Exposing California's Dirty Secret

The Truth about Drift Gillnets off our Coast

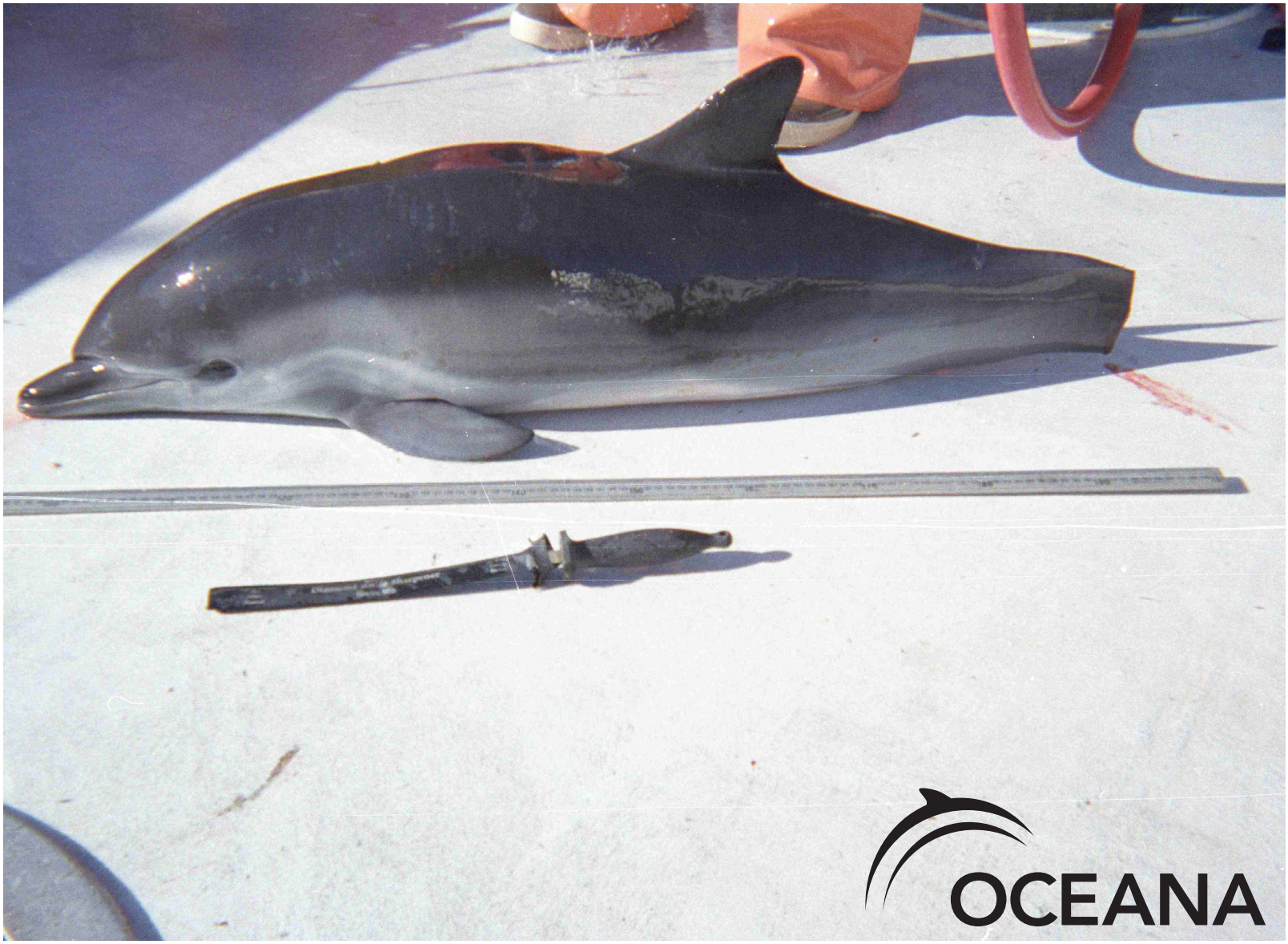


Photo Credit: NOAA

APRIL 2014

IN BRIEF

Mile-long drift gillnets create deadly traps for ocean wildlife. These nets, meant for swordfish and thresher sharks, form dangerous underwater walls that entangle iconic ocean marine life. The entrapped animals cannot surface for air, so many eventually drown or become critically injured. After soaking in the ocean overnight, the nets are pulled from the water containing disturbing and unacceptably high numbers of dead and dying animals—including whales, dolphins, sea lions, sea turtles, numerous shark species and many other ecologically and economically important fish. With cleaner gear types available and historic lows in fishery participation, it is time to revitalize the swordfish fishery by eliminating drift gillnets and replacing them with cleaner gear.

A California sea lion drowned in a drift gillnet--along with a blue shark, visible in the background.
©Tom Campbell/Marine Photobank

THE ISSUE

Drift gillnets operating off California take protected marine species as bycatch in high numbers. Despite decreasing fishing effort and measures taken to reduce the capture of marine mammals, on average the fishery continues to kill approximately 100 dolphins, whales, seals, and sea lions per year (2007-2013). In addition, there are intermittent observed endangered leatherback and loggerhead sea turtle takes. Protected species incidentally injured and killed by this indiscriminate gear include the bottlenose dolphin, long-beaked common dolphin, short-beaked common dolphin, northern right whale dolphin, Pacific white-sided dolphin, California sea lion, Northern elephant seal, Risso's dolphin, short-finned pilot whale, gray whale, humpback whale, sperm whale, and minke whale.