GROUNDFISH MANAGEMENT TEAM REPORT ON THE 2017-2018 SEASON STRUCTURES

Contents

The Groundfish Management Team (GMT) has reviewed the documents under this agenda item and received an overview from Ms. Kelly Ames of Council staff. We have organized and numbered our comments in the order that is presented in Agenda Item F.6. Supplemental REVISED Attachment 1; and have divided them into three statements, based on the divisions in that attachment. This report addresses items 9-16 on season structures.

9. Allocations for the shorebased individual fishing quota (IFQ) fishery based on the final preferred ACLs, RCA structure, big skate trip limits

Based on the selection of the final preferred alternative (FPA) annual catch limit (ACLs) chosen under Agenda Item F.3., Table 1 shows what the resulting allocations for the shorebased individual fishing quota (IFQ) fishery for darkblotched and widow rockfish would be based on Amendment 21. The trawl/non-trawl allocations for canary rockfish are being decided under this Agenda Item, and therefore the shorebased IFQ allocation will be determined based on that decision. Remaining shorebased IFQ allocations can be found in Tables 4-10 and 4-11 in Agenda Item F.3, Attachment 1.

Table 1. Amendment 21 allocations for the Shorebased IFQ fishery for darkblotched and widow rockfish based on the FPAs.

Species	2017	2018
Darkblotched Rockfish	416.8	416.8
Widow Rockfish	11,400.4	10,669.2

For the 2017-2018 biennial harvest specifications, only the 2016 trawl rockfish conservation area (RCA) structure was analyzed. Under the Agenda Item F.6., Supplemental WDFW Report, WDFW is proposing that the area north of Cape Alava (48° 10' N. lat.) be opened. This area was initially closed in 2007 to commercial trawling due to concerns about bycatch of canary and yelloweye rockfish. However, canary rockfish was declared rebuilt in 2015. There may be interest in considering whether the closure resulted in habitat recovery as has been raised when changes to long term RCA boundary openings have been considered in the past. However, tribal vessels have trawled in this area since the closures. As such, the GMT thinks consideration of this closure is appropriately considered under the 2017 and 2018 management measure analysis. The trawl fleet in Washington was greatly impacted by this closure, and with the individual accountability features of the IFQ program, opening this area would provide benefits to the IFQ fleet with potential minimal conservation concerns. If the area north of Cape Alava were open to the IFQ fleet in 2017 and 2018, there could be new fishing effort in addition to the status quo tribal effort. However, given that yelloweye rockfish is abundant in this area, the expectation is that under the individual accountability measures of IFQ will likely result in very little additional effort with the exception of IFQ vessels with sufficient yelloweye quota. There are potential impacts to habitat with the opening of the RCA, which would need to be further analyzed. Overall, the GMT supports **the inclusion of the removal of the trawl RCA north of Cape Alava within the 2017-2018 management measures analysis**.

Finally, under the new management measure "Reclassification of Big Skate from Ecosystem Component to in the fishery," trip limits would continue to be used for the shorebased IFQ fishery with a sorting requirement. **The GMT recommends the big skate trip limits listed in (Agenda Item F.3, Attachment 1, Table 4-13).**

10. Amendment 21 allocations for the at-sea sectors for darkblotched, Pacific ocean perch (POP), and widow rockfish

Table 2. shows the Amendment 21 allocations for darkblotched and widow rockfish and Pacific ocean perch (POP) under the FPA ACLs selected by the Council in Agenda Item F.3.

Species	2017		2018	
	CP	MS	CP	MS
Darkblotched Rockfish	13.5	9.5	13.5	9.5
Widow Rockfish	411.5	290.5	385.1	271.8
POP	10.2	7.2	10.2	7.2

These allocations would be automatically implemented under Amendment 21, unless the Council pursues the WDFW proposal of establishing set-asides for these three species and canary rockfish (described in Supplemental GMT Report 3).

11. Non-nearshore fishery season structure and trip limits

The non-nearshore fishery season structure and trip limits are the same as seen in 2016, except for the following species. Note that all trip limits are the same as in Agenda Item F.3., Attachment 1, except for sablefish north and south of 36° N. lat.

Canary Rockfish

Due to canary rockfish rebuilding, the Council may want to consider allowing retention of canary rockfish in the fixed gear fisheries via the use of bimonthly trip limits. Note that the same limited entry fixed gear (LEFG) and open access (OA) trip limits apply for vessels fishing in the nearshore (predominantly OA vessels that have state permits) and non-nearshore (both LEFG and OA).

The GMT does not expect trip limits of varying degrees to have much influence over non-nearshore take of canary rockfish for LEFG and OA coastwide because of the following occurrences since 2010: (1) total mortality for both LEFG and OA has been less than one metric ton total per year; (2) 96 percent of observed non-nearshore trips had zero canary rockfish per trip; and (3) 99.9 percent of trips had less than 100 lbs (Figure 1). Since the above were during an era of avoidance, the GMT had to investigate whether retention could cause landings to increase to historical high levels, which were in the hundreds of tons per year in the 1990's.

The high historical landings preceded adoption of the non-trawl RCA, which has closed the primary shelf habitat of canary rockfish. Prior to the RCA closure, fixed gear fishermen fished the

shelf for lingcod, yelloweye rockfish, canary rockfish, and others. Therefore, the GMT had to determine what effect the recent non-trawl RCA closure would have had on the high historical catches (without the closure) otherwise future predictions based on historical landings could be biased and overestimated. Since there is no record of where historical fixed gear trips occurred, the GMT had to infer fishing locations based on catch composition; the same approach as used in stock assessments for filtering datasets for catch-and-effort (the Stephens-McCall Method).

Using this approach (described more in next paragraph), historical trips occurring within the shelf RCA were stripped from the data set, leaving only historical trips that occurred in waters open today (seaward or shoreward of the RCA). For the non-nearshore fishery, the presence of sablefish and darkblotched rockfish (slope stocks) in the catch were used to flag historical trips presumably occurring in depths seaward of the current RCA. For nearshore trips (described in action item checklist #12), black rockfish and China rockfish (nearshore stocks) were used as markers to flag historical trips presumably occurring shoreward of the RCA.

When removing shelf trips from the historical data set, catch rates (per trip) during the targeting era were similarly as rare and low volume as those of the current era with avoidance (Figure 1). Given this similarity, allowing retention of canary rockfish is not expected to increase catches much more than what currently occurs with avoidance and non-retention (e.g., ~1 mt for non-nearshore). In short, the RCA has greatly affected the ability to access canary rockfish, and the RCA will remain for the foreseeable future due to yelloweye rockfish concerns.

