

PACIFIC FISHERY MANAGEMENT COUNCIL
Pacific Coast Swordfish Fishery
Management and Monitoring Plan
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September 2015

1 Introduction

Under its Fishery Management Plan for West Coast Fisheries for Highly Migratory Species (HMS FMP) the Pacific Fishery Management Council (Council) manages swordfish fisheries on the West Coast. Bycatch (or take) of protected species with certain gear types has been an ongoing concern in managing fisheries that target swordfish.¹ Protected species including whales, dolphins, pinnipeds (e.g., seals, sea lions), sea turtles, and seabirds have special status under federal statutes. Of those managed under the HMS FMP, the California large mesh drift gillnet (DGN) and shallow-set longline fisheries historically landed the majority of West Coast swordfish, but at the same time had higher levels of protected species bycatch compared to many other Council managed fisheries. Under the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA), various mitigation measures that substantially reduced bycatch of protected species were instituted; however there has also been a coincidental decline in participation in these fisheries, resulting in a decline in landings as well. These issues have motivated the Council to consider the swordfish fishery with a more holistic approach rather than in the context of DGN gear alone.

In 2014 the Council began to consider the best method to develop this Plan. Initially it was intended as a roadmap for transiting DGN fishery participants to the use of other gear types. But the Plan was broadened to reflect the Council's intent to look at all feasible gear types for targeting swordfish in light of a bycatch reduction goal. In June 2014 the Council agreed on a list of policy objectives intended to guide management of the West Coast swordfish fishery with the dual goals of reducing bycatch while maintaining or enhancing its economic viability.

Elements of this Plan have appeared in Highly Migratory Species Management Team (HMSMT) Reports for the March and June 2015 Council meetings that also included alternatives and analyses for proposed actions for bycatch reduction in the DGN fishery. This current version of the Plan stands alone and articulates the Council's vision and future actions for the West Coast swordfish fishery as a whole.

2 Findings

There are four gear types used in U.S. fisheries to harvest swordfish:

¹ The Magnuson-Stevens Act includes a definition of bycatch as fish that are discarded (not sold or kept for personal use). The Act defines "fish" broadly to cover all forms of marine life except marine mammals and seabirds. The term "take" is used in protected species statutes to refer to interactions which may or may not be lethal. For simplicity, the term bycatch will be used in this Plan more broadly than the MSA to refer to the capture and release of all forms of marine life including marine mammals and seabirds.

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- Pelagic longline gear (Atlantic, Caribbean, Gulf of Mexico, Hawaii)
- Drift gillnet (California)
- Deep-set buoy gear (Atlantic)
- Harpoon (California)

Based on work by Gjertsen, et al.² these four gear types can be grouped as follows: pelagic longline and DGN are capable of larger catch volume but result in relatively higher bycatch versus deep-set buoy gear and harpoon with low catch volume and little or no bycatch. Thus the mix of gear types used in the swordfish fishery will reflect a tradeoff between the total amount of swordfish that could be landed on the West Coast, product quality, and bycatch impacts. These gear types and their relevance to the West Coast swordfish fishery are summarized below.

Pelagic Longline

- Shallow-set longline (SSLL) gear is distinguished by the main line set at depths greater than 100 m.
- Sea turtle takes (specifically loggerhead and leatherback sea turtles) have been a focus of concern with this gear type but the use of large circle hooks and mackerel type bait has been shown to substantially reduce takes and the severity of impacts.
- Seabird interactions are also a concern with all types of longline gear. Seabird mitigation measures for pelagic longline gear are required in federal regulations (see 660 CFR 716712(c)).
- SSLL vessels were operated seasonally and intermittently from West Coast ports until 2004.
- SSLL is currently prohibited under the HMS FMP and ESA regulations.³
 - Pelagic longline is prohibited in the West Coast EEZ (50 CFR 660.712(a)(1))
 - SSLL is prohibited west of 150°W longitude and north of the equator (50 CFR 660.712(a)(2)).
 - SSLL is prohibited east of 150°W longitude and north of the equator under ESA regulations (50 CFR 223.206(d)(9))
- In partially disapproving the SSLL provisions in the HMS FMP NMFS encouraged the Council to consider an FMP amendment to require circle hooks/mackerel type bait and a limited entry program in order to authorize a SSLL fishery addressing ESA concerns.
- The Council last considered authorizing an SSLL fishery in 2009 but decided not to move forward because of bycatch concerns.
- Hawaii-permitted SSLL vessels that fish outside the EEZ are allowed to make landings on the West Coast. In the last five years (2010-2014) these vessels annually averaged 364 mt of swordfish landings to the West Coast effectively making it the largest swordfish fishery on the West Coast by volume and revenue (Table 1).
- Hawaii-permitted SSLL landings on the West Coast typically occur in the fall and winter months when swordfish are more abundant in waters closer to the West Coast than to Hawaii.