[1] Other major notable species taken as bycatch include the common mola (ocean sunfish), blue shark, Pacific bonito, skipjack tuna, common thresher shark, opah, striped marlin, albacore tuna, bluefin tuna, and salmon shark. In fact, on average 61% of the total catch (individuals, not weight) is discarded.[2] On average federal fisheries observers are on board this fleet only 15.6% of the time—a range of 12% to 19.5% (2007-2012)[3]. This level is insufficient to manage the fishery effectively, and insufficient for accurately accounting for the take of rare species. In August 2013, the drift gillnet fishery was changed to Category I status under the Marine Mammal Protection Act, a designation reserved for fisheries with frequent incidences of

Over the past six years (May 2007 to January 2013) the fishery discarded:

- 61% of all animals caught, including more than 41,000 common molas (ocean sunfish) and hundreds of billfish
- More than 6,500 sharks, amounting to 44% of all sharks caught by the fishery
- 309 dolphins
- 268 seal lions and seals
- 22 whales
- 13 leatherback sea turtles

Data from the NOAA Observer Program

death and injury to marine mammals. In fact, only 6 out of more than 230 U.S. fisheries fall under the egregious Category I status.

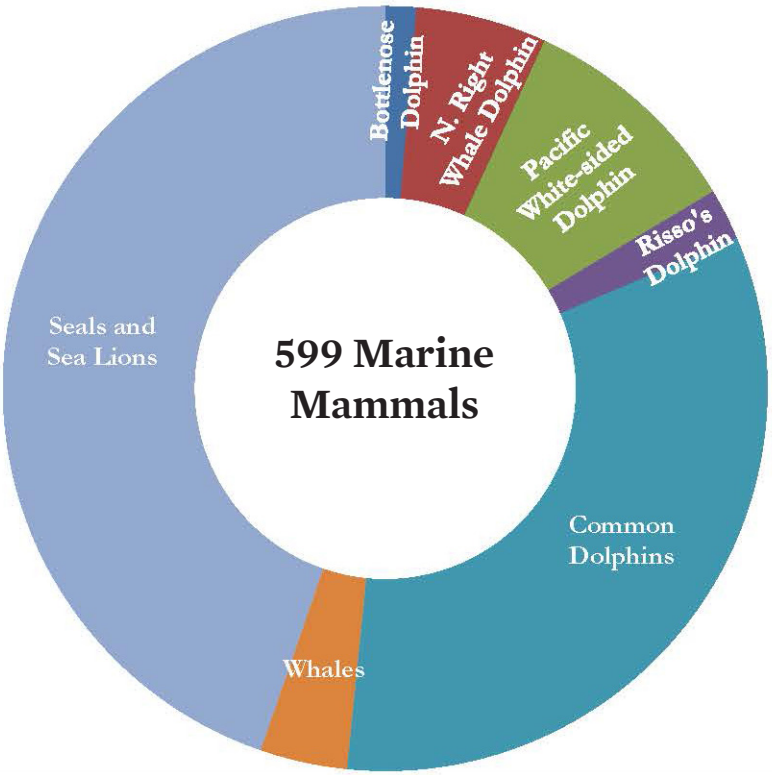
Due to concerns about bycatch, Washington State prohibits this fishing gear. In 2009, the Oregon Fish and Wildlife Commission rescinded all state drift gillnet permits, prohibiting Oregon fishermen from participating in the fishery.

