

NATIONAL MARINE FISHERIES SERVICE (NMFS) REPORT ON DEEP SET BUOY
GEAR (DSBG) AUTHORIZATION – RANGE OF ALTERNATIVES AND LIMITED ENTRY
CRITERIA

This report includes updates and information to assist the Council with decisions regarding authorization of DSBG under the Fishery Management Plan for U.S. West Coast Highly Migratory Species.

DSBG Data Management

2014-2017 Data Collection

DSBG fishing began in 2014 with trials under a research permit, and now continues under exempted fishing permits (EFPs). Data collection for this gear type was sparse and intermittent for the years 2014 through 2016, as shown in Figure 1. NMFS staff integrated all of the data collected between 2014 and 2017 into a single database, and shared it with the Highly Migratory Species Management Team (HMSMT) and Southwest Fisheries Science Center (SWFSC). The database displays data from all available data sources at the trip, days fished, set, and landings levels (see Figure 1). In 2018, the Eastern Pacific Highly Migratory Species Professional Specialty Group (EP HMS PSG) developed an integrated data collection system utilizing West Coast Regional Observer Program (WCROP) data, a new NMFS logbook for DSBG EFPs, and regular updates of landings data. These efforts will simplify data management, provide regular updates to the DSBG database, and improve data availability for the ongoing DSBG EFPs.

2018 NMFS DSBG Observer Program

For standard buoy gear EFPs, 100 percent observer coverage is required for the first ten days of fishing, after which observer coverage may be reduced to 30 percent. The WCROP inspects all DSBG vessels to ensure adequacy of safety equipment, accommodations, and general vessel safety. Some vessels are limited to single-day trips due to lack of bunk space for an observer.

Observers are currently required on 100 percent of linked buoy gear trips. As such, logbooks for linked buoy gear have not been developed. NMFS will use information on gear configuration collected by observers this year to develop a logbook for use when observer coverage is reduced from 100 percent. Fishermen may set linked buoy gear in a variety of configurations, haul individual links separately, and/or attach new links to gear already in the water. To account for this, the EP HMS PSG has developed new observer forms and a method to track variations in configurations of linked buoy gear, which will inform the development of logbooks.

The WCROP has built DSBG observer data collections into the WCROP database housed by the Pacific States Marine Fisheries Commission (PSMFC). The development of new observer forms for DSBG EFPs coincides with an ongoing remodel of the WCROP database, and data entry for the 2018 season is underway. Many of the observer forms currently used for drift gillnet (DGN) will be used for DSBG as well (e.g., sightings forms, specimen logs, marine mammal and sea turtle life history forms). Figures 2, 3, and 4 show the forms used by observers on all standard and linked DSBG trips.

2018 Standard Buoy Gear Logbook

The EP HMS PSG developed an EFP DSBG logbook, which was distributed to standard buoy gear fishermen in September 2018. The SWFSC developed a web-based data entry system for the logbook data, which is now being integrated with the PSMFC PacFIN system. The standard buoy gear logbook (Figure 5) collects fishing effort data, summarized by each day of fishing. As mentioned above, linked buoy gear EFP trips remain 100 percent observed, so a separate logbook for this gear configuration has not been developed. NMFS expects to develop and distribute a new comprehensive logbook to capture data from all current gear types targeting swordfish in the west coast swordfish fishery (DSBG EFPs, harpoon, DGN) by April 2019.

		CDFW/PACFIN Fish Tickets ¹	CDFW Tracked Landings ²	NMFS Tracked Landings ³	NMFS Departure Notices ⁴	PIER Logbooks ⁵	PIER Observer Program ⁶	NMFS Observer Program ⁷	CDFW Harpoon Logbooks ⁸
2014	JAN								
	MAR								
	MAY								
	JUL								
	AUG								
	OCT								
	DEC								
2015	JAN								
	MAR								
	MAY								
	JUL								
	AUG								
	OCT								
	DEC								
2016	JAN								
	MAR								
	MAY								
	JUL								
	AUG								
	OCT								
	DEC								
2017	JAN								
	MAR								
	MAY								
	JUL								
	AUG								
	OCT								
	DEC								

Figure 1. Matrix of data sources for DSBG EFP fishing, and their availability from 2014-2017.

