HIGHLY MIGRATORY SPECIES MANAGEMENT TEAM REPORT ON DEEP-SET BUOY GEAR AUTHORIZATION FINAL PREFERRED ALTERNATIVE MAGNUSON-STEVENS ACT SECTION 303(B)(6) EVALUATION

Introduction

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) §303(b)(6) enumerates seven factors the Pacific Fishery Management Council (Council) and National Marine Fisheries Service (NMFS) must take into account when establishing "a limited access system for the fishery in order to achieve optimum yield." Historically, limited access (or limited entry; LE) permit programs have been imposed on an existing fishery in order to control catch, deal with over-capacity, or address multiple biological and socioeconomic objectives. While the prior existence of a fishery is implicit in the §303(b)(6) considerations, an authorized fishery employing deep-set buoy gear (DSBG) doesn't yet exist. Primarily due to uncertainty surrounding impacts of DSBG authorization, the Council proposed a LE permit system for vessels fishing in the Southern California Bight (SCB). The proposed action describes DSBG as a component of an existing swordfish fishery employing other gear types. Therefore, the following evaluation employs this broader definition of the fishery, recognizing that the proposed action would create an LE permit system for an as of yet unauthorized gear type. This Highly Migratory Species Management Team (HMSMT) Report discusses the seven factors that the Council and NMFS must take into account when establishing an LE program under MSA §3036(b)(6) below.

1. Take into account present participation in the fishery

The HMSMT found that the proposed criteria to qualify for an LE permit in the Council's range of alternatives (ROA) account for present participation in the swordfish fishery. The Council considered five alternatives in which applicants are ranked based on fishery participation, permit possession, and swordfish landings. The ROA considers individuals who have actively used DSBG through exempted fishing permits (EFPs), those who have participated in the California large-mesh drift gillnet (DGN) fishery, including those who surrender their DGN permit under a state or Federal buyout program,[1] participants in the harpoon fishery, and others that can demonstrate fishery participation through documented swordfish landings or have crewed on west coast swordfish vessels.

Any program that limits participation must establish criteria that give preference to certain individuals or groups. The Council's ROA accomplishes this through a ranking system that prioritizes those with experience with DSBG, but also takes into account others who have historically participated in the west coast swordfish fishery. The qualifying criteria sub-options 1-5 of the Council's ROA are shown below along with the number of individuals who may currently qualify under each tier. The number of qualifying individuals may change based on the number of additional EFPs that are approved, issued, and fished between now and final authorization, the

[1] For example, California Senate Bill SB1017 Driftnet Modernization and Bycatch Reduction Act, federal S.906 Driftnet Modernization and Bycatch Reduction Act, or federal H.R. 1979 Driftnet Modernization and Bycatch Reduction Act.

number of individuals who participate in a state or Federal DGN permit trade-in or buy-out program, as well as verification of landings and observer data.

Season is April 1 - March 31 of the following year.

Data Source: Permit data - CDFW Automated Data Licensing System (ALDS), extracted 09/12/2019; Landings data - PacFIN, extracted 09/12/2019

Sub-Option 1:

Ranking Category	Potential Permits	Multiple Permits Issued Per Individual Cumulative Total	One Permit Issued Per Individual Cumulative Total
1. "Active" EFP Recipients* *(10 obs DSBG days by *specified date. Council could approve additional EFPs which could qualify)*	97	97	97
2. "Active" DGN Permit - Trade-in *(1 DGN landing, 2013/14-2017/18 seasons)*	29	126	111
3. "Active" Swordfish (harpoon) Permit *(Possess 2018/19 permit, 1 HPN landing, 2013/14-2017/18 seasons)*	17 plus 10 DGN swordfish permits	153	117
4. "Active" DGN Permit - No Trade-In *(1 DGN landing, 2013/14-2017/18 seasons)*	29 minus # active trade-in	153	117
5. "Inactive" DGN Permit - Trade-in *(No DGN landings since 03/31/2013)*	37	190	146
6. "Inactive" DGN Permit - No Trade-In *(No DGN landings since 03/31/2013)*	37 minus # inactive trade-in	190	146
7. "Inactive" EFP Recipients *(>= 1 and <10 obs DSBG days by *specified date. Council could approve additional EFPs which may qualify)*	97 - active	190	146
8. "Active" Expired DGN & Swordfish Permits *(Expired permits w/ 1 landing, 2013/14-2017/18 seasons)*	0 DGN plus 0 HPN	190	146
9. "Inactive" Expired DGN & Swordfish Permits *(Expired permits w/ no landings since 03/31/2013)*	6 DGN plus 66 HPN	262	209
10. Other West Coast Swordfish Landings *(1 landing of swordfish, 2013/14-2017/18 seasons)*	48	**310**	257
11. Other Applicants *(First-come, first-serve)*	0	0	300