Based on the results of these analyses, the GMT proposes a base trip limit of 300 lbs bimonthly for LEFG with the primary goal to allow retention of incidental catch of canary rockfish, and to account for low levels of potential targeting that are predicted (i.e., 1.5 percent based on comparison of historical and current catch rates). While total impacts are expected to be low (1 mt), there is a fair degree of uncertainty as some members of the GAP indicated they could catch high volumes of canary rockfish seaward of the RCA in certain pockets (if they purposefully tried but the incentive for them to do so is unknown) which could jeopardize landings potential of other stocks. Until vessels are allowed to target and retain canary rockfish, their ability to target canary rockfish will be uncertain and the Council should therefore consider a "start low and adjust up" approach.

OA trips limits which apply to both the non-nearshore and nearshore fisheries are discussed in the nearshore section (below) because this is where the majority of OA impacts are expected to occur for canary rockfish. For example, the nearshore (mainly OA) averages 8.8 mt per year as opposed to 0.33 mt non-nearshore (both for OA and LEFG combined).

The GMT recommends the Council consider starting with a LEFG trip limit of 300 lbs per bimonthly period (for all periods). Higher limits could be considered, but are not expected to have much influence to total catch (rare and low volumes occurrences) because the RCA has closed the primary shelf habitat of canary rockfish.

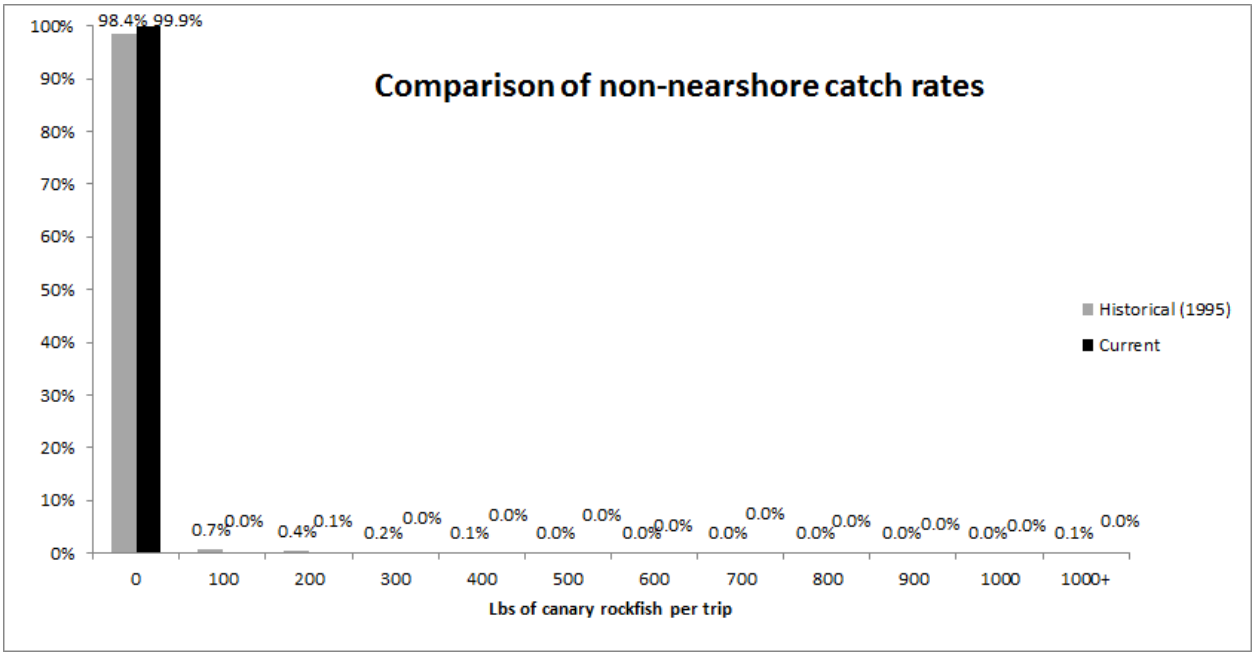

Figure 1. Catch frequency by trip of canary rockfish for the non-nearshore OA and LE FG sectors during the recent era with avoidance and historic era (e.g., 1995) that accounts for the prime canary rockfish habitat now being closed with the FG RCA.

Sablefish north of 36° N. lat.

Table 3 shows the shares and resulting landing targets (sector share-assumed discard mortality) for the sablefish daily trip limit (DTL) fisheries north and south of 36° N. lat. for 2017 and 2018 (Limited Entry north of 36° N. lat.= LEN; Open Access north of 36° N. lat. = OAN

Table 3. 2017 and 2018 Shares and Landing Targets for LEN and OAN

Sector	2017		2018	
	Share	Landing Target	Share	Landing Target
LEN	308	297	322	310
OAN	508	490	530	511

Under these targets, the GMT proposes the following trip limit alternatives in Table 4 (with projected attainments) for the LEN and OAN fisheries in both 2017 and 2018.

Table 4. Proposed trip limit alternatives for LEN and OAN DTL fisheries in both 2017 and 2018 (attainment based on 2017 landing target).

Sector	Alternative	Daily	Weekly	Bimonthly	Projected Attainment
LEN	1	--	1,125	3,375	74-87%
	2	--	1,150	3,450	76-89%
	3	--	1,200	3,600	81-94%
OAN	1	300	1,000	2,000	59%
	2	300	1,200	2,400	87%
	3	300	1,300	2,600	103%

The GMT recommends the Council consider Alternative 2 trip limits for both LEN and OAN for both 2017 and 2018.

Sablefish south of 36° N. lat.

For sablefish south of 36° N. lat., there are two alternatives for sharing between LE and OA as described above. Table 5 shows the shares and resulting landings targets (sector share-assumed discard mortality) for the sablefish DTL fisheries south of 36° N. lat. for 2017 and 2018 (Limited Entry south of 36° N. lat.= LES; Open Access south of 36° N. lat. = OAS) under two different sharing allocations: No Action (55 percent LE: 45 percent OA) and Alternative 1 (75 percent LE: 25 percent OA).

Table 5. Landing shares and targets for LES and OAS for 2017 and 2018 under sharing alternatives

	Sector	2017		2018	
		Share	Landing Target	Share	Landing Target
No Action	LES	341	329	356	343
	OAS	279	269	291	281
Alternative 1	LES	465	449	485	468
	OAS	155	150	162	156

Under the No Action sharing allocation, Table 6 shows potential alternatives for trip limits for LES and OAS.

Table 6. No Action Sharing Alternative Trip Limit Alternatives for LES and OAS in 2017 and 2018 (projected attainment based on 2017 target).

Sector	Alternative	Daily	Weekly	Bimonthly	Projected Attainment
LES	1	--	1,400	--	53-73%
	2	--	1,600	--	72-101%
	3	--	1,800	--	96-137%
OAS	No Action	300	1,600	3,200	13%

Under the Alternative 1 sharing allocation, Table 7 shows potential alternatives for trip limits for LES and OAS.