BYCATCH PER SWORDFISH:

This fishery catches and throws back more marine life than it keeps. From 2007 to January 2013, one marine mammal was caught for every 17 swordfish landed, four molas were caught for every swordfish, and two sharks were discarded for every three swordfish landed. In 2011 for every five swordfish landed one marine mammal was killed and six fish including sharks and tunas were tossed overboard, clearly dead or dying.[4] While onboard observers note some fish thrown overboard are "alive" there is serious concern about delayed, post-release mortality due to physiological and physical trauma induced by net injuries. Some whales that escape with netting attached to their fluke or flippers take on average up to six months to die as the attached net reduces the whales' ability to dive and feed, and increases their susceptibility to infection.

INCIDENTAL TAKE LIMITS

Species	Observed take during a 5-year period
Fin Whale	1
Humpback Whale	1
Sperm Whale	up to 2
Leatherback Turtle	up to 2
Loggerhead Turtle	up to 2
Olive Ridley Turtle	1
Green Turtle	1



Total estimated catch of marine mammals from May 2007 to January 2013 based on NOAA observer data and observer coverage

CONSERVATION MEASURES:

The Pacific Leatherback Conservation Area (PLCA) was designated in 2001 to protect leatherback sea turtles from drift gillnets by closing the area to this method of fishing annually from August 15 to November 15. The Pacific Loggerhead Conservation Area was established in 2001 to protect loggerhead sea turtles that migrate into waters south of Pt. Conception during forecasted El Niño events. The entire EEZ is closed to drift gillnets February 1 to April 30, and 75 miles off the California mainland is closed to gillnets from June 1 to August 14.[6] A depth restriction is also in place whereby the top of the nets must be set at a minimum of 36 feet below the surface and acoustic pingers must be affixed to the nets to reduce marine mammal takes.

INCIDENTAL TAKE STATEMENT FOR ENDANGERED SPECIES[7]:

The table on the left shows the incidental take statement limits for Endangered Species Act-listed species taken in the drift gillnet fishery. If these limits are reached over any 5-year period, NMFS is required to reinitiate formal consultation under the Endangered Species Act.

Estimated Catch and Discards in the CA Drift Gillnet Fishery for Swordfish/Thresher Sharks
May 1, 2007 to January 31, 2013

	Catch	Discards
Dolphins	**309**	**309**
Bottlenose Dolphin	8	8
Long Beak Common Dolphin	21	21
Northern Right Whale Dolphin	33	33
Pacific White-sided Dolphin	57	57
Risso's Dolphin	13	13
Short Beak Common Dolphin	162	162
Unidentified Common Dolphin	15	15
Pinnipeds	**268**	**268**
California Sea Lion	261	261
Northern Elephant Seal	7	7
Whales*	**22**	**22**
Minke Whale	6	6
Sperm Whale	16	16
Sharks and Rays	**15,192**	**6,688**
Bat Ray	7	7
Bigeye Thresher Shark	335	167
Blue Shark	5,710	5,703
Common Thresher Shark	4,288	325
Hammerhead Shark	8	8
Longfin Mako Shark	38	1
Megamouth Shark	10	10
Pacific Electric Ray	25	25
Pelagic Stingray	84	84
Pelagic Thresher Shark	8	1
Salmon Shark	164	159
Shortfin Mako Shark	4,474	167
Smooth Hammerhead Shark	22	22
Soupfin Shark	6	1
Spiny Dogfish	13	8