Sub-Option 2:

Ranking Category	Potential Permits		One Permit Issued Per Individual Cumulative Total
1. "Active" DGN Permit *(1 DGN landing, 2013/14-2017/18 seasons)*	29		29
2. "Active" EFP Recipients *(Iss. by 12/31/2018, 10 obs DSBG days by *specified date. Council could approve additional EFPs which could qualify)*	45		66
3. "Inactive" DGN Permit *(No DGN landings since 03/31/2013)*	37		98
4. "Active" Swordfish (harpoon) Permit (current) *(Possess 2018/19 permit, 1 HPN landing, 2013/14-2017/18 seasons)*	17		106
5. Crew Members w/ DSBG Experience *(Minimum 1 day DSBG experience before 11/7/2018)*	46		152
6. Other West Coast Swordfish Landings *(1 swordfish landing between 3/9/2000 and 11/7/2018)*	174		**323**
7. Crew members w/ Swordfish Experience (non-DSBG) *(Minimum 1 day swordfishing experience, any gear, between 3/9/2000 and 11/7/2018)*	TBD		300

Sub-Option 3:

Ranking Category	Potential Permits	Multiple Permits Issued Per Individual Cumulative Total	One Permit Issued Per Individual* Cumulative Total
1. a) "Active" DGN Permit - Trade-in *(1 DGN landing, 2013/14-2017/18 seasons)*	29	29	*
b) "Active" EFP Recipients *(Iss. by 12/31/2018, 30 sets by Final Rule)*	45	74	*
2. "Active" Swordfish (harpoon) Permit *(1 HPN landing, 2013/14-2017/18 seasons)*	17		82
3. "Active" DGN Permit - No Trade-In *(1 DGN landing, 2013/14-2017/18 seasons)*	29 minus # active trade-in		82
4. Active EFP Recipients *(Iss. after 12/31/2018, 30 sets by Final Rule. Council could approve additional EFPs which could qualify)*	TBD		TBD
5. "Inactive" DGN Permit - Trade-In *(No DGN landings since 03/31/2013)*	37		TBD
6. "Inactive" DGN Permit - No Trade-In *(No DGN landings since 03/31/2013)*	37 minus # inactive trade-in		TBD
7. DSBG EFP crew *(50 logged days on EFP DSBG vessel)*	TBD		Maximum 200

*** Active EFP participants who also qualify as active DGN and trade in their permit would be eligible to receive 2 permits**

Sub-Option 4: Preliminary Preferred Alternative

Ranking Category	Potential Permits		One Permit Issued Per Individual Cumulative Total
1. "Active" EFP Recipients *(10 obs. Sets by 12/31/2018)*	20		20
2. "Active" DGN Permit - Trade-in *(1 DGN landing, 2013/14-2017/18 seasons)*	29		43
3. "Active" EFP Recipients *(10 obs. Sets by Final Rule. Up to 77 additional EFPs already approved, plus EFPs approved in the future may qualify)*	TBD		TBD
4. "Active" Swordfish (harpoon) Permit *(Possess 2018/19 permit, 1 HPN landing, 2013/14-2017/18 seasons)*	17		TBD
5. "Active" DGN Permit - No Trade-In *(1 DGN landing, 2013/14-2017/18 seasons. Up to 5 additional permits may qualify)*	29 minus # active trade-in		TBD
6. "Inactive" DGN Permit - Trade-In *(No DGN landings since 03/31/2013)*	37		TBD
7. "Inactive" DGN Permit - No Trade-In *(No DGN landings since 03/31/2013)*	37 minus # inactive trade-in		TBD
8. Demonstrated Swordfish Experience *(04/01/2013 - Final Rule)*	TBD		TBD
9. Other Applicants *(First-come, first-serve)*	300 minus Cumulative Total		300