Table 7. Alternative 1 Sharing Alternative Trip Limit Alternatives for LES and OAS in 2017 and 2018 (projected attainment based on 2017 target).

Sector	Alternative	Daily	Weekly	Bimonthly	Projected Attainment
LES	1	--	1,600	--	53-74%
	2	--	1,800	--	70-100%
	3	--	2,000	--	92-133%
OAS	No Action	300	1,600	3,200	23%

The GMT previously recommended the Council consider the Alternative 1 sharing structure. Based on the levels of projected attainment, **the GMT recommends the Council consider the following relative to trip limits for sablefish in the LE and OA fisheries south:**

- **Under No Action Sharing (Table 6, 55-45 LE-OA): Trip Limit Alternative 2 for LES (1,600 lb /week) and No Action for OAS.**
- **Under Alternative 1 Sharing (Table 7, 75-25 LE-OA): Trip Limit Alternative 2 for LES (1,800lb/week), and No Action for OAS.**

Yelloweye Rockfish

Based on the non-nearshore bycatch model, there is expected to be a 0.1 mt overage of the non-nearshore share (0.7 mt) for each 2017 and 2018. Currently, the only response to mitigate the overage would be to move the RCA from 100 fathoms to 125 fathoms. While the GMT understands that it is not typical to start the biennium with a sector exceeding its share, there is a fair amount of uncertainty in the actual amount of yelloweye rockfish that will be taken. Table 4-37 in the (Agenda Item F.3, Attachment 1, April 2016) shows that less than 70 percent of the share is usually caught by the fishery. Therefore, the predicted non-nearshore share (assuming the same average harvest rate) may be closer to 0.5 mt. Furthermore, even with the 0.8 mt value in the scorecard, there is still a combined 1.8 mt residual from the ACL for both 2017 and 2018. However, with the allowance of canary trip limits, there is some uncertainty around what actual impacts will be to

yelloweye, as the trip limits are only aimed at providing for retention of canary with limited, targeting potential.

Blackgill rockfish south of 40°10' N. lat.

Per Council action at the November 2015 Council meeting, blackgill rockfish south of 40°10' N. lat. will be managed separately from the Minor Slope Rockfish south complex upon NMFS approval (estimated 2018). Therefore, the proposed trip limits presented here would apply to blackgill rockfish once the stock is managed with species-specific harvest specifications.

The Council's recommendation changed the trawl, non-trawl fixed gear allocation ratio for blackgill rockfish, with the non-trawl sector allocation of blackgill rockfish increasing from 37 percent to 59 percent. To accommodate the increased non-trawl fixed gear sector allocation for blackgill rockfish, bi-monthly trip limit increases were calculated and are given in Table 8 and Table 9. Because blackgill rockfish is still in the precautionary zone (at approximately a 30 percent depletion level as of the 2011 stock assessment), these proposed trip limit increases reflect an attempt to provide industry a modest increase in opportunity.

Blackgill rockfish are encountered deeper than depths occupied by overfished species (e.g., yelloweye rockfish); therefore, increased bycatch of overfished species is expected to be minimal. If increased blackgill rockfish trip limits are implemented, the trip limit structure is still subject to routine inseason adjustments and will be adjusted accordingly if mortality levels are predicted to exceed harvest targets.

Table 8. Blackgill rockfish trip limits (pounds) for the limited entry fixed gear sector south of 40°10' N. lat.

	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6
No Action	1,375 lb / 2 mo			1,600 lb / 2 mo		
Option 2b	3,000 lb / 2 mo					
Option 2c	3,250 lb / 2 mo					

Table 9. Blackgill rockfish trip limits (pounds) for the open access sector south of 40°10' N. lat.

	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6
No Action	475 lb / 2 mo			550 lb / 2 mo		
Option 2b	900 lb / 2 mo					
Option 2c	1,200 lb / 2 mo					

Bocaccio south of 40°10' N. lat.

The ACLs for bocaccio south of 40°10' N. lat. for 2017 and 2018 are 790 and 741 mt, respectively. This is an increase from the 2015 (349 mt) and 2016 (362 mt) ACLs. While bocaccio is still considered an overfished species, the stock is anticipated to reach rebuilt status by the 2017-2018 management cycle. Bocaccio are being more frequently encountered due to the increasing

biomass which is resulting in regulatory discarding while targeting other stocks. Because of this ACL increase and the anticipated change in status, increased trip limits are being proposed to reduce discards and provide some additional opportunities and can be accommodated within the ACL.

Proposed trip limits for both the LEFG and OA non-trawl fixed-gear sectors are given in Table 10 and Table 11 for south of 40°10' N. lat. The estimated increase in bocaccio mortality resulting from these proposed trip limit increases is estimated to be substantially less than the ACLs proposed for 2017 and 2018. Increased impacts to other species (overfished species and non-overfished species) are expected to be minimal. This is supported by anecdotal information provided by industry that increased take of bocaccio will actually better cover regulatory discarding that has occurred in recent years.

Table 10. Bocaccio bi-monthly trip limits (pounds) for the limited entry sector south of 40°10' N. lat.

40°10' - 34°27'	**Period 1**	**Period 2**	**Period 3**	**Period 4**	**Period 5**	**Period 6**
No Action	500 lb / 2 mo					
Option 1	1,000 lb / 2 mo					
South of 34°27'	**Period 1**	**Period 2**	**Period 3**	**Period 4**	**Period 5**	**Period 6**
No Action	750 lb	Closed	750 lb / 2 mo			
Option 1	1,250 lb	Closed	1,250 lb / 2 mo			
Option 2	1,500 lb	Closed	1,500 lb / 2 mo			

Table 11. Bocaccio bi-monthly trip limits (pounds) for the open access sector south of 40°10' N. lat.

40°10' - 34°27'	**Period 1**	**Period 2**	**Period 3**	**Period 4**	**Period 5**	**Period 6**
No Action	200 lb	Closed	100 lb / 2 mo		200 lb / 2 mo	
Option 1	500 lb	Closed	500 lb / 2 mo			
Option 2	800 lb	Closed	800 lb / 2 mo			
South of 34°27'	**Period 1**	**Period 2**	**Period 3**	**Period 4**	**Period 5**	**Period 6**
No Action	250 lb	Closed	250 lb / 2 mo			
Option 1	400 lb	Closed	400 lb / 2 mo			
Option 2	500 lb	Closed	500 lb / 2 mo			
Option 3	800 lb	Closed	800 lb / 2 mo			

Yellowtail rockfish north of 40°10' N. lat.

Proposed yellowtail rockfish trip limits for both the LEFG and OA sectors are given in Table 12 and Table 13 north of 40°10' N. lat. Yellowtail rockfish harvest has been limited by the non-trawl RCA. Increased trip limits are proposed to provide greater opportunity to the fishery sectors.