¹ Prior to July 2017 no "buoy gear" code existed. Fish tickets before this date used a variety of incorrect gear codes - CDFW and NMFS have recently worked to correct.

² CDFW kept an independent record of fish ticket numbers for buoy gear landings from August-December 2015 - these were used to identify and correct data in CDFW and PacFIN landings databases.

³ Fish ticket copies have been required by NMFS since July of 2017 for tracking in-season activity. In consultation with CDFW, these data have been used to validate landings data at CDFW and in PacFIN.

⁴ Vessel operators were required to call or email NMFS to give notice of a departure between August 2015-January of 2016. Vessel operators have appended summary catch information to these records.

⁵ PIER's logbook program collects daily fishing information including location, duration, and catch for each trip. NMFS has received these data for trips made between May 2017 and mid-January 2018.

⁶ PIER observer program collected trip information for trips made May 2016-January 2017.

⁷ NMFS observer program began operating in June of 2017 and collects set-by-set information.

⁸ Two vessels have submitted harpoon logbooks with buoy gear catch and effort data to CDFW, which have been made available to NMFS.

2018 EFP Deep Set Buoy Gear Observer Trip Specifications Form

Vessel Name:	Observer Number:
Coast Guard ID or State Marine Board No.:	Observer Trip Number:
Departure Port:	Departure Date: (MM/DD/YYYY)
Arrival Port:	Arrival Date: (MM/DD/YYYY)
Number of Days Standard Buoy Gear Fished:	Number of Days Linked Buoy Gear Fished:

Landing Information:

Port Landed:	Unload Date: (MM/DD/YYYY)	Pounds Landed:	Species:	Landing Receipt Number:

Other Gear Used During Trip (Circle all that apply)

CREW MEMBER NAME	CREW MEMBER LICENSE NUMBER	Harpoon	Drift Gillnet	Set Gillnet	Troll
Captain:		Rod and Reel	Light Boat/Brail	Lobster	Crab
		Groundfish	Other:		
		Diving			

OMB 0648-0593

(June 2018)

Figure 2. 2018 Observer Trip Specifications form for standard and linked DSBG EFP fishing trips.

Trip Number	Observer #	Fishing Date (MM/DD/YYYY)	Vessel Name	# of Links Fished	# of Buoys Fished	Bait Type	Light Color

Set #		Time HH:MM	Latitude		Longitude		Set Type	New Links Set	# of Links in Set	# of Hooks
			Deg	Min	Deg	Min				
Set	Begin Set									Extender Length
	End Set (New Linked Only)					Haul Type	Associated Set #	# Links Haul ed		
Haul	Begin Haul									Catch? y/n
Notes:										

Set #		Time HH:MM	Latitude		Longitude		Set Type	New Links Set	# of Links in Set	# of Hooks
			Deg	Min	Deg	Min				
Set	Begin Set									Extender Length
	End Set (New Linked Only)					Haul Type	Associated Set #	# Links Haul ed		
Haul	Begin Haul									Catch? y/n
Notes:										

Set #		Time HH:MM	Latitude		Longitude		Set Type	New Links Set	# of Links in Set	# of Hooks
			Deg	Min	Deg	Min				
Set	Begin Set									Extender Length
	End Set (New Linked Only)					Haul Type	Associated Set #	# Links Haul ed		
Haul	Begin Haul									Catch? y/n
Notes:										

Bait: S/M/A/O Squid/Mackerel/Artificial/Other

Light Color: G/B/W/M Green/Blue/White/Multi

Set Type (Standard = S, New Linked = N, Existing Linked=E Added Linked= A)

Haul Type (Standard = S, Complete Linked = C, Partial Linked=P, Merged Linked = M)

OMB 0648-0593 (August 2018)

Figure 3. 2018 Observer Gear and Set form for standard and linked DSBG EFP fishing trips.