Sub-Option 5: Permit Possession

Category	Potential Permits	Multiple Permits Issued Per Individual Total	
DGN, Swordfish (harpoon) or DSBG permit (as of 09/12/2019)	66 DGN + 118 harpoon + 97 EFP	215	

2. Take into account historical fishing practices in, and dependence on, the fishery

The HMSMT found that the LE options in the Council's ROA account for historical fishing practices in, and dependence on, the fishery by giving preference to individuals who have a history of west coast swordfish landings, including harpoon, DGN, DSBG, and other gear types (e.g., longline). Table 1 below shows the frequency distribution of the percent of 2009-2018 total ex-vessel revenue (inflation-adjusted dollars) for all species from vessels using DSBG, DGN, or harpoon gear derived from those gear-types. It can be seen that 37 percent of these vessels (35 of 96 vessels) derived less than 10 percent of total ex-vessel revenue from landings using these gear-types. At the other end of the scale there were 27 vessels, or 28 percent of the total number of

vessels, that derived 90 percent or more of their ex-vessel revenue from landings using these gear-types.

Table 1. For vessels that used DSBG, DGN, or harpoon gear between 2009-2018, the proportion of inflation-adjusted ex-vessel revenue derived from landings of these gear-types.

Interval	Number of vessels	Percentage
0%-10%	35	36.5
10%-20%	7	7.3
20%-30%	6	6.2
30%-40%	5	5.2
40%-50%	4	4.2
50%-60%	3	3.1
60%-70%	3	3.1
70%-80%	0	0
80%-90%	6	6.2
90%-100%	27	28.1

[PacFIN comprehensive_ft accessed 9/10/19.]

