatherback sea turtle, Scubazoo/Alamy Stock Photo; Humpback whale, Tory Kallman/Shutterstock; Blue Shark, Mark Conlin/NMFS; Long-beaked common dolphins, Chase Dekker/Shutterstock; Mola mola, NOAA; Risso's dolphin, Geoff Shester/Oceana; Sperm whale pod, Peter Allison/Marine Photobank.

Mile-long drift gillnets must be pulled from the water for good and the switch to cleaner fishing gears like deep-set buoy gear and harpoons should be incentivized. Due to bycatch concerns, swordfish drift gillnets should be prohibited in federal waters. Transitioning the swordfish fishery to cleaner gears is supported by the recreational fishing community, seafood and tourism businesses, elected officials, and the California Fish and Game Commission.

## IT'S TIME TO #STOPTHENETS FOR A BRIGHTER, ENVIRONMENTALLY SUSTAINABLE SWORDFISH FISHERY THAT CALIFORNIA CAN BE PROUD OF

*Figures 3, 4 Sources: CA/OR DGN: NOAA. 2018. West Coast Region Observer Program: Summaries & Reports. US Atlantic SSL: MRAG. 2013. MSC Public Certification Report for US North Atlantic Swordfish Pelagic Longline and Handgear Buoy Line Fishery. Canada Atlantic SSL: Intertek Moody Marine (IMM). 2011. North Atlantic Swordfish Canadian Pelagic Longline Fishery. Volume 1: Final Report and Determination. HI SSL: NMFS. 2017. Hawaii Shallow-set Longline Data (2007-2017). Unpublished. CA DSSL Trial: Dewar, H., Kohin, S. 2014. Deep-Set Longline Study. US Atlantic Buoy: NMFS. 2014. Stock Assessment and Fishery Evaluation Report (SAFE) for Atlantic Highly Migratory Species; Kerstetter. 2009. Characterization of the Catch by Swordfish Buoy Gear in Southeast Florida. CA DSBG Trial: Sepulveda, C. 2015. Exempt Fishery Proposal Application for Deep-set Buoy Gear; PFMC. June 2018. 2015-2017 PIER Deep-Set Buoy Gear EFP Preliminary Summary. California Harpoon: Coan Jr, A.L., Vojkovich, M., Prescott, D. 1998. The California Harpoon Fishery for Swordfish, Xiphias gladius and PFMC 2015. Highly Migratory Species Stock Assessment and Fishery Evaluation Reports Current HMS SAFE Report. Canada Harpoon: Coan Jr, A.L., Vojkovich, M., Prescott, D. 1998. The California Harpoon Fishery for Swordfish, Xiphias gladius.*

For more detailed analysis, please see our full report at: [www.oceana.org/StopTheNetsReport](http://www.oceana.org/StopTheNetsReport)

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