EFP DEEP SET BUOY GEAR LOGBOOK EXAMPLE

Vessel Name: Ghost						Captain: Jon Snow											
Coast Guard ID or State Registration Number: 654321						Observer Trip Number: BBGO0044											
Departure Port: San Diego						Departure Date: (MM/DD/YYYY) 09/05/2018											
Arrival Port: San Diego						Arrival Date: (MM/DD/YYYY) 09/09/2018											
Landing Information:																	
Port Landed:			Unload Date: (MM/DD/YYYY)			Pounds Landed:			Species:			Landing Receipt Number:					
San Diego			09/09/2018			1350			Swordfish			P765432					
San Diego			09/10/2018			175			Opah			R223478					
FISHING EFFORT:																	
DATE (MM/DD/YYYY)	LATITUDE		LONGITUDE		Number of DEPLOYED		HOURS SOAKED	NUMBER OF SWORDFISH		NUMBER OF BIGEYE THRESHER		NUMBER OF OTHER FISH			COMMENTS		
	DEG	MIN	DEG	MIN	BUOYS	HOOKS		KEPT	RELEASE	KEPT	RELEASE	KEPT	RELEASE	SPECIES			
09/05/2018	33	12	117	24	5	15	6	0	0	0	0	0	0	0			
09/06/2018	33	23	119	17	5	15	8	2	0	0	0	1	0	Opah			
09/07/2018	32	45	118	34	5	15	7	1	0	0	1	0	0	0	Thresher released in good condition		
09/08/2018	33	21	120	54	3	8	4	1	0	0	0	0	0	0			
Other Gear Used During Trip (Circle all that apply)																	
CREW MEMBER NAME			CREW MEMBER LICENSE NUMBER			Harpoon			Drift Gillnet			Set Gillnet			Troll		
Sam Tarly			73546			Rod and Reel			Light Boat			Lobster			Crab		
						Groundfish			Other:								

Signature: _____ **Date:** _____

Figure 5. Example 2018 logbook for standard buoy gear EFP fishing trips.

Summary of 2015-2017 DSBG EFP Data

At the June 2018 Council meeting, NMFS presented several charts and graphs depicting DSBG EFP metrics in comparison to other sources of swordfish on the west coast ([Supplemental NMFS Report G.4.a](#)). These charts were developed by NMFS staff in coordination with the SWFSC and HMSMT members. NMFS is aware of some changes made to the DSBG landings data since the completion of the June meeting. Due to these changes, and to facilitate discussion on the available EFP data for 2015-2017, we provide updated versions of several of these charts as Figures 6, 7, 8, and 9 below.

