

DRAFT TWO-YEAR ALLOCATION OPTIONS FOR CANARY ROCKFISH

Introduction

The fishery harvest guidelines (HG) for canary rockfish are further allocated each biennium between the trawl and non-trawl sectors. These allocations cannot be modified inseason, nor can they be adjusted mid-biennium. Additionally, decisions are made each biennium to allocate canary within the trawl and non-trawl sectors. Entities within trawl sector, which include the shorebased individual fishing quota (IFQ) program, mothership (MS), and catcher-processor (CP) sectors, are issued allocations which require fishing operations to cease if attained. The non-trawl sector includes the limited entry and open access fixed gear (i.e., non-nearshore and nearshore fisheries) and recreational sectors, which are managed to stay within the overall non-trawl allocation. The recreational fisheries receive state-specific HGs, which do not require closure of a fishery if attained. The nearshore and non-nearshore fisheries receive informal canary shares from the non-trawl allocation.

The groundfish Fishery Management Plan (FMP) (Section 6.3.1) contains criteria for the Council to consider when establishing allocations:

1. Present participation in and dependence on the fishery, including alternative fisheries.
2. Historical fishing practices in and historical dependence on the fishery.
3. The economics of the fishery.
4. Any consensus harvest sharing agreement or negotiated settlement between the affected participants in the fishery.
5. Potential biological yield of any species or species complex affected by the allocation.
6. Consistency with the Magnuson-Stevens Act national standards.
7. Consistency with the goals and objectives of the FMP.

Background

The canary rockfish stock, which is most abundant on the shelf from 50 to 100 fathoms, was declared overfished in January 2000. At that time, bocaccio rockfish south of 40°10' N. latitude, another shelf rockfish species, was also under a rebuilding plan (declaration was in 1999). In 2002, yelloweye rockfish were declared overfished. The low annual catch limits (ACLs) implemented in the rebuilding plans for all three species greatly limited access to the shelf coastwide.

The 2015 canary rockfish assessment indicated the stock was 55.5 percent of virgin biomass at the start of 2015 and the stock had rebuilt. The higher ACLs expected as a result of rebuilding are scheduled to be implemented in the 2017-2018 biennium. Bocaccio rockfish are still overfished; however, the 2017-2018 ACLs are substantially higher than in 2015-2016 (790-741 mt and 349-362 mt, respectively). The yelloweye rockfish stock, however, is still overfished, with fairly low ACLs proposed for 2017-2018 (20 mt) which will continue to limit opportunities on the shelf.

2017-2018 Analysis

Council guidance from November 2015 was to allocate 53 percent to the trawl sector and 47 percent to the non-trawl sector for the initial integrated alternatives analysis, based on the

September 2015 scorecard (Table 1). The September 2015 scorecard was also used to allocate canary within the trawl and non-trawl sectors.

Table 1. September 2015 scorecard allocations by sector in metric tons (mt). Additionally, canary allocations by individual sector is presented as a percent of the trawl and non-trawl allocations.

Sector	MT	% of Fishery HG
Fishery HG a/	106.8	
Trawl	57.0	53%
<i>Shorebased IFQ</i>	<i>43.3</i>	<i>76%</i>
<i>CP</i>	<i>8</i>	<i>14%</i>
<i>MS</i>	<i>5.7</i>	<i>10%</i>
Non-Trawl	49.9	47%
<i>Non-Nearshore Fixed Gear</i>	<i>3.8</i>	<i>8%</i>
<i>Nearshore Fixed Gear</i>	<i>6.7</i>	<i>13%</i>
<i>WA Rec</i>	<i>3.4</i>	<i>7%</i>
<i>OR Rec</i>	<i>11.7</i>	<i>23%</i>
<i>CA Rec</i>	<i>24.3</i>	<i>49%</i>

a/ The fishery HG is the amount remaining after subtracting from the ACL any allocation or projected catch for the Pacific Coast treaty Indian Tribes, projected research catch, deductions for fishing mortality in non-groundfish fisheries, and deductions for exempted fishing permits (EFP). In March 2016 the Council forwarded a [commercial jig fishing EFP application](#) for public review, which contained a 1 mt set-aside of canary rockfish. The analysis contained herein does not take that value into consideration.

Canary mortality was estimated using a variety of projection models prepared by the Groundfish Management Team (GMT). The projections are based on assumptions regarding industry and angler behavior, which is highly uncertain given that canary rockfish retention has been prohibited for nearly two decades. Table 2 contains the canary allocations (mt), projected mortality (mt), and percent attainment by sector and alternative for the 2017-2018 biennium. Approximately 61 percent of the trawl allocation is predicted to be attained. For the non-trawl sector, percent attainment ranges from 10 to 31 percent.