The estimated increase in yellowtail rockfish mortality as a result of these trip limits is projected to be less than 10 mt. Given that Oregon will be allowing a longleader fishery to provide a better recreational opportunity for yellowtail rockfish, while at the same time maintaining a minimal or reduced bycatch rate of overfished species (i.e. yelloweye rockfish), the probability of these combined fishery sectors' overall harvest mortality exceeding the 2017 and 2018 ACLs is relatively low.

Table 12. Yellowtail rockfish monthly trip limits (pounds) for the limited entry non-trawl fixed-gear sector north of 40°10' N. lat.

Option	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6
No Action	200 lb / month					
Option 1	400 lb / month					
Option 2	500 lb / month					
Option 3	1,000 lb / month					

Table 13. Yellowtail rockfish monthly trip limits (pounds) for the open access non-trawl fixed-gear sector north of 40°10' N. lat.

Option	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6
No Action	200 lb / month					
Option 1	300 lb / month					
Option 2	400 lb / month					
Option 3	500 lb / month					

Open access Minor Shelf Rockfish complex between 40°10' and 34°27' N. lat.

Proposed Minor Shelf Rockfish complex trip limits for the LEFG and OA sectors between 40°10' and 34°27' N. lat. are given in Table 14. These modest trip limit increases were requested by industry to increase fishing opportunities on healthy stocks.

The impacts of these increased trip limits are such that the estimated mortality when combined with the estimated mortality of the limited entry sector, the recreational sector, and that from south of 34°27' N. lat. will be less than 30 percent of the 2017 or 2018 ACL. There is a possible increase to bycatch of overfished species as a result of these trip limit increases, primarily for yelloweye rockfish in the northern portion of the proposed range. However, there are a very few WCGOP observations in this area and thus the bycatch implications are not well understood.

Table 14. Minor Shelf Rockfish complex bi-monthly trip limits (pounds) for the LEFG and OA sector between 40°10' and 34°27' N. lat.

	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6
No Action	300 lb	Closed	200 lb / 2 mo		300 lb / 2 mo	
Option 1	400 lb	Closed	400 lb / 2 mo			
Option 2	500 lb	Closed	500 lb / 2 mo			

12. Nearshore fishery season structure and trip limits

Canary rockfish trip limits for LEFG and OA (continued from the non-nearshore section) and projected impacts to the nearshore fishery

As discussed in the non-nearshore section, the Council may consider allowing retention of canary rockfish using trip limits for both LEFG and OA, and that these respective trip limits apply for both the nearshore and non-nearshore. Proposed trip limits for LEFG are discussed in the non-nearshore section above, as they are more applicable to non-nearshore fishermen. On the other hand, OA trips limits are more applicable to this nearshore section because trip limits for canary rockfish are projected to have greater influence to nearshore OA participants (which are mainly part of state programs) than OA non-nearshore participants.

OA trip limits alternatives are shown in Table 15. Details of the modeling approach used to generate the trip limit projections are available in Appendix 1.

Table 15. Projected impacts to canary rockfish in the nearshore fishery for a fixed LE trip limit of 300 lbs per bimonthly period and OA trip limits varying from 0-300 lbs per bimonthly period with a 14 percent targeting assumption. Note that 100 lbs (grey shading) is not recommended limit, rather a middle-ground alternative for projecting nearshore impacts, and was set to accomplish a base goal of allowing retention of majority of incidental catch.

14% random targeting (as hypothesized to have occurred during 1995)						
OA Trip Limit	LBs Harvested	LBs Discarded	LBs Total	% Harvested	% Discarded	Total Mort (mt)
0	0	25550	25550	0.0%	100.0%	6.1
10	6,205	19,894	26,099	23.8%	76.2%	7.6
25	12,637	14,288	26,925	46.9%	53.1%	9.2
50	19,928	8,372	28,300	70.4%	29.6%	11.1
100	27,714	3,336	31,050	89.3%	10.7%	13.4
150	32,055	1,745	33,800	94.8%	5.2%	15.0
200	35,322	1,227	36,549	96.6%	3.4%	16.3
250	38,310	989	39,299	97.5%	2.5%	17.6
300	41,105	945	42,050	97.8%	2.2%	18.9

14% targeting - regional lbs harvested		
N 42°	40°10'- 42°	S 40°10'
0	0	0
953	995	4,257
1,941	2,027	8,669
3,062	3,196	13,671
4,258	4,444	19,012
4,925	5,140	21,990
5,427	5,664	24,231
5,886	6,144	26,281
6,315	6,592	28,198

Totals are for LE and OA vessels combined for the nearshore fishery

LE trip limit fixed at 300 lbs per period

Regional values were partitoned from the total based on average (2010-2014) total mortality (15.4% to N 42°; 16.0% to 40°10'- 42°; 68.6% to S 40°10')

The GMT recommends the Council consider OA canary rockfish bimonthly trip limits in the range presented based on risk tolerance, model uncertainty, and harvest potential.

Black rockfish

For the 2017-2018 management cycle, California (statewide) has a black rockfish allocation of 334 mt for 2017 and 319 mt for 2018 under the FPA ACL selected under Agenda Item F.3. In 2015 and 2016, the ACL was 440 mt. To keep the combined recreational and commercial sector mortality within the proposed allocations, California is recommending that a reduced trip limit structure for the commercial sector be implemented for black rockfish for north of 40°10' N. lat. No trip limit modifications are proposed for black rockfish south of 40°10' N. lat. because recent mortality has averaged approximately only 5 mt. Currently, nearshore permit holders may land 8,500 pounds per two month period for the first four periods and 6,000 pounds for the last two periods. Proposed trip limits range from the No Action amounts down to 6,000 pounds per period for all six periods (Table 16).

Table 16. Summary of black rockfish bi-monthly trip limits (pounds) for LEFG and OA between 42° N. lat. and of 40°10' N. lat.

	Trip Limits (pounds)					
	Period 1	**Period 2**	**Period 3**	**Period 4**	**Period 5**	**Period 6**
No Action	8,500 lb / 2 mo				6,000 lb / 2 mo	
Option 1	8,000 lb / 2 mo					
Option 2	7,000 lb / 2 mo					
Option 3	6,000 lb / 2 mo					

The calculated estimated mortality for black rockfish north of 40°10' N. lat. for 2017-2018 is 95 mt. To achieve that amount, the recommended trip limit amount should be set at 7,000 pounds per two month period, which is the amount that the trip limit model estimates will be the closest to 95 mt. **The GMT recommends the Council consider Option 2 for black rockfish trip limit for California north of 40°10' N. lat.**

Note: The GMT notes that there is a typo in the 2017-2018 harvest specifications document (Agenda Item F.3 Attachment 1, April 2016) for Table 4-50. That table shows that the No Action 8,500 pound amount applies to the first three two-month periods and 6,000 pounds to the second three periods. This table corrects that typo to show that the 8,500 pound amount should apply to the first four two-month periods instead of the first three.