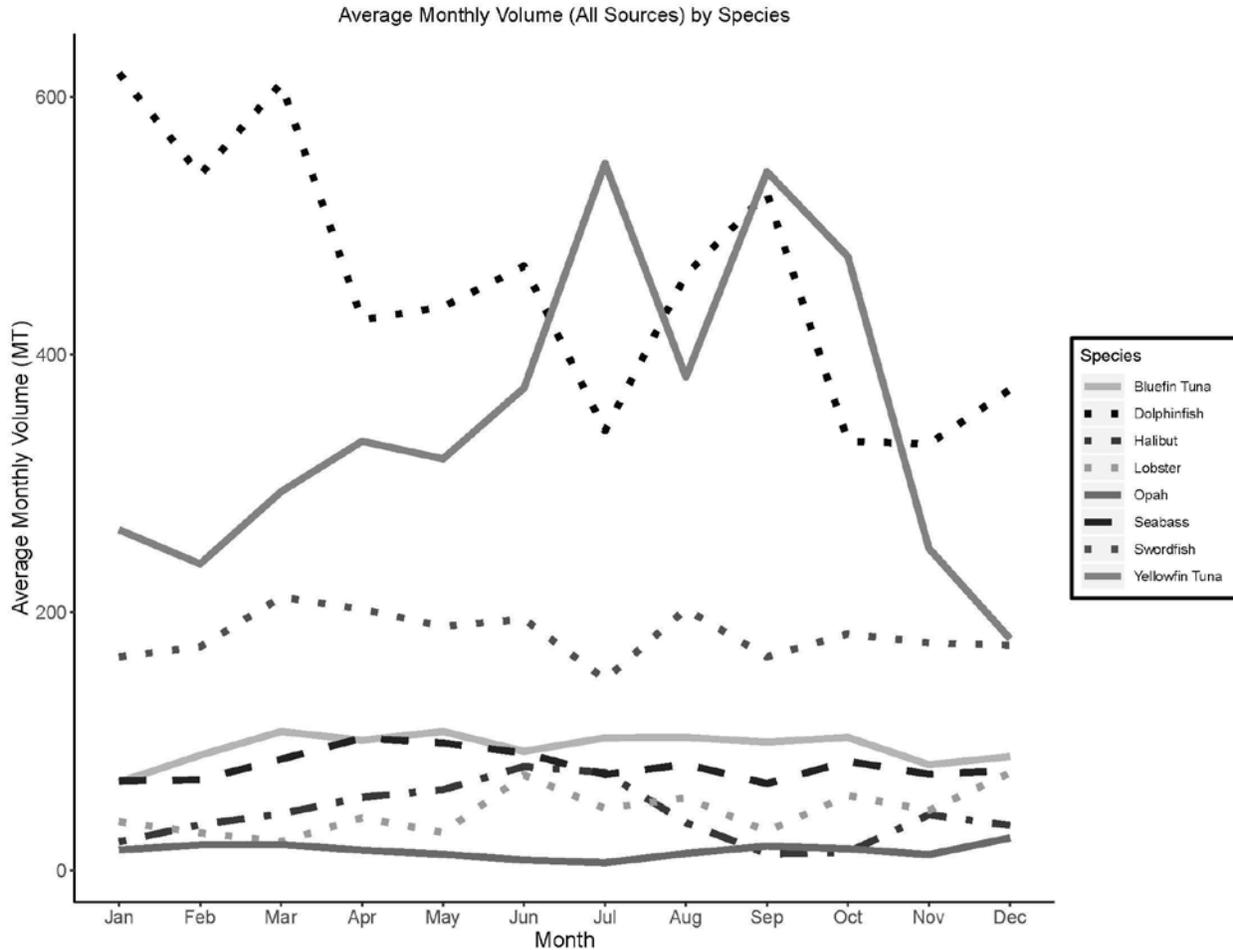


Figure 6. Average monthly volume of swordfish delivered to the U.S. West Coast, along with average monthly volumes of common substitute species, 2015-2017. Note that “deliveries” refers to landings by domestic commercial fisheries as well as foreign imports. It does not include landings by recreational vessels or interstate transfers.