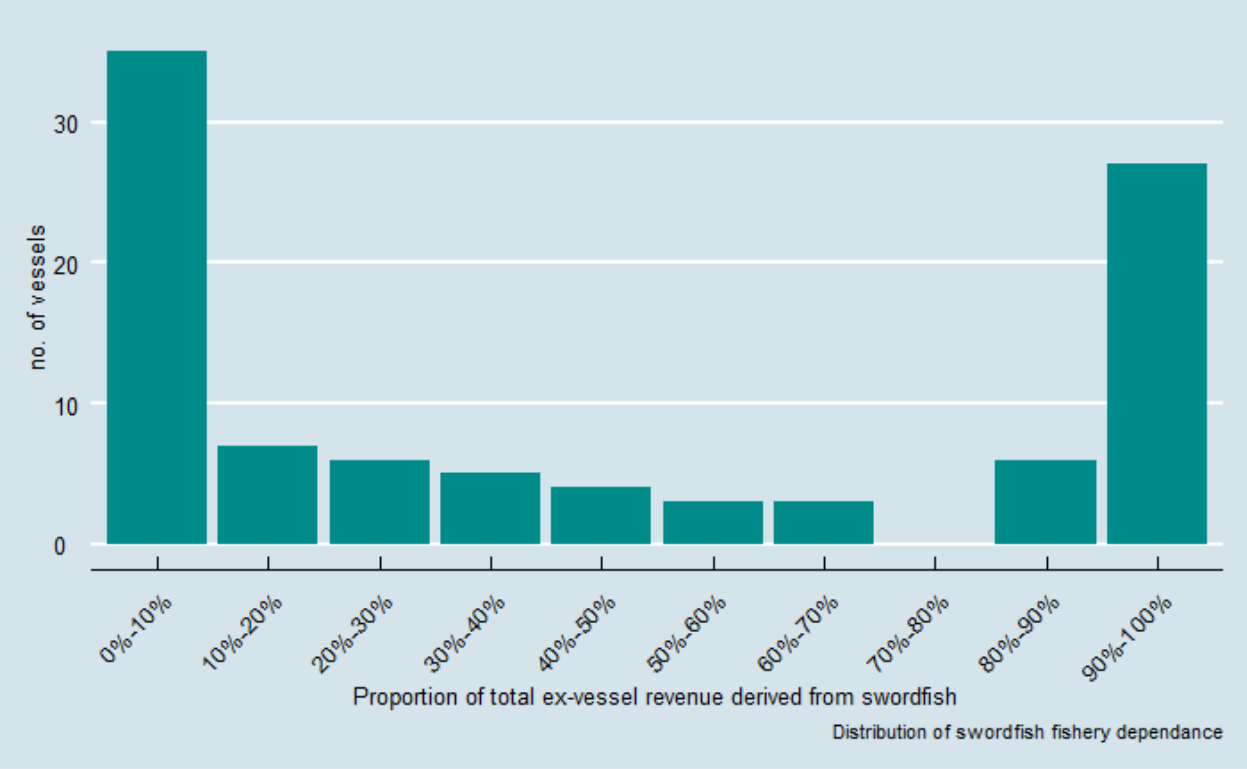

Figure 1: For vessels using DSBG, DGN, or harpoon gear, 2009-2018, the proportion of total inflation-adjusted ex-vessel revenue from these gear types.

The distribution observed in Figure 1 is representative of a range of fishery participation, including many vessels with low levels of participation and a small, specialist group that is highly dependent on the fishery for its revenue. Participants in the swordfish fishery prospectively using DSBG may have a similar distribution, although knowledge in the spatio-temporal distribution of swordfish learned from the use of other gear-types to catch swordfish is likely to be an important contributor to any participant's success in using the gear.

The table below shows the frequency distribution of the percentage of total ex-vessel revenue (2009-2018, inflation-adjusted dollars) derived from gear-types for vessels that made landings with DSBG under an EFP (Table 2). The left panel shows the percentage of total revenue derived from DSBG only (also depicted in Figure 2). The right panel shows the percentage of total revenue derived from all HMS gear types, including DSBG (also depicted in Figure 3). While most vessels that made landings with DSBG derived less than 50 percent of their total revenue from this gear type (16 of 19 vessels), a significant proportion of these vessels derived more than 50 percent of their total revenue from all HMS gear-types (11 of 19 vessels) and 7 vessels derived more than 90 percent of their revenue from HMS gear types. This suggests that vessels participating in DSBG EFPs are highly focused on HMS fisheries. Because these vessel operators are most likely to receive LE permits under the Council proposal, it is likely that DSBG participants would be highly dependent on HMS fisheries. Although this includes other swordfish gear-types, the surface hook-and-line albacore fishery is by far the largest HMS fishery on the U.S. West Coast based on participation and revenue. Although landings from this fishery are concentrated in Oregon and Washington ports, vessels from Southern California will seasonally move north to participate in the albacore fishery. This may also be true of participants in the prospective DSBG fleet.

Table 2. Percentage of total inflation-adjusted ex-vessel revenue derived from DSBG (left) or any HMS gear (right) by vessels that have made landings with DSBG (2009-2018).

	DSBG		All HMS Gears	
Interval	**Number of vessels**	**Percentage**	**Number of vessels**	**Percentage**
0%-10%	10	52.6	5	26.3
10%-20%	2	10.5	0	0
20%-30%	4	21.1	1	5.3
30%-40%	0	0	1	5.3
40%-50%	0	0	1	5.3
50%-60%	1	5.3	1	5.3
60%-70%	1	5.3	1	5.3
70%-80%	1	5.3	1	5.3
80%-90%	0	0	1	5.3
90%-100%	0	0	7	36.8