At the March 2016 Groundfish Advisory Subpanel (GAP) meeting there were discussions regarding whether participants in the shorebased IFQ program would utilize the higher canary rockfish allocation as a target stock, or as a mechanism to provide access to other shelf species (e.g., yellowtail rockfish, widow rockfish, Dover sole, rex sole, etc.), or a mixture of both depending on individual quota shares. Participants in the CP and MS sectors also indicated that even though the model projections were well within the allocations and the overall risk of exceeding the allocations was low, avoidance is costly and increased allocations are expected to provide flexibility in the areas fished. Furthermore, for the non-trawl sector, the analysis in Agenda Item F.3, Attachment 1 contains a wide range of options for the non-trawl sectors that will influence final canary rockfish projections. For example, the GMT provided a wide range of canary rockfish trip limits for the limited entry and open access fixed gear sectors that the Council will be reviewing and providing input at this meeting. The trip limits analyzed were intended to only accommodate bycatch and not provide for targeting opportunities. Table 2 contains the mortality expected from selected canary trip limits; however, if the Council desires trip limits that provide for targeted opportunities, the canary rockfish mortality would be greater. Additionally, a wide range of canary rockfish sub-bag limits (from 1-10) are proposed for the recreational fisheries and

the Council is expected to provide input on the preliminary preferred options under Agenda Item F.6. Lastly, there are four season options for the California recreational fishery, which result in a range of canary rockfish mortalities. It is expected that Table 2 will be revised after preliminary preferred measures are selected in April, which will inform final action in June.

Table 2. Canary allocations (mt), projected mortality (mt), and percent attainment by sector and alternative for 2017.

	Allocations (mt)			Projections (mt)			Percent Attainment		
	No Action	Alt. 1	Alt. 2	No Action	Alt. 1	Alt. 2	No Action	Alt. 1	Alt. 2
ACL	1,714.0	857.0	566.0						
Fishery HG	1,670.6	813.6	522.6						
Trawl Allocation	890.0	433.5	278.4	539.6	263.4	169.6	61%	61%	61%
<i>SB IFQ a/</i>	<i>676.1</i>	<i>329.3</i>	<i>211.5</i>	<i>538.6</i>	<i>262.3</i>	<i>168.5</i>	80%	80%	80%
<i>CP b/</i>	<i>124.9</i>	<i>60.8</i>	<i>39.1</i>	<i>0.4</i>	<i>0.4</i>	<i>0.4</i>	0.3%	0.7%	1.0%
<i>MS b/</i>	<i>89.0</i>	<i>43.3</i>	<i>27.8</i>	<i>0.6</i>	<i>0.7</i>	<i>0.7</i>	0.7%	1.6%	2.5%
Non-Trawl Allocation	780.6	380.1	244.2	74.8	74.8	74.8	10%	20%	31%
<i>Non-Nearshore c/</i>	<i>59.4</i>	<i>28.9</i>	<i>18.6</i>	<i>0.3</i>	<i>0.3</i>	<i>0.3</i>	1%	1%	2%
<i>Nearshore d/</i>	<i>104.8</i>	<i>51.0</i>	<i>32.8</i>	<i>12.5</i>	<i>12.5</i>	<i>12.5</i>	12%	25%	38%
<i>WA Rec. e/</i>	<i>53.2</i>	<i>25.9</i>	<i>16.6</i>	<i>2.6</i>	<i>2.6</i>	<i>2.6</i>	5%	10%	16%
<i>OR Rec. f/</i>	<i>183.0</i>	<i>89.1</i>	<i>57.3</i>	<i>17.1</i>	<i>17.1</i>	<i>17.1</i>	9%	19%	30%
<i>CA Rec. g/</i>	<i>380.1</i>	<i>185.1</i>	<i>118.9</i>	<i>42.3</i>	<i>42.3</i>	<i>42.3</i>	11%	23%	36%

a/ Projections from the shorebased IFQ model.

b/ Projections from the bootstrap model, which assumes the 2015 Pacific whiting total allowable catch and sector allocations.

c/ Projections from the non-nearshore model for the area north of 36° N. latitude and the annual average West Coast Groundfish Observer Program (WCGOP) estimates for the area south of 36° N. latitude, which were trace.

d/ Projected mortality based on canary trip limits of 100 lbs/2 months for open access (OA) and 300 lbs/2 months for limited entry (LE). These trip limits would also apply in the non-nearshore fisheries; however, the majority of the mortality is expected to occur in the nearshore.

e/ Projected mortality based on bag limit Option 2; 12 groundfish bag limit with a 7 fish rockfish sub-bag, one of which can be canary.

f/ Projected mortality based on a 10 marine fish bag limit with no restrictions on canary.

g/ Projected mortality based on Season Option 3, which increases the depth of fishing by 10 fm north of Point Conception compared to 2016, and 1 fish canary sub-bag within the 10 rockfish, cabezon, and greenling complex bag limit.