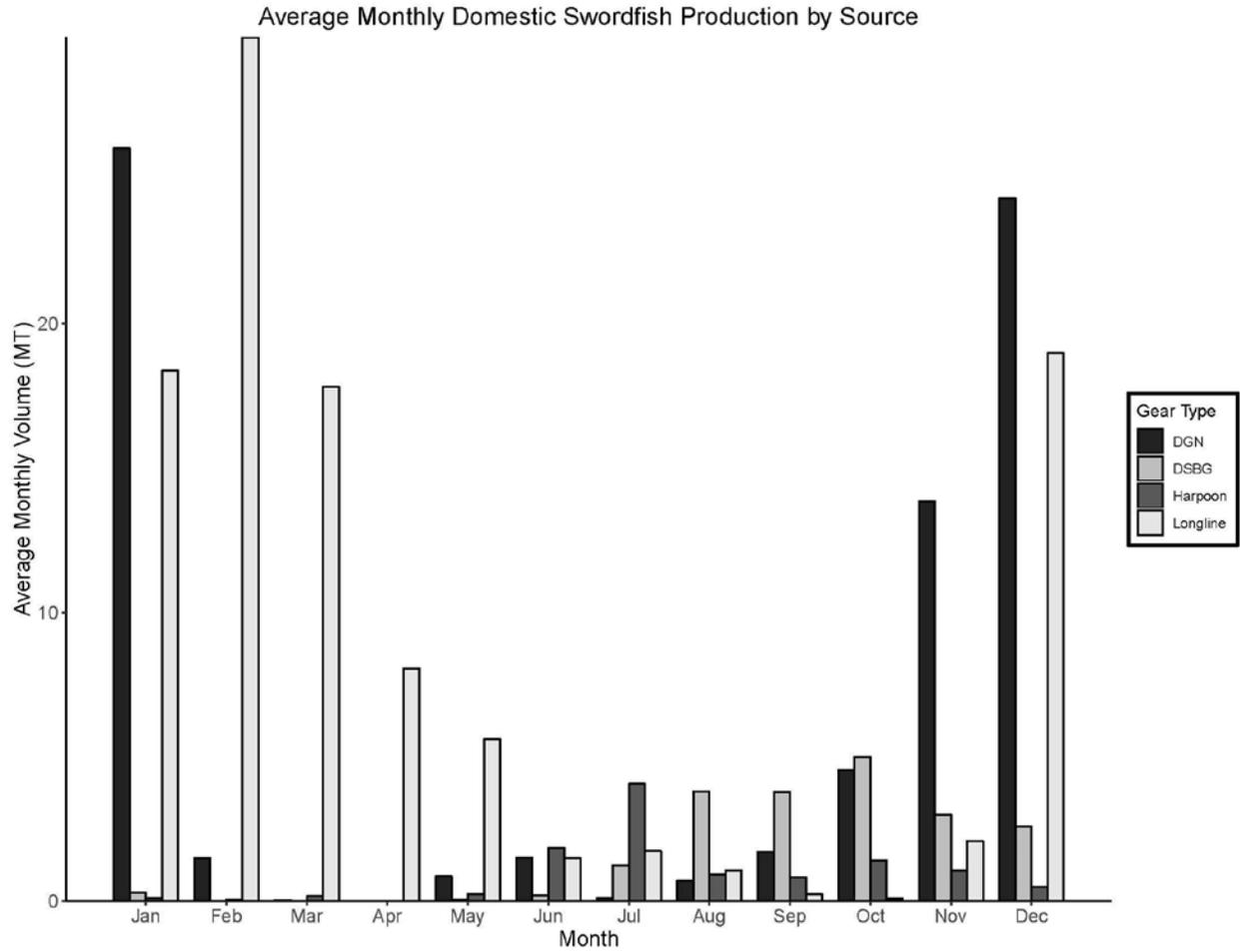


Figure 7. Average domestic production of U.S. West Coast swordfish by month, for the three authorized domestic commercial gear types (DGN, harpoon, and longline) and DSBG EFPs, 2015-2017.