	Catch	Discards
Fish	**71,736**	**46,288**
Albacore	2,933	107
Bay Pipefish	6	6
Blue Marlin	8	8
Bluefin Tuna	1,990	123
Bullet Mackerel	821	576
Common Mola	41,216	41,209
Crestfish	8	1
Escolar	7	1
Humboldt Squid	8	1
Jack Mackerel	63	11
Jumbo (Humboldt) Squid	28	22
Louvar	436	42
Oarfish	6	6
Opah	7,812	214
Pacific Bonito	1,354	910
Pacific Mackerel	1,963	1,447
Pacific Pomfret	707	14
Pacific Sardine	62	19
Remora	35	35
Skipjack Tuna	1,440	718
Striped Marlin	155	155
Swordfish	10,102	205
Unidentified Billfish	8	8
Unidentified Fish	42	42
Unidentified Invertebrate	324	324
Unidentified Rockfish	8	8
Unidentified Tuna	36	29
Yellowfin Tuna	128	46
Yellowtail	30	1
Leatherback Sea Turtles	**13**	**13**
Grand Total	**87,540**	**53,588**

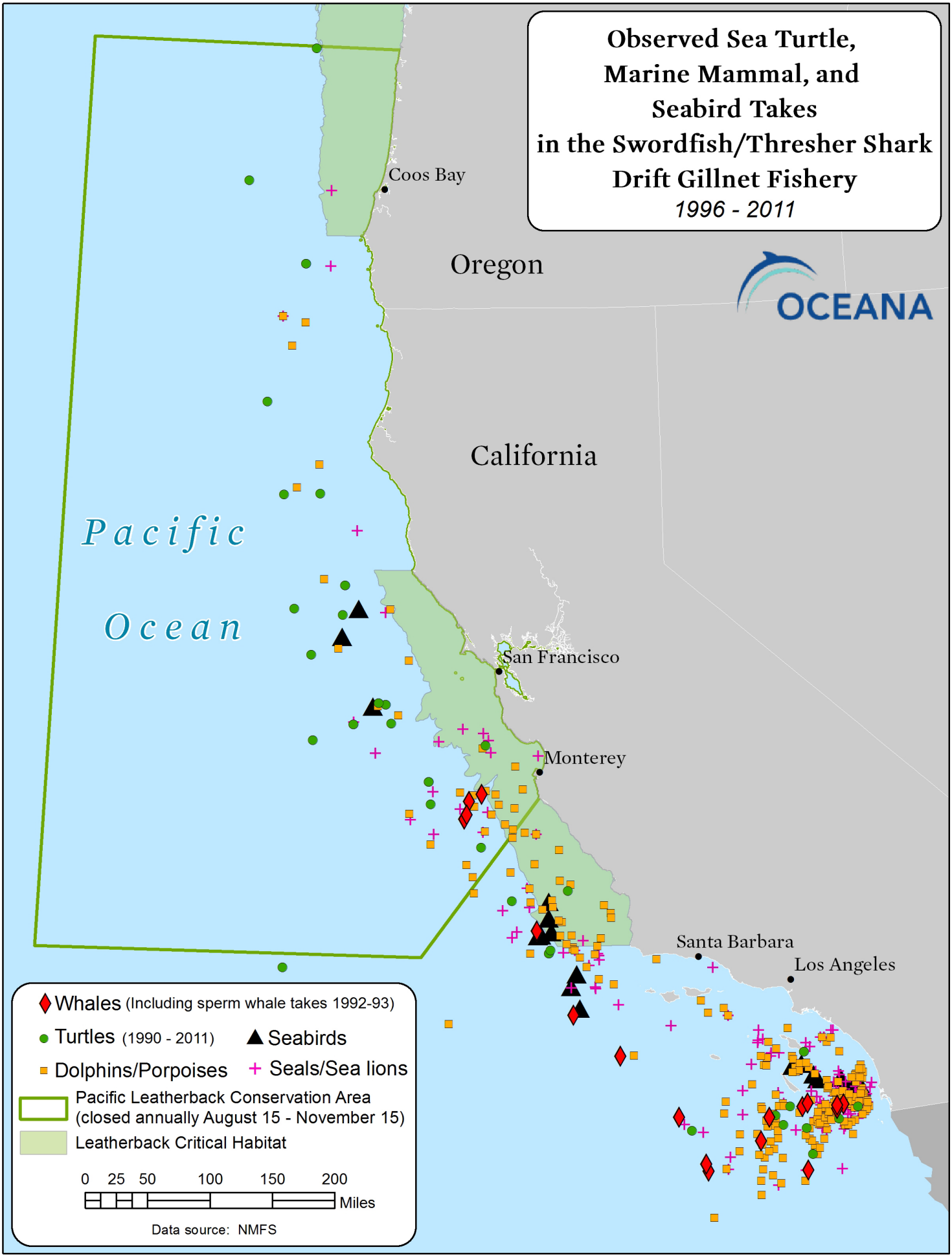
*Humpback whales and gray whales were also reported caught with drift gillnets, however, not by the observer program.
Source: NMFS Observer Program, 2007-2013. All estimates based on number observed divided by annual observer coverage.
All estimates rounded up to whole animals per NOAA Protected Resource Methodology.