California scorpionfish

Commercial fishing for California scorpionfish is essentially restricted to holders of the southern management area nearshore state permit. Holders of a nearshore permit issued to other management areas may catch and land California scorpionfish; however, this stock is rarely encountered north of Point Conception. Thus, it is essentially a southern management area fishery. While not a large commercial fishery, in terms of the amount landed annually or the number of participants, it is an important fishery to at least a small number of fishers. To increase

fishing opportunities for those who take California scorpionfish, increased trip limits are being proposed for the 2017-2018 management cycle. Table 17 shows alternative LEFG and OA trip limits.

Table 17. Summary of LEFG and OA bi-monthly trip limits (pounds) for California scorpionfish.

	Trip Limits (pounds)					
	Period 1	**Period 2**	**Period 3**	**Period 4**	**Period 5**	**Period 6**
No Action	1,200 lb	Closed	1,200 lb / 2 mo			
Option 1	1,500 lb	Closed	1,500 lb / 2 mo			
Option 2	1,700 lb	Closed	1,700 lb / 2 mo			

This trip limit increase proposal does not affect the season structure, with fishing allowed for all two-month periods except for the March and April period. Estimated increases, as a result of increased trip limits are not expected to jeopardize the Council recommended ACT of 111 mt for several reasons. In California, the commercial take of California scorpionfish requires a nearshore permit, which limits the number of participants per management area. Over the past five years (2010-2014), the commercial sector has taken an annual average of 3.1 mt, which is three percent of the annual overall annual average fishery mortality. Increased trip limits are projected to account for slightly less than one metric ton of additional mortality when compared to the estimated annual mortality for No Action because no appreciable change in fishing behavior is expected to occur. This, combined with the recreational estimate of 96.7 mt, results in mortality of 99.6 mt.

With a modest trip limit increase, no increased take of overfished species is likely to occur, specifically for yelloweye rockfish, since this species is not encountered in appreciable numbers south of Point Conception, where California scorpionfish are found.

The GMT recommends the Council consider Option 1 as a PPA, and consider further analysis to be brought forward in June.

13. Tribal fisheries season structures

At the November 2015 Council meeting the tribes submitted Agenda Item I.9a. Supplemental Tribal Report 2 indicating the tribes' intended management measures for 2017 and 2018. For the 2017-2018 biennial management measures, the tribes' proposed the following changes to the tribal set-asides and management measures for tribal fisheries.

The tribes have asked for an increase in the set-aside for widow rockfish from 100 mt annually to 200 mt annually in 2017 and 2018.Currently through the tribal management measures, tribal midwater widow rockfish landings must not exceed 10 percent of the cumulative poundage of yellowtail rockfish landed by a given vessel for the year. At the November Council meeting, the tribes changed the limit to 20 percent of the cumulative poundage of yellowtail rockfish; however, the tribes have indicated that they will be submitting an additional supplemental document at the

April council meeting to further amend the language so that widow rockfish will be managed specifically to the set-aside of 200 mt. Removing the language requiring vessels to land a specific ratio of widow to yellowtail allows the tribes to have the greatest flexibility within tribal regulations to manage tribal set-asides.

For canary rockfish, the tribes have indicated that they are removing the trip limit set forth in past treaty management measures. Tribal fisheries will be managed to the tribal set-aside for canary rockfish.

Through current regulations Dover sole, English sole, other flatfish, and arrowtooth flounder are managed in bi-monthly trip limits and summed up to a combined tribal set-aside. The tribes wish to remove reference to the bi-monthly trip limits for these species in federal regulations and manage to the set-asides through tribal regulation. For all four species, the trip limits will be established in tribal regulation and adjusted in-season to stay within the overall harvest targets.

Sablefish discard mortality in the tribal fishery has also been adjusted from 1.6 to 1.5 percent of the total tribal sablefish allocation based on a tribal sablefish discard model.

The Makah Tribe will continue to look at species such as skate that are an increasingly important part of the tribal trawl fisheries. Coastal tribes will additionally be looking at canary rockfish, which are rebuilt. Both longnose skate and canary rockfish will require changes to management strategy and the Coastal Tribes are working to determine what the appropriate set-asides would be for those species.

14. Washington recreational fishery season structure

The WDFW preferred recreational seasons and bag limits are described in detail in the Supplemental WDFW Report (Agenda Item F.6.a,, April 2016).

Recreational bag limits and sub-limits are proposed to be the same in 2017 and 2018 as they were in 2016 with the exception of allowing the retention of up to one canary rockfish within the status quo sub-limit of 10 rockfish in the South Coast and Columbia River areas (Marine Areas 1 and 2). The groundfish aggregate bag limit and sub-limits will remain status quo and canary rockfish retention will remain prohibited in the North Coast (Marine Areas 3 and 4). WDFW would consider allowing canary retention in the North Coast and/or increasing the canary allowance to two fish in the South Coast for 2018.

WDFW is proposing to revise the groundfish and lingcod seasons in Marine Areas 1-3 to be open from the second Saturday in March through the third Saturday in October. The status quo groundfish season is open year round and lingcod is open from the Saturday closest to March 15, through the Saturday closest to October 15. The groundfish season in Marine Area 4 west of the Bonilla-Tatoosh line, and the lingcod season in all of Marine Area 4 (east and west of the Bonilla-Tatoosh line) would be open April 16 through October 15.

WDFW is also proposing to move the southern boundary of the deepwater lingcod closure five nautical miles north to allow additional access to deepwater lingcod stocks without expected increases in yelloweye rockfish catches.

Finally, WDFW will work with charter vessel industry members on the design and use of electronic logbooks for voluntary pilot program beginning in 2016 with the intent of requiring state groundfish logbooks for all charter vessels in 2017 or 2018.

15. Oregon recreational fishery season structure

The ODFW preferred recreational fishery season structure bag limits and regulations that were in place in 2016 and are described in the No Action Alternative in Section 4.1.1.9. of Agenda Item F.3., Attachment 1 would be in place for 2017-2018, with two exceptions, described below. The Oregon recreational groundfish fishery would be open offshore year round, except from April 1 to September 30 when fishing is only allowed shoreward of 40 fathoms, as defined by waypoints (Figure 3). This is the season structure that has been place in for several years. Restricting the fishery to shallower than 40 fathoms from April 1 to September 30, months when angler effort and yelloweye rockfish encounters are greatest, mitigates mortality of yelloweye rockfish. Canary rockfish and Minor Nearshore Rockfish Complex North species would be part of the ten fish marine bag (no sub-bag limits).