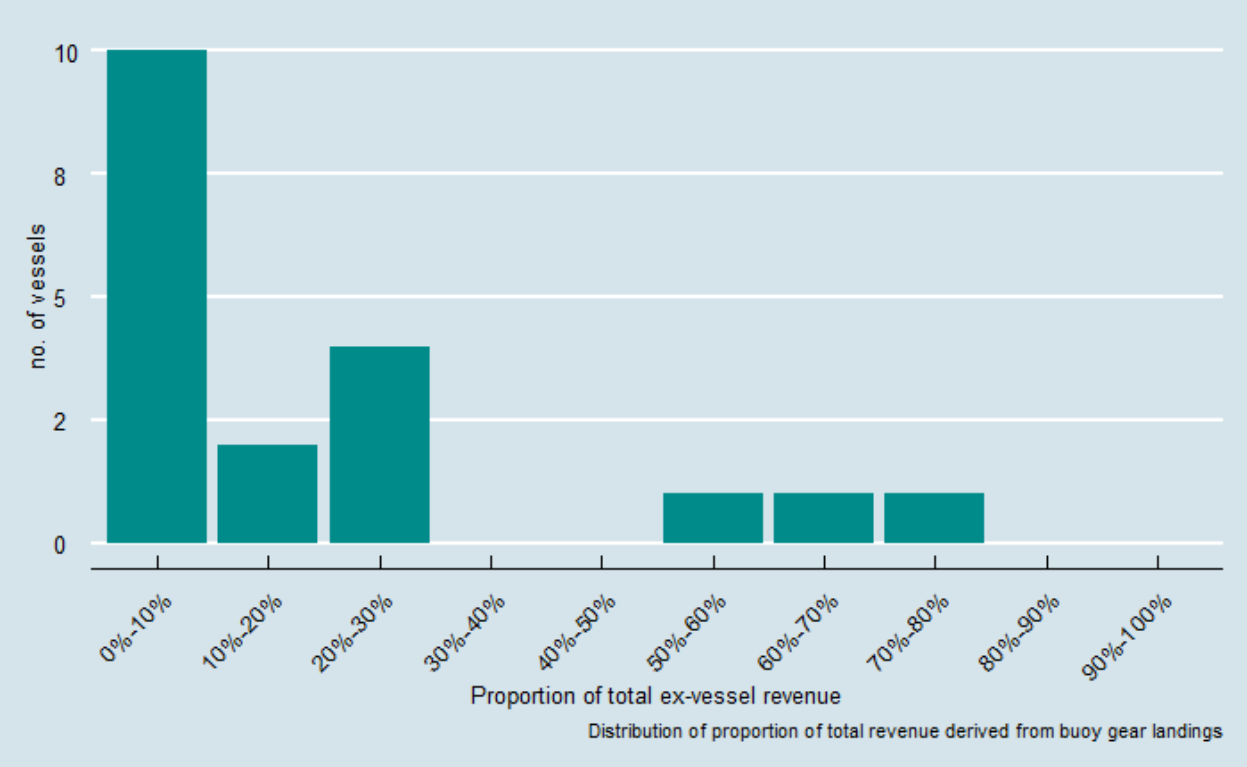

Figure 2. Percentage of total inflation-adjusted ex-vessel revenue derived from DSBG for vessels that have made landings with DSBG (2009-2018).