In 2010 one endangered sperm whale was observed killed and another was observed seriously injured in a drift gillnet off southern California, resulting in NMFS estimating a total of 16 endangered sperm whale takes in the drift gillnet fishery in that year alone. Photo Credit: ©Peter Allinson/Marine Photobank

TAKES OF ENDANGERED WHALES:
In 2010 the drift gillnet fishery seriously injured and killed an estimated 16 endangered sperm whales. In response, in September 2013 the National Marine Fisheries Service (NMFS) implemented temporary emergency regulations prohibiting drift gillnet fishermen from fishing in waters deeper than 2,012 meters (6,601 feet) without 100% observer coverage and NMFS set a hard cap of one sperm whale take (serious injury or mortality) that would close the fishery in the event a sperm whale take is observed. These emergency measures also require a vessel monitoring system on all drift gillnet vessels.[5] The temporary rule expired January 31, 2014 and to date, NMFS has not renewed the protection for these endangered whales.

ABOUT THE FISHERY

Large mesh drift gillnets are set at sunset and retrieved at dawn to target swordfish and common thresher sharks. These nets are greater than one mile in length with a mesh size of ≥ 14 inches and are set at a minimum of 36 feet below the ocean's surface (gear is typically 1,800 meters in length with a stretched mesh size ranging from 18 to 22 inches).[8] Fishermen also catch and sell other



Check out Oceana's interactive map of this data: http://www.oceana.org/en/our-work/promote-responsible-fishing/bycatch/drift-gillnets/learn-act

fish species including albacore tuna, bluefin tuna, skipjack tuna, opah, shortfin mako shark, and louver. The swordfish drift gillnet fishery takes place in federal waters, primarily off southern California-but some effort occurs from Morro Bay to Monterey Bay and further north[9]- with main ports of operation in San Diego, Los Angeles area (e.g. San Pedro), Morro Bay, Santa Barbara, and Monterey.[10] The drift gillnet fishery operates from May 1 to January 31 with over 90% of the fishing effort occurring from August 15 through January 31.[11] The federal Pacific Fishery Management Council manages the fishery under the Highly Migratory Species Fishery Management Plan (federal HMS permits). The State of California has a limited entry permit system and various state implemented area closures.[12] In 2011 there were 76 permits but only 19 active vessels; in 2012 there were 16 active vessels.[13]

VALUE OF THE FISHERY

The annual ex-vessel value of the fishery (the amount of money that fishing vessels receive for unprocessed fish) ranged from $512,000 to $1,270,000 in recent years, comprising on average less than one half of one percent of California's total commercial fishing revenue.