Large Mesh Drift Gillnet

- The DGN fishery began in the late 1970s and expanded in the 1980s, initially targeting sharks but switching the principal target to swordfish after the mid-1980s.

² “A comparison of bycatch and economic metrics across U.S. Fisheries targeting or retaining swordfish”, Heidi Gjertsen, Stephen Stohs, Heidi Dewar, Chugey Sepulveda, Scott Albers and Craig Heberer, Southwest Fisheries Science Center working paper.

³ Hawaii-permitted SSLL vessels are not subject to these prohibitions except for fishing inside the West Coast EEZ.

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- Landings and participation peaked in the mid-1980s and have been steadily declining since that time.
- Fishing occurs mainly in the fall and winter; the fishery is closed February 1-April 30. Little if any fishing occurs May 1-August 14 when fishing is prohibited within 75 nm from the mainland shore.
- Landings averaged 93 mt for calendar years 2010-2014 (Table 1). Participation fell below 20 vessels in 2012-2014.
- Takes of leatherback sea turtles and large whales are of particular concern in this fishery. Other marine mammal species are caught in this fishery.
- Take/bycatch mitigation measures have been implemented for this fishery under the HMS FMP, the ESA, and the MMPA. These include gear modifications (pingers and net extenders) and time-area closures. The Pacific Leatherback Conservation Area (PLCA) is the largest time-area closure, covering waters from Monterey north, August 15 to November 15 each year.

Harpoon

- Harpoon gear is used to catch swordfish while they are basking on the surface during the day and generally requires calm sea conditions to be effective.
- Most fishing occurs in the summer months, when environmental conditions are favorable.
- Because it is a highly selective gear, harpoon is effectively free of non-target catch. However, swordfish do occasionally break free and their fate is unknown.
- This is a low volume fishery with a higher ex-vessel price per pound for swordfish compared to DGN and SSSL (Table 1). Because of the operating costs and low volume, this fishery is not usually the sole source of income for participants. In the five years 2010-2014, landings averaged 16 mt annually (Table 1). Participation averaged 15 vessels annually, 2010-2014, with a total of 35 unique vessels making landings during this period (Table 1).

Deep-Set Buoy Gear (DSBG)

- DSBG is a permitted gear off of Florida but is not currently permitted under the HMS FMP. The gear has been tested and adapted to West Coast conditions through research fishing initiated in 2011.
- The gear is deployed during daytime using a vertical line suspended from a buoy with hooks set deep. A strike indicator and active tending allows catch to be retrieved quickly, reducing bycatch mortality. The research configuration is limited to no more than 10 pieces of gear to allow active tending.
- This gear is expected to complement/supplement harpoon gear because of its similarity in terms of vessel requirements, catch volume, and high product price.

Table 1. Number of vessels, landings, and average price per pound for West Coast swordfish fisheries, 2010-2014. (Source: PacFIN)

	No. Vessels	Landed Weight (mt)	Average Price per Pound
Pelagic Longline	16*	1,821.7	\$3.12
DGN	35	462.7	\$4.45
Harpoon	36	77.6	\$6.96

*HMS FMP and Hawaii-permitted vessels.

3 Purpose of the Plan

This Plan serves as a guide for the Council to manage the West Coast swordfish fishery to minimize bycatch and bycatch mortality of finfish and protected species (including sea turtles, marine mammals, and seabirds) to the extent practicable while ensuring that the West Coast swordfish fishery remains economically viable. Economic viability encompasses support for a swordfish fishery conducted by vessels with West Coast home ports and increased availability of locally-caught swordfish in the market.

The Council intends to minimize protected species bycatch in the West Coast swordfish fishery as a whole. This will be achieved through a variety of mitigation and management measures outlined in this plan.

The proposed actions are needed to address National Standard 9 and Section 303 of the Magnuson-Stevens Act to minimize bycatch and bycatch mortality and conserve non-target species to the extent practicable and better integrate fishery management under the HMS FMP with enhanced protection of ESA-listed species and other marine mammals.