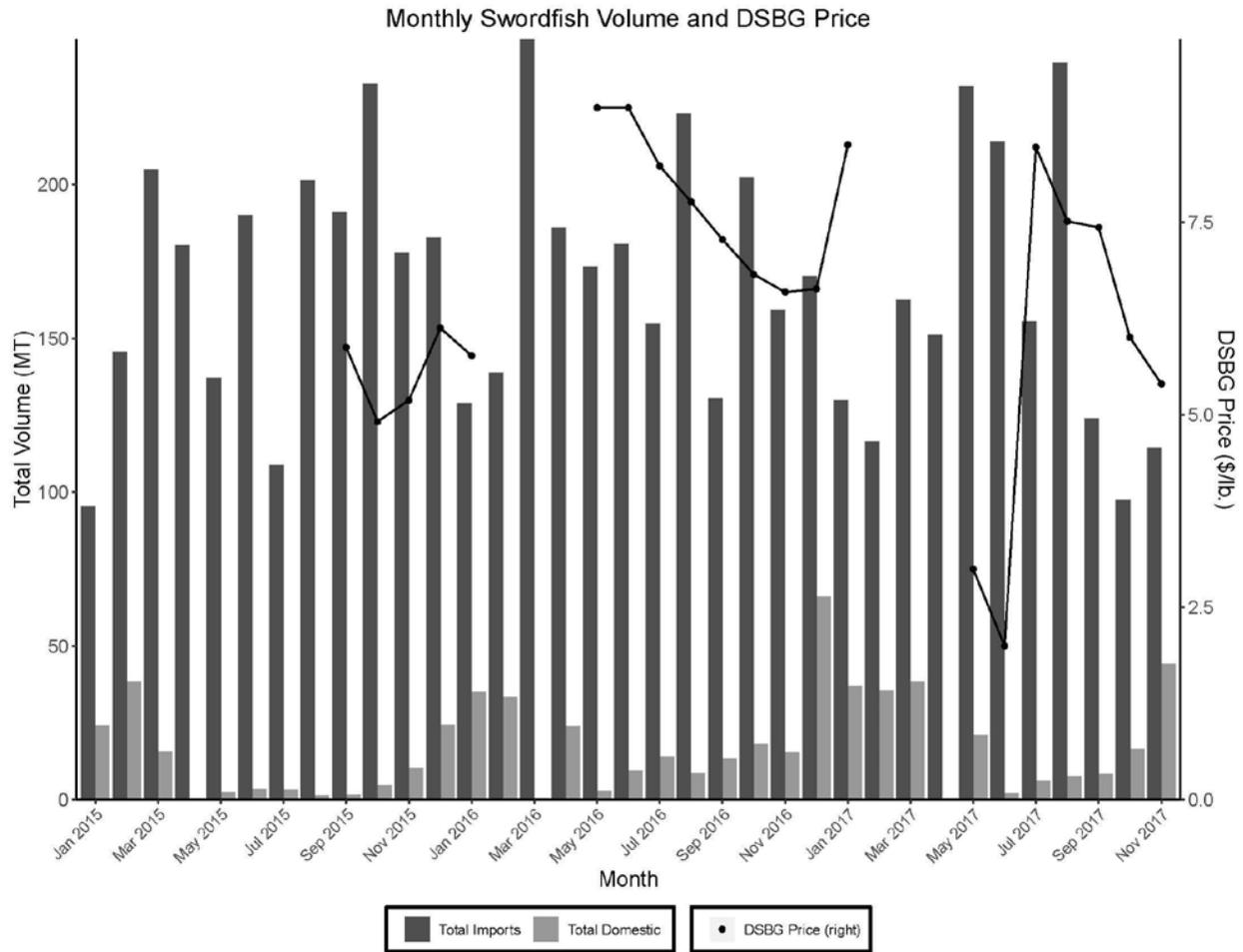


Figure 8. Total supply of swordfish to the U.S. West Coast from imports and all domestic sources, and average price-per-pound of DSBG-caught swordfish, 2015-2017.