THE SOLUTION

Existing regulations are insufficient to address bycatch concerns and the drift gillnet fishery is ultimately a declining industry, already phased out in many other coastal states across the west and east coast as well as on the high seas and in the Mediterranean. It is time to remove the "Walls of Death" from our California shoreline and move to cleaner fishing gears. Harpoons are a proven gear type for catching swordfish without bycatch, which was the primary way swordfish were caught in California prior to the use of drift gillnets. In 2012, there was a resurgence of surface hook and line gear landings of swordfish, which is also a currently legal sustainable gear.

The California Ocean Protection Council is also funding ongoing research with buoy gear off California, which has been used to reduce bycatch in the Atlantic swordfish fishery. While some may propose reopening pelagic longlining off the US west coast, this gear would also have unacceptably high bycatch, which is why California has banned it for over 30 years. The sooner the legislature acts, the stronger the incentives will be to innovate clean, sustainable fishing gear for swordfish. The California legislature has the authority to do this through legislation in order to ensure a vibrant, healthy, sustainable marine ecosystem and ocean-based economy into the future.

Year	# Vessels	Swordfish	Common Thresher Shark	Shortfin Mako Shark	Tunas	**Total**
2009	46	$1,142,000	$61,000	$44,000	$18,000	$1,265,000
2010	27	$416,000	$51,000	$28,000	$17,000	$512,000
2011	19	$787,000	$59,000	$28,000	$91,000	$965,000
2012	16	$769,000	$71,000	$29,000	$51,000	$920,000

Table 2. Number of vessels[14] and commercial ex-vessel revenues (inflation adjusted, 2012, $USD) for the drift gillnet fishery, 2009-2012.[15]

REFERENCES

1 National Oceanic Atmospheric Administration (NOAA) Observer Program. Data Summaries and Reports, available at: http://www.westcoast.fisheries.noaa.gov/fisheries/wc_observer_programs/sw_observer_program_info/data_summ_report_sw_observer_fish.html

2 *Id.*

3 NMFS 2013. Endangered Species Act Section 7 Consultation. Biological Consultation. Continued management of the drift gillnet fishery under the Fishery Management Plan for the U.S. West Coast Fisheries for Highly Migratory Species. NOAA/ NMFS. May 2, 2013. P. 18.

4 NOAA Observer Program, *supra note 1*.

5 78 Fed Reg. 54,548 (September 4, 2013).

6 NMFS 2013, *supra note 3*, at 15.

7 NMFS 2013, *supra note 3,* at 124-126.

8 Carretta, J.V., T. Price, D. Petersen, and R. Read. 2004. Estimates of Marine Mammal, Sea Turtle, and Seabird Mortality in the California Drift Gillnet Fishery for Swordfish and Thresher Shark, 1996-2002. Marine Fisheries Review 66(2) 21:30.

9 NMFS 2013, *supra note 3*, at 19 (see map).

10 PFMC 2012. Status of the U.S. West Coast Fisheries for Highly Migratory Species through 2011. Stock Assessment and Fishery Evaluation. September 2012.

11 *Id.*

12 *Id.*

13 NMFS 2013, *supra note 3*, at 9.

14 *Id.*

15 PFMC 2013, Status of the U.S. West Coast Highly Migratory Species Fisheries through 2012. Stock Assessment and Fishery Evaluation Report. http://www.pcouncil.org/highly-migratory-species/stock-assessment-and-fishery-evaluationsafe-documents/current-hms-safedocument/