Figure 2. Oregon recreational groundfish season structure and bag limits under the preferred alternative.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Bottomfish Season	Open all depths			Open < 40 fm						Open all depths		
Marine Bag Limit [1]	Ten (10)											
Lingcod Bag Limit	Three (3)											
Flatfish Bag Limit [3]	Twenty Five (25)											

1 Marine bag limit includes all species other than lingcod, salmon, steelhead, Pacific halibut, flatfish, surfperch, sturgeon, striped bass, pelagic tuna and mackerel species, and bait fish such as herring, anchovy, sardine, and smelt

2 From April 1 through September 30, the marine bag limit is Ten (10) fish per day, of which no more than one (1) may be cabezon.

3 Flounders, soles, sanddabs, turbots and halibuts except Pacific halibut

Between the March and April Council meetings, ODFW staff updated the estimated impacts to key species/species complexes from what was included in Agenda Item F.3., Attachment 1 (Table 18). The updates were based on refinement of the canary rockfish estimated impacts. The adjustment for the removal of the canary rockfish sub-bag limit increased the canary rockfish estimated impacts by 16.6 mt. The new longleader opportunity, when implemented, would increase the projected impacts to canary rockfish by 13.4 mt, while reducing yelloweye rockfish by 0.1 mt and black rockfish by 16.1 mt. The increase of 30.0 mt increases the revised projected mortality of canary rockfish to 47.1 mt.

Table 18. Updated projections of mortality (in mt) from the Oregon recreational groundfish fishery and the source of the difference.

				Source of difference	
Stock	Original Projected Mortality	Revised Projected Mortality	Difference	New longleader opportunity	Adjustment for canary rockfish targeting
Canary Rockfish	17.1	47.1	30	13.4	16.6
YELLOWEYE ROCKFISH	2.9	2.8	-0.1	-0.1	0
Black Rockfish OR	353.2	336.7	-16.5	-16.1	-0.4
Greenlings a/	6.4	6.1	-0.3	-0.3	0
Nearshore Rockfish North of 40°10' N. Lat. b/	35.6	35.9	0.3	0.3	0
Widow Rockfish c/	0.54	12.8	12.3	12.0	0.3
Yellowtail Rockfish c/	11.2	63.1	51.9	48.7	3.2

a/ Includes kelp and other greenlings

b/ Includes blue rockfish. The State of Oregon has a Federal HG of Nearshore Rockfish North of 40°10' N. Lat. Of 60.5 mt, which is shared between the

c/ Original project was not shown in table, but both original and revised projections shown here as most influenced stocks by longleader fishery

Changes from 2016-2017

ODFW is proposing to remove the 10 inch minimum size limit for kelp greenling. Kelp greenling off of Oregon was assessed in 2015 and determined to be healthy, with an ACL (226 mt in 2017) much greater than the combined recreational and commercial state-specified harvest guidelines and catches. Therefore, there does not appear to be a conservation need for the minimum size limit. Additionally even with the 10 inch minimum size limit, most anglers do not retain kelp greenling smaller than 12 inches. As there is no apparent management need, this measure should help simplify regulations.

The Stonewall Bank yelloweye rockfish conservation area (YRCA) has been in place since 2006 and would remain under the preferred alternative. Additionally, there are two options for expanding the YRCA should they become necessary shown in Figure 4-6 with coordinates shown in Table 4-59 in Agenda Item F.3., Attachment 1. No other changes to area restrictions are proposed at this time.

16. California recreational season structure

The CDFW preferred recreational season structure and bag limits are presented in the Supplemental CDFW report (Agenda Item F.3.a, Supplemental CDFW Report, April 2016) and the seasons and depths for each management area are presented in Figure 3.

Management Area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Northern	Closed				May 1 – Oct 31 <30fm						All Depth	
Mendocino	Closed				May 1 – Oct 31 <20fm						All Depth	
San Francisco	Closed				April 15 – Dec 31 <40fm							
Central	Closed				April 1 – Dec 31 <50fm							
Southern	Closed				Mar 1 – Dec 31 <60 fm							

Figure 3. CDFW preferred season structure by management area for 2017-2018 recreational groundfish fisheries.

The GMT acknowledges that the California recreational fishery has in the past exceeded their yelloweye rockfish HG under a season structure that was more conservative than that being proposed. CDFW is also proposing several precautionary measures to limit mortality of yelloweye rockfish and cowcod. For example, nine Overfished Species (OFS) Hotspot Closures are being proposed (Action Item Checklist #22), the majority of which are in the proposed liberalized depths. That is, they were designed to reduce any additional yelloweye rockfish and/or cowcod mortality from accruing as a result from the proposed liberalized depths. The GMT understands that CDFW intends to implement these closures preseason to mitigate additional mortality from accruing. Further, four YRCAs are available in regulation which can be used inseason or in conjunction with the proposed OFS closures. While regular inseason actions will still be available, CDFW has proposed a new inseason management option which would allow action to be taken outside of a Council meeting (Action Item Check List #20).

The CDFW preferred alternative also includes the following recreational bag and sub bag limits that differ from those in 2016, aside from these no other changes are being proposed:

Black rockfish

Based upon the CDFW preferred season structure a further reduction of the statewide sub-bag to three fish within the 10 fish aggregate Rockfish, Cabezon and Greenling (RCG) complex bag limit is needed to stay within allowable limits.

Bocaccio

CDFW is proposing to remove the sub-bag limit of three fish within the aggregate 10 fish RCG complex bag limit.

Canary rockfish

For the 2015-2016 biennium, CDFW considered but rejected a one fish sub-bag limit within the aggregate 10 fish RCG complex bag limit, as a result retention of canary rockfish remained prohibited. CDFW is proposing a one fish sub-bag limit within the 10 fish aggregate RCG complex bag limit.

Lingcod

For the 2015-2016 biennial cycle, CDFW increased the lingcod bag limit from two to three fish and the data at that time indicated this increase could be accommodated. However, data that has become available since that time indicate an increasing trend in recreational catch. Because the recreational sector accounts for the majority of the lingcod mortality CDFW is proposing a

reduction in the lingcod bag limit to keep mortality within allowable limits. The proposed bag limit is a two fish bag limit.

Projected mortality and estimated number of trips from the CDFW proposed recreational season structure and bag limits can be found in Agenda Item F.6.a,, Supplemental CDFW Report.