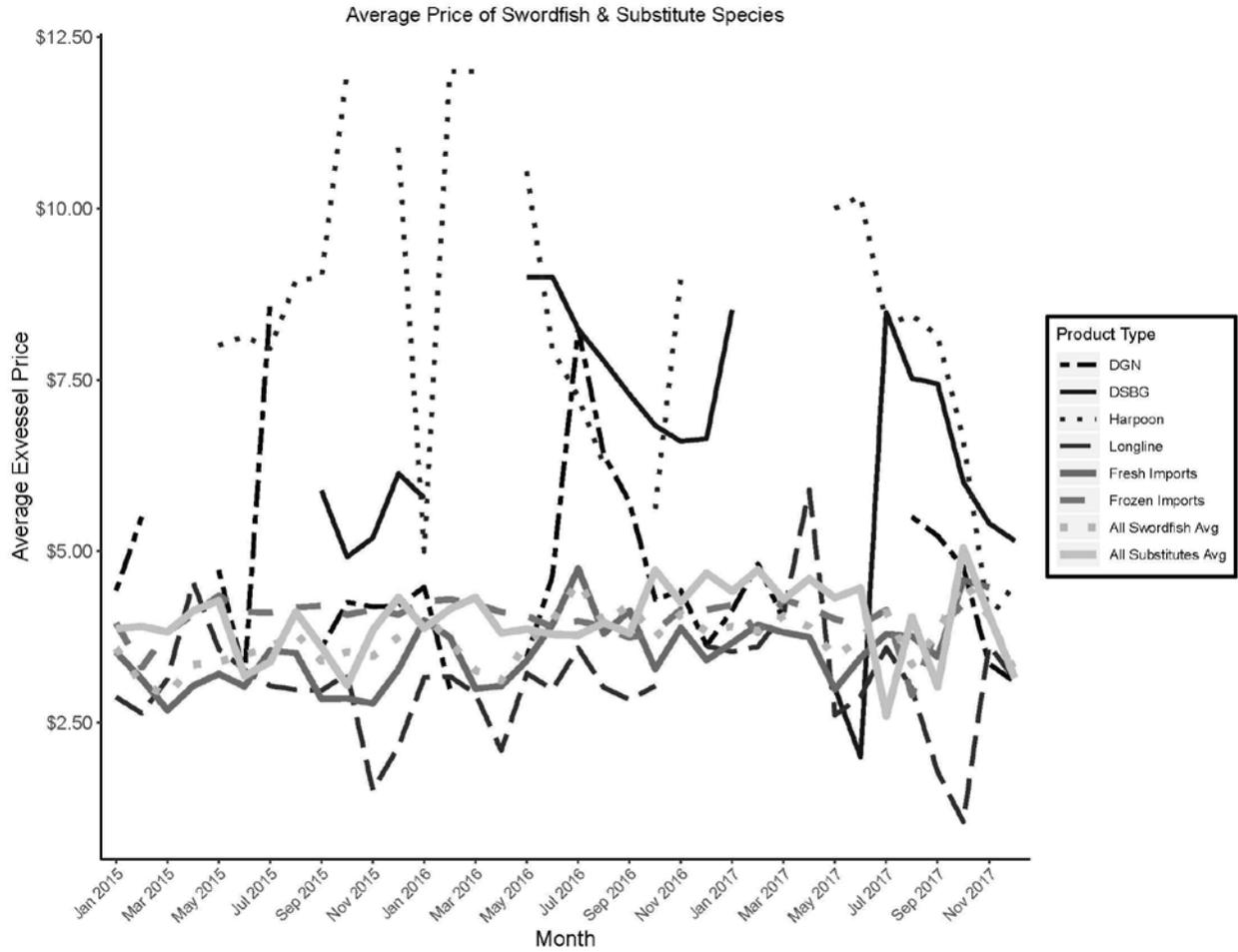


Figure 9. Average price-per-pound of U.S. West Coast swordfish from various sources, 2015-2017. Also included are the average price of swordfish from all sources, and the average price of common substitute species: bluefin tuna, dolphinfish, halibut, lobster, opah, seabass, and yellowfin tuna.

Location of DSBG EFP Fishing 2017-2018

NMFS compiled location information for DSBG trips from January 2017 through January 2018, the fishing season for which data are most robust, to develop the map in Figure 10. The HMSMT reports on overlap of historical commercial passenger fishing vessel and private recreational vessel fishing areas and 2015-2017 DSBG EFP trips can be found in their June 2018 report ([HMSMT Report 1 G.5.a](#)).