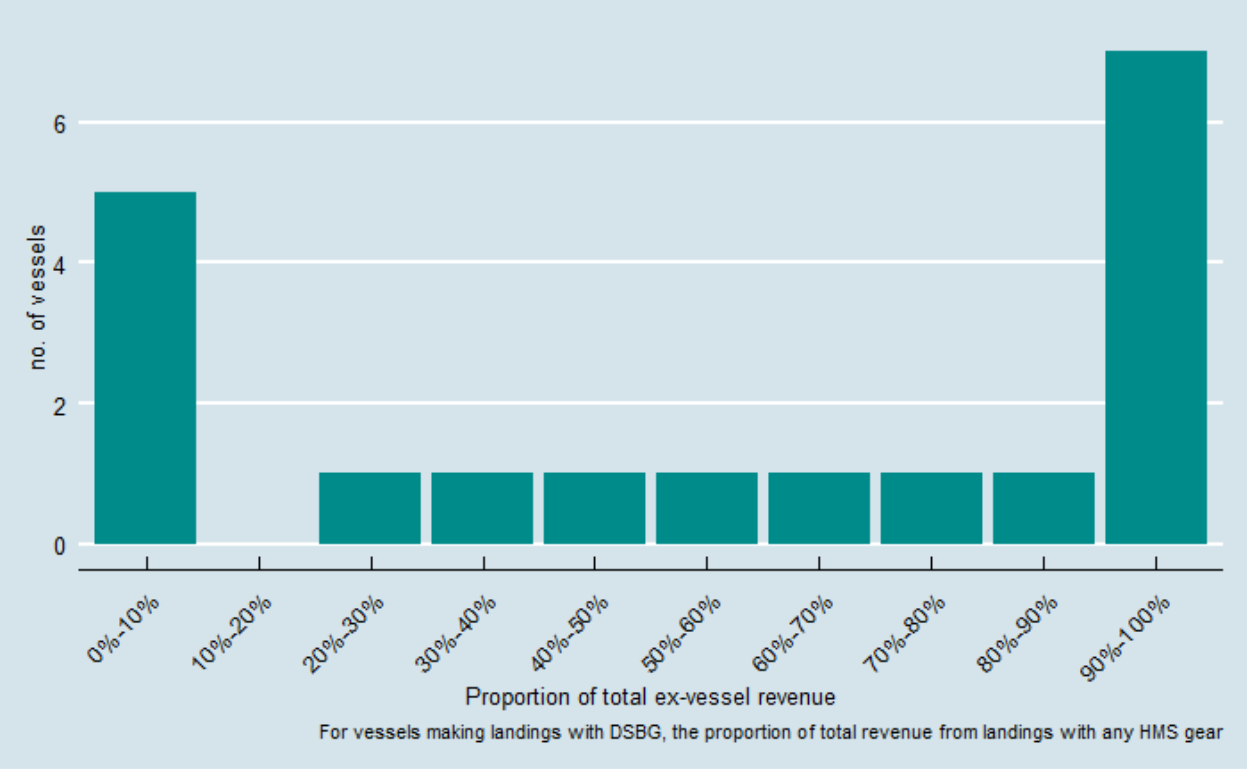

Figure 3. Percentage of total inflation-adjusted ex-vessel revenue derived from DSBG for vessels that have made landings with HMS gear (2009-2018).

DSBG has been used by relatively few vessels, and therefore it is difficult to predict to what degree vessels will depend on this gear-type. It is likely that some individuals will use DSBG as their main fishing gear-type, while others may only utilize the gear periodically in conjunction with other gears. Swordfish are seasonally available off of Southern California with abundance increasing in the fall and winter months. The bulk of swordfish landings in the DGN fishery occur from October to January (see HMS SAFE Table 14b). Thus far, more than 90 percent of landings with DSBG have occurred between August and December. Given the seasonality of the fishery, participants are likely to engage in other fisheries and are not likely to be solely dependent on DSBG for their livelihood. However, in any portfolio strategy it is hard to judge the importance of a particular gear-type to the overall economic success of a participant.

3. Take into account the economics of the fishery

The Council's phased-in approach to issuing LE DSBG permits would allow for economic impacts to be understood during the phased permit issuance period. Further, the Council's ROA takes into consideration the economics of the swordfish fishery by prioritizing LE permit issuance to those individuals with current and historical swordfish fishing activity and landings.

Authorization of DSBG to fish swordfish off the west coast would allow for an additional supplemental gear-type for west coast swordfish fishermen to increase the availability of locally-caught fish in the market. While future economic performance of DSBG fishing is uncertain, current data on DSBG fishing for swordfish indicates that fishing success and prices obtained are

quite variable, depending upon the individual fishing and the availability of other sources of swordfish in the market.