Recommendations

Action Item Checklist Number	Recommendation(s)
9	• **Adopt the allocations for the shorebased IFQ fishery for darkblotched and widow rockfish as shown in Table 1** • **The inclusion of the removal of the trawl RCA north of Cape Alava within the 2017-2018 management measures analysis** • **The Council adopt the big skate trip limits listed in (Agenda Item F.3, Attachment 1, Table 4-13)**
10	• **Adopt the Amendment 21 allocation for at-sea sectors for darkblotched rockfish, POP, and widow rockfish as shown in Table 2**
11	• **the Council consider starting with a LEFG trip limit of 300 lbs per bimonthly period (for all periods) for canary rockfish** • **the Council consider Alternative 2 trip limits sablefish north as shown in Table 4 for both LEN and OAN for both 2017 and 2018** • **the GMT recommends the Council consider the following relative to trip limits for sablefish in the LE and OA fisheries south:** o **Under No Action Sharing (Table X, 55-45 LE-OA): Trip Limit Alternative 2 for LES (1,600 lb /week) and No Action for OAS.** o **Under Alternative 1 Sharing (Table X, 75-25 LE-OA): Trip Limit Alternative 2 for LES (1,800lb/week), and No Action for OAS.**
12	• **The Council consider OA canary rockfish trip limits in the range presented in Table 15 based on risk tolerance, model uncertainty, and harvest potential** • **the Council consider Option 2 in Table 16 for black rockfish trip limit for California north of 40°10' N. lat.** • **the Council consider Option 1 in Table 17 as a PPA, and consider further analysis to be brought forward in June**
13	• **The Council approve the tribal fisheries shown**
14	• **The Council approve the recreational seasons and bag limits are described in detail in the Supplemental WDFW Report (Agenda Item F.6.a,, April 2016).**
15	• **The Council approve the preferred recreational fishery season structure bag limits and regulations that were in place in 2016 and are described in the No Action Alternative in Section 4.1.1.9. of Agenda Item F.3., Attachment 1 would be in place, with two exceptions,** o **Removal of the kelp greenling minimum size limit** o **Add two options for expanding the Stonewall Bank YRCA**
16	• **The Council approve preferred recreational season structure and bag limits as presented in the Supplemental CDFW report (Agenda Item F.3.a, Supplemental CDFW Report, April 2016) and the seasons and depths for each management area presented in Figure 3**

Appendix 1. Methods use to project impacts of alternative OA (FG) canary rockfish trip limits

Trip limits cap the maximum catch for periods of time (e.g., bimonthly) that can cover many different landings. Therefore, trip limit models work by manipulating maximum total catches for every single vessel during the trip limit timeframe. For example, if the trip limit is reduced from 200 lbs to 100 lbs, anyone who caught 100-200 lbs is capped at 100 lbs. Conversely, if trip limits are increased, those that caught the cap in the past are typically assumed to catch the new higher limit. For example, if the trip limit is increased from 200 lbs to 300 lbs, those that caught 200 lbs are assumed to catch the new 300 lb limit.

For trip limit models such as these to function, catch must be known or projected for every single vessel trip. But for canary rockfish, catch is only known from a portion of observed vessels due to current non-retention rules. Accordingly, catch from the non-observed trips had to be projected prior to using standard trip limit model procedures.

In order to project canary rockfish catch from non-observed trips, we used a two stage random resampling with replacement simulation. In the first stage, non-observed trips were randomly drawn catches from observed trips (including zeros). However, randomly resampling historical trips assumes that there will not be any behavioral changes, as would be expected if canary rockfish retention were allowed as a portion of fishermen may begin to target them.

Accordingly, the second stage of the simulation accounted for targeting at levels similar to those observed in the past. Described below, it appears as if 14 percent of OA vessels (and 1.6 percent of LE) targeted canary rockfish during the 1990s prior to the prohibition on landings and closure of the shelf with the FG RCA. To simulate potential targeting, each vessel was given a 14 percent probability of becoming a targeting vessel, and if drawn, that vessel was assumed to always catch the full trip limit of canary rockfish.

Stage 1: Projected landings and total mortality assuming no targeting (only retain bycatch)

1. Every trip taken (2014 was used as the base year; with assumption that most recent year with be most reflective of the future) was randomly assigned a bycatch from observed trips pooled from 2011-2014 to increase sample size.
2. The bycatch per trip from each vessel was summed by the number of trips each vessel took during each period for simulated vessel totals (Figure 4).
3. Varying period limits were applied to the vessel-period total bycatches for OA vessels (0,10,25,50,100,150,200, 250,300 lbs per period); LE was always fixed at 300 lbs
4. If the bycatch was less than the period limit, the vessel was able to retain their entire bycatch (as they would legally be allowed to do so)
5. If the bycatch was over the period limit, the vessel was able to retain the portion of bycatch up to the limit, and the remainder (above the trip limit) was discarded with discard mortality rates applied.

Stage 2: Projected landings and total mortality assuming targeting by a portion of the fleet

1. Since there may be incentive for vessels to target canary rockfish if permitted to retain them, potential targeting levels were determined by comparing catch rates when the fleet was allowed to target and retain them in the 1990s to the observer discard rates of current years (Figure 5)
2. For the comparison to be effective for determining potential targeting, trips from the 1990s had to be filtered to only trips occurring in depths open to the current nearshore fishery (shoreward of the fixed gear RCA) - elsewise, there would be contamination of historical trips that occurred in the current RCA, the prime habitat of canary rockfish (thus would bias the comparison)
3. Since there was no denotation for the "nearshore" trips on historical fish tickets, species associations were used as a filtering technique similar to the Stephens-McCall technique to subset trips for stock assessment indices of abundance
4. If a trip had species that occur almost exclusively in nearshore depths (e.g., black rockfish, China rockfish), the historical trip was included in the catch rate comparison and trips with predominantly deeper water species (e.g., sablefish) were excluded from the analysis. Filtering for "nearshore-only" trips was critical for preventing historical trips that targeted canary rockfish on the shelf, which is now closed, to determine potential targeting in nearshore depths, shallower than the RCA.
5. Based on this comparison, historical catch rates (landings) were similar to current discard rates (observed trips) thus indicating that canary rockfish, even when allowed, have predominantly been a bycatch species for some other trip target
6. However, there are differences in the distributions, with greater proportion of historical trips catching higher quantity bins than current - thus indicating that a portion, but not most, of the fleet targeted canary rockfish (or by chance had higher bycatches). Based on differences in these distributions, the potential for targeting was estimated to be 14 percent of vessels
7. In the second stage draw, each vessel was given a 14 percent chance of "becoming" a targeting vessel
8. If the vessel became a targeting vessel, they were assumed to: (1) always catch their full period limit of canary rockfish (regardless of the size limit) and (2) maintain constant bycatch rates of canary rockfish (as they could limit on canary rockfish early, and then continue to have canary rockfish bycatch while fishing for other targets. However, note that at lower trip limits (e.g., 10 lbs), many of the potential targeting vessels had already attained their limits due to bycatch alone - thus very limited effects of targeting at low trip limits.