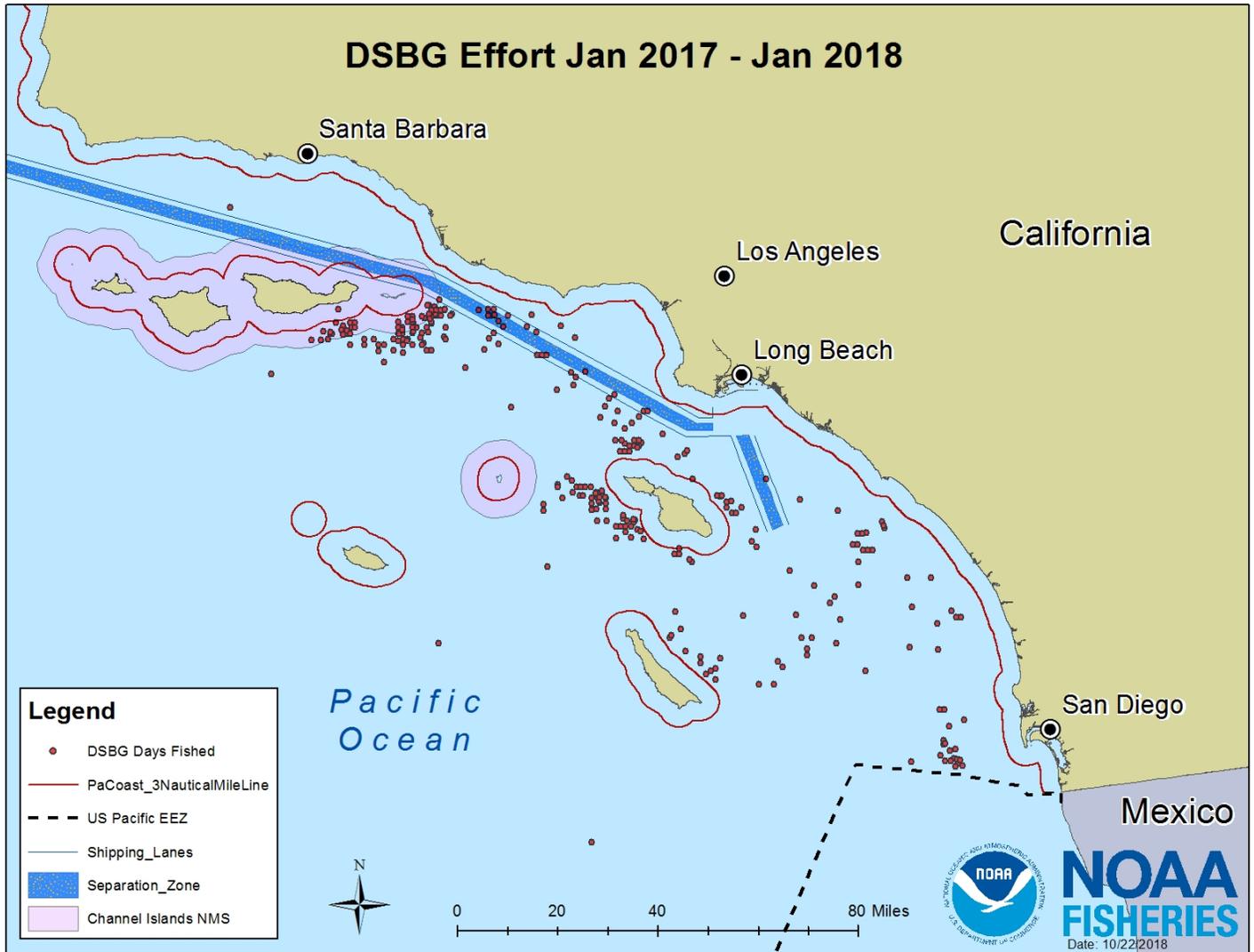


Figure 10. Map of recent DSBG fishing effort (January 2017 through January 2018), overlaid with areas of interest.

Summary of Available 2018 DSBG EFP Data

Data collection for DSBG trips in 2018 is ongoing and preliminary. NMFS anticipates submitting a thorough summary of the 2018 EFP fishing season during the June 2019 Council meeting. NMFS anticipates that a full year of EFP fishing data made available by the advanced briefing book deadline will provide further information to aid in the discussions and the decision making process

leading to the selection of a final preferred alternative to authorize deep set buoy gear under the HMS FMP. In the meantime, a preliminary look at EFP fishing for this year is included in Table 1 below.

	Standard	Linked
Permits Distributed	27	11
Vessels fished so far in 2018	21	3
Number of Trips Observed	88	6
Number of Fishing Days Observed	250	23
Protected Species Interactions	1 Northern Elephant Seal Released Alive 1 Loggerhead Sea Turtle Released Alive (Entangled in Surface Gear)	None

Table 1. Information on DSBG EFPs in 2018, as of October 22, 2018.

Change in DSBG EFP Terms & Conditions

In response to an August 2018 interaction between standard DSBG and a loggerhead sea turtle, SFD required the vessel involved to cease fishing. SFD met with PRD to assess the nature of this interaction and the likelihood of interactions occurring in the future. SFD immediately prepared documentation on the details of the interaction, revised the terms and conditions for DSBG EFPs to specify details for surface buoy lines, and instructed observers to document gear and surface buoy arrays. These measures are intended to inventory gear configuration variability across vessels and allow NMFS staff to provide guidance on gear configurations that minimize the likelihood of protected species interactions. Following these actions, and modifications to the surface buoy lines, the vessel involved in the incident was authorized to resume fishing. All surface buoy gear configurations reviewed to date for active vessels have been compliant with the specifications in the terms and conditions.

Revised Range of Alternatives (ROA) Including Criteria for a Potential Limited Entry Program

Consistent with previous requests (e.g. [Agenda Item C.5.a., Supplemental NMFS Report](#)), NMFS encourages the Council to schedule its adoption of a preliminary or final preferred alternative (PPA or FPA) at least two meetings following adoption of the Council’s final ROA, to leave adequate time for analysis of the alternatives. Additionally, NMFS encourages the Council to specify the need for a limited entry program and to thoroughly document necessary considerations for a limited entry program and qualifying criteria consistent with considerations under MSA Section 303(b)(6).