Industry concern over the economic viability of prospective DSBG fishing has been a factor in the Council's consideration of an LE permit program. DSBG fishing has been largely reliant on landings that command a relatively high price per pound by selling into a market niche for fresh, high quality swordfish. DSBG fishing is expected to be prosecuted by smaller vessels, catching one or two fish a day, with frequent landings. Thus the operational costs per fish caught are expected to be higher than for vessels using DGN or pelagic longline gear to catch swordfish. In this way, a DSBG fleet is expected to be comparable to the harpoon fishery for swordfish in the SCB. This market niche is small, and it is unknown whether demand at a price point profitable to DSBG-focused fishers could expand.

4. Take into account the capability of fishing vessels used in the fishery to engage in other fisheries

The Council's proposed LE permit program would not hinder permit holders from participating in other fisheries. For example, there is no proposed minimum landings requirement for continued permit possession. As noted above, DSBG use is likely to be seasonal, as is the use of currently permitted gear-types used to target swordfish off the West Coast, and DSBG participants are likely to participate in other fisheries.

5. Take into account the cultural and social framework relevant to the fishery and any affected fishing communities

Swordfish landings are concentrated to ports in the SCB. As shown in Table 3, 94 percent of swordfish landings measured by ex-vessel revenue (excluding those by Hawaii pelagic longline vessels, which are not managed under the HMS Fishery Management Plan) occurred in the SCB over the past decade. The port regions in the SCB are Santa Barbara (including Ventura), Los Angeles (including Orange County), and San Diego.

Table 3. Distribution of total swordfish landings by region, ex-vessel revenue ($1,000s, inflation-adjusted dollars), 2009-2018. Landings by Hawaii pelagic longline vessels are excluded.

Region	No. vessels	Revenue	Percent
SCB	105	$11,669	94.3
not SCB	13	$704	5.70

Due to this concentration of swordfish landings, as well as the prevalence of recreational fishing, the Council is considering LE only in the SCB, which may address potential conflict and crowding. As discussed above, most of the individuals using DSBG under EFPs already participate in other HMS fisheries, and several of the Council's LE criteria options give preference to individuals that have obtained an EFP and demonstrated a minimum level of activity using the gear. Applications for these EFPs were reviewed by the Council, which they recommended to NMFS for issuance. In this way, the Council has an understanding of the background of prospective participants and thus the cultural context informing design of the LE permit program. The Council has been further informed through public comment from EFP holders and prospective DSBG users once the gear is authorized.

6. Take into account the fair and equitable distribution of access privileges in the fishery

The factors enumerated above address fairness and equity in establishing an LE permit system. In particular, the Council considered participation in the fishery targeting swordfish across available gear-types (including DSBG use under EFPs) and dependence on the fishery. Permit qualification criteria favor individuals that have historically participated in the west coast swordfish fishery. The Council holds meetings open to the public and developed its ROA over the course of eight Council meetings since scoping was initiated in March 2016. This process has allowed for substantial input from stakeholders through Council advisory bodies and the general public, including alternatives for LE permit qualification put forward by the Highly Migratory Species Advisory Subpanel, the HMSMT, and the public. This broad consultation has helped the Council arrive at an ROA that addresses fairness and equity in relation to the biological, social, and economic objectives of the proposed action. For those who would receive an LE permit, there are no other measures that would differentiate fishing opportunity – this is not a limited access privilege program, for example.

7. Other relevant considerations

When considering whether to limit DSBG permit issuance in the SCB, the Council also took into account the potential for gear conflicts among DSBG users. Swordfish concentrate around certain spatio-temporally varying oceanographic features, and EFP logbook and observer data collected indicate that fishing is spatially concentrated. Consequently, competition over available swordfish within an area could lead to a decline in catch per unit of effort.

The Council also considered the conflict potential between DSBG and other ocean users, such as shipping vessels, military vessels, and recreational fishermen. Safety concerns arise with overlap of DSBG fishing and shipping lanes and military vessel traffic, while economic conflicts may arise where DSBG fishing overlaps with billfish tournaments and recreational fishermen.

PFMC
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