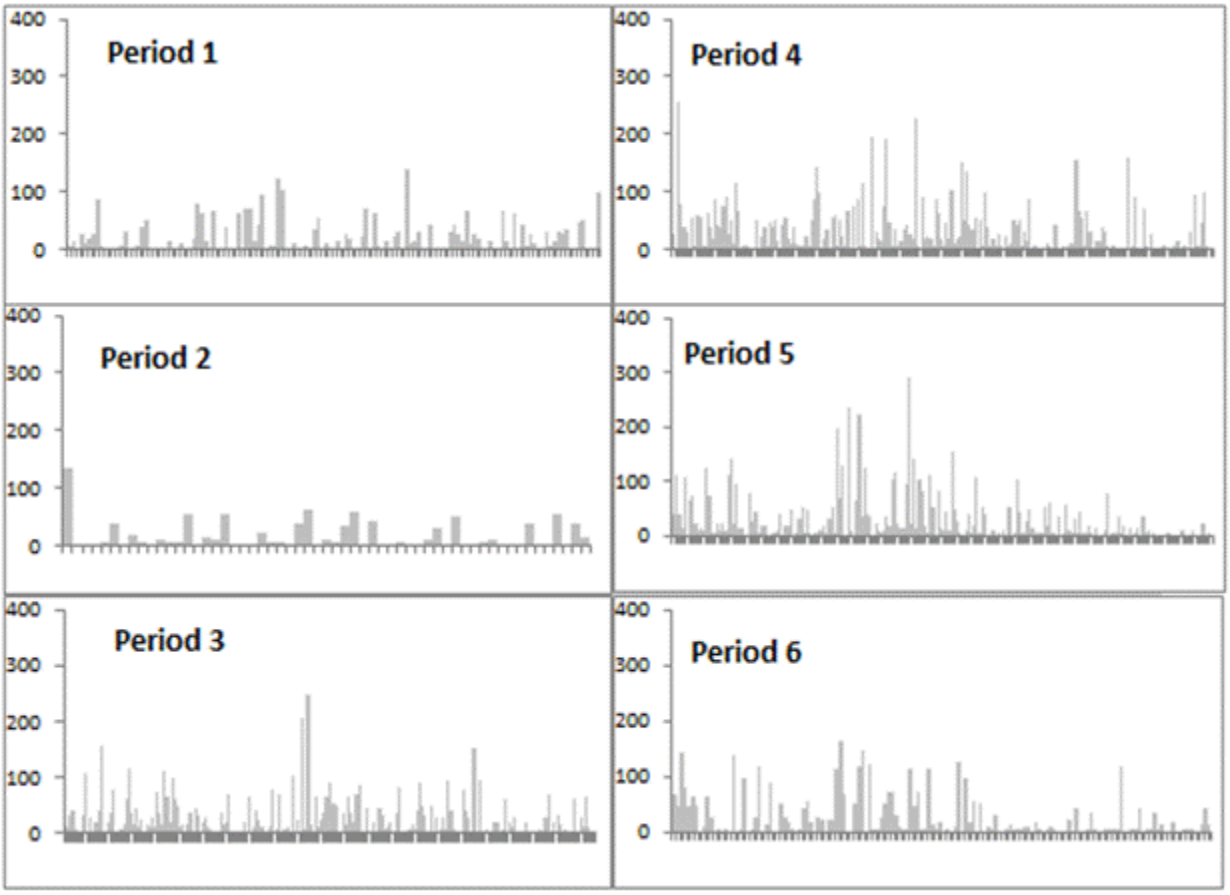

Figure 4. Simulated total catch of canary rockfish by nearshore OA and LEFG vessels (CA+OR). Each bar is total catch for an individual vessel during that period. As can be seen, trip limits of 300 lbs would be expected to allow all vessels to retain nearly all incidental bycatch of canary. Once the trip limit decreases below 100 lbs, then an increasingly number of vessels will have to discard a portion of their bycatch.

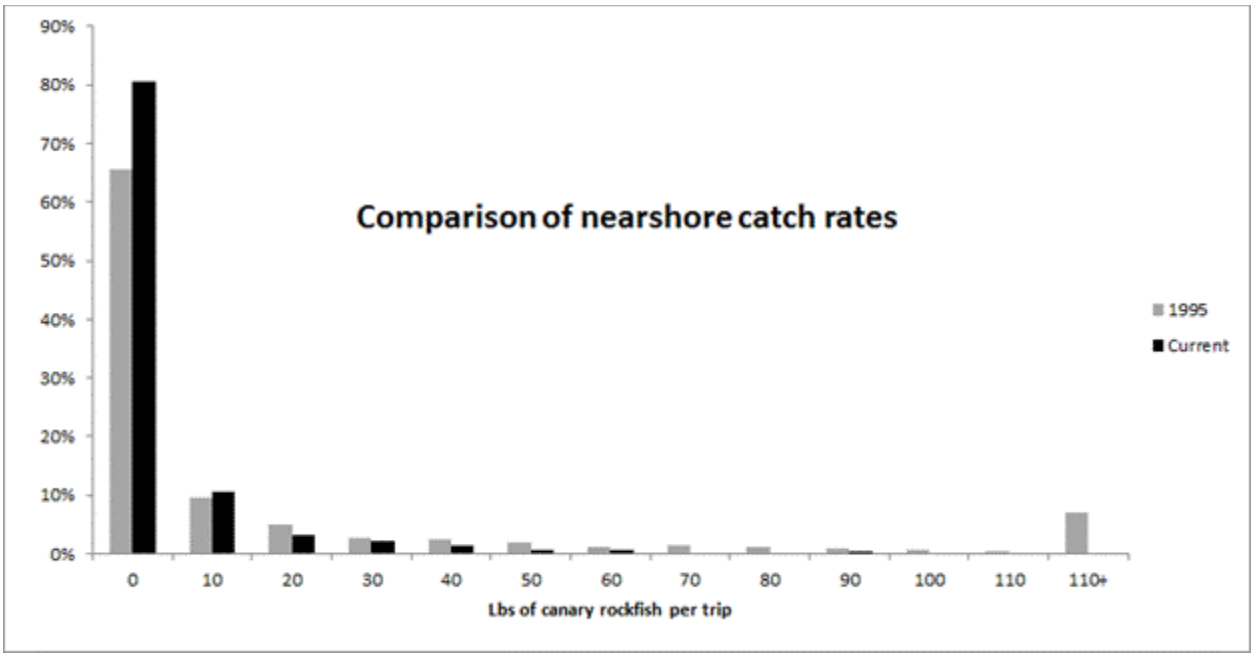

Figure 5. Comparison of canary rockfish catch rates from when targeting was allowed (1995 randomly selected; harvest per trip) compared to recent years without targeting (2011-2014 observed discard rates) to determine the potential for targeting in the future if retention of canary rockfish is permitted. For the comparison to be comparable given the fixed gear RCA now excludes the prime habitat of canary rockfish, 1995 trips were filtered via a species-association method (described in text) to only include trips believed to occur within the permissible waters of the nearshore fishery today (shoreward of the RCA).