The Plan will guide Council action based on these three goals:

1. Reduce protected species bycatch in the swordfish fishery through mitigation, gear innovation, and individual accountability.
2. Reduce unmarketable finfish catch in the swordfish fishery through mitigation, gear innovation, and individual accountability.
3. Support the economic viability of the swordfish fishery so that it can meet demand for a fresh, high quality, locally-caught product.

4 Actions to be Taken Under this Plan

Reduce bycatch in the DGN fishery through hard caps and performance standards

- Implement hard caps for selected protected species such as ESA-listed sea turtle and marine mammal species and other marine mammals with population concerns. If hard caps are reached or exceeded during a fishing season, the fishery would be closed for the remainder of the season.
- Establish bycatch performance standards; initially for non-ESA-listed marine mammals and at a later time potentially for finfish. The Council would routinely review available information on bycatch of these species. If performance standards are not met the Council may recommend additional management measures, as appropriate.
- Work with NMFS to increase fishery monitoring and/or develop statistical methods to better estimate rare event bycatch in the absence of 100% monitoring.

Limit fishing effort in the DGN fishery

- Implement a federal limited entry permit for the DGN fishery. Possession of this federal limited entry permit would be required to fish with DGN gear in federal waters.
- Determine the appropriate number of federal limited entry permits based on the bycatch reduction goal.
- Develop appropriate qualification criteria to obtain the federal permit.
- Consider how a federal limited entry permit could facilitate transitioning DGN fishery participants to other gear types. For example, a limited entry permit could be designed to include endorsements

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for more than one gear type or to encourage swapping a DGN permit for a permit for another fishery/gear type.

- Investigate mechanisms to compensate state permit holders that do not qualify for a federal permit.

Allow access to the PLCA

- The PLCA was implemented in 2001 to mitigate takes of endangered Pacific leatherback sea turtles.
- Based on fishery performance under hard caps outside the PLCA and EFP performance within the PLCA, consider allowing access to the PLCA with individual vessel and/or fishery accountability for bycatch using limits such as hard caps.

Develop longline fisheries

- Revisit the 2009 proposed action to authorize a SSSL fishery outside the West Coast EEZ in light of current conditions including West Coast landings by Hawaii-permitted SSSL vessels.
- Consider qualification criteria for a federal limited entry permit in the context of federal permitting for other swordfish gear types.
- Revisit the current FMP prohibition on the use of pelagic longline gear inside the West Coast EEZ.

Develop deep-set buoy gear

- Evaluate the results of fishing under exempted fishing permits recommended by the Council.
- Consider amending the HMS FMP to make DSBG an authorized gear.
- Consider a federal limited entry program for DSBG including qualification criteria, taking into account current participation in the West Coast swordfish fishery.

5 Road Map for Implementing Actions under this Plan

Actions related to this Plan that are included in Council's "Year-at-a-Glance" planning document (Agenda Item F.5, Supplemental Attachment 4, June 2015) are listed below. The Council may decide to supplement this section of the Plan by identifying additional actions over a longer time frame.

September 2015

- DGN hard caps final action
- FMP Amendment 4 scoping: Authorizing SSSL fishery outside the West Coast EEZ

November 2015

- Adopt a range of alternatives for analysis for establishing a DGN Federal Permit

March 2016

- Report on ongoing exempted fishing permit(s) for DSBG, pelagic longline inside the West Coast EEZ, and DGN fishing inside the PLCA
- Adopt a preliminary preferred alternative for the DGN federal permit
- Adopt a range of alternatives for analysis for FMP Amendment4: Authorizing a SSSL fishery outside the West Coast EEZ

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June 2016

- Take final action on establishing a DGN Federal Permit
- Adopt a preliminary preferred alternative for FMP Amendment 4: Authorizing a SSLL fishery outside the West Coast EEZ

The HMSMT presented a proposed schedule for implementing Plan actions in a report under Agenda Item F.5.a, Supplemental HMSMT Report 2 at the June 2015 Council meeting, which is reproduced below.

Action	2015		2016						Earliest Potential Implementation	
	Sep	Nov	Mar	Apr	Jun	Sep	Nov	Mar		
Authorizing SSLL Outside EEZ / DGN Federal Permit		Scoping	ROA/PPA				FPA		Fall 2017	
Authorizing Deep Set Buoy Gear					Scoping			ROA/PPA	FPA	Fall 2017
DGN Hard Caps	FPA									2016 Fishing Season
EFPs			Preliminary EFP Reports				Final EFP Reports			n/a
Biennial Specs					Scoping		ROA	FPA		Mar 2017