Range of Allocations

The Council also requested a range of allocations be explored based on input from the GMT ([Agenda Item I.9.a, Supplemental GMT Report 3, November 2015](#); hereinafter GMT Report 3) and GAP ([Agenda Item I.9.a, Supplemental GAP Report, November 2015](#)). Specifically, the Council was interested to explore allocation scenarios based on catch (i.e., mortality) by sector during periods when canary rockfish were targeted (1990-1999) and also avoided (2000-2014). The catch-based sector percentages in GMT Report 3 from 1990-2014 were based on the mortality estimates in Tables 6 and 7 of the 2015 Canary Rockfish Stock Assessment. The stock assessment mortality estimates were considered the best available data given that WCGOP estimates of mortality are not available prior to 2004. The stock assessment sectors were apportioned to derive sectors relevant to Council management by using landings data from Pacific Fishery Information Network (1990-1999), estimates of mortality from the WCGOP Groundfish Expanded Mortality data product (2002-2014), and estimates of mortality in NORPAC (1990-2014). The derived historical catch by sector can be found in Table 3. The Council also forwarded allocation scenarios based on pre-season allocations from 2009-2010 biennium and the 2015-2016 cycle (i.e., the September 2015 scorecard). Allocation percentages in GMT Report 3 were revised for the 2009-2010 biennium based on final values in the 2009-2010 Environmental Impact Statement (see Tables 2-39 and Table 2-43). All allocations were recalculated using revised fishery HGs (Table 4).

Table 3. Historical mortality by sector derived from the 2015 canary stock assessment.

Year	SB Trawl	CP	MS	Non-Nearshore	Nearshore	WA Rec	OR Rec	CA Rec	TOTAL
1990	2490.4	3.6	0.0	101.1	189.1	9	29.7	77.1	2900.0
1991	2968.7	2.2	0.7	81.9	153.2	9.8	29.7	77.1	3323.3
1992	2541.6	1.8	0.3	109.2	204.3	19.2	29.7	77.1	2983.2
1993	1915	0.6	0.1	98.2	183.7	18.3	36.3	65.1	2317.3
1994	935.9	1.6	2.0	75.6	141.3	10.6	32.4	43.4	1242.8
1995	834.7	0.1	0.2	97.4	151.6	8.9	35.7	85.4	1214
1996	1144	0.1	0.7	169.6	154.8	8.4	19.2	58.3	1555.1
1997	955.6	1.8	1.1	225.2	155.5	8.7	38.5	99.4	1485.8
1998	1052.6	0.4	4.4	244.7	103.9	13.7	41.6	26.9	1488.2
1999	593.7	5.6	1.0	122.5	82.5	8	29.3	57.8	900.4
2000	54.5	1.5	1.0	50	34	5.6	14.6	63.2	223.8
2001	44.7	1.7	2.2	32.4	21.6	4.9	10.6	29.1	147.2
2002	64.5	4.4	2.3	6.10	0.10	2.4	8.7	6	94.5
2003	27.5	0.7	0.3	0.56	2.14	2.2	9.2	17.9	60.5
2004	17.9	0.6	4.8	6.08	4.22	0.9	3.2	10	47.7
2005	41.2	0.6	1.3	0.75	2.95	1.3	5.8	2.3	56.2
2006	28.1	0.2	1.5	0.52	5.28	0.6	3.3	6.8	46.3
2007	26.5	0.5	2.4	0.15	7.65	0.7	2.7	5.5	46.1
2008	18.4	4.4	1.3	1.23	5.97	0.6	2.2	1.6	35.7
2009	14.3	1.0	2.0	0.45	6.85	0.7	2.7	19	47
2010	9.9	0.5	1.0	0.08	11.32	0.8	3.2	15.8	42.6
2011	6.9	1.2	0.2	0.13	25.27	1.2	3.2	20.9	59
2012	10.7	0.4	0.3	0.19	12.21	0.9	3.7	3.8	32.2
2013	11.9	0.3	0.8	1.20	12.20	1.1	3.4	4.4	35.3
2014	11.2	0.4	0.6	0.82	16.68	1.5	3	4.1	38.3

Table 4. Sector allocations (mt) of canary by ACL alternative and allocation option for 2017.

Option	Years	Alternative	HG	Trawl	<i>SB IFQ</i>	<i>CP</i>	<i>MS</i>	Non-Trawl	<i>Non-Nearshore</i>	<i>Nearshore</i>	<i>WA Rec</i>	<i>OR Rec</i>	<i>CA Rec</i>
1	1990-1999	No Action	1,670.6	1,275.6	1,272.2	2.1	1.3	395.0	130.2	153.2	11.6	32.8	67.2
2	2000-2014			761.6	679.2	37.0	45.4	909.0	89.3	305.9	45.1	162.6	306.1
3	2009-2010			690.1	475.8	88.6	125.7	980.5	22.7	55.6	100.9	329.6	471.7
4	Sep-15			890.8	676.7	125.0	89.1	779.8	59.4	104.7	53.1	182.8	379.8
1	1990-1999	Alt1	813.6	621.2	619.6	1.0	0.6	192.4	63.4	74.6	5.6	16.0	32.7
2	2000-2014			370.9	330.8	18.0	22.1	442.7	43.5	149.0	22.0	79.2	149.1
3	2009-2010			336.1	231.7	43.1	61.2	477.5	11.0	27.1	49.2	160.5	229.7
4	Sep-15			433.8	329.5	60.9	43.4	379.8	28.9	51.0	25.9	89.0	184.9
1	1990-1999	Alt 2	522.6	399.0	398.0	0.7	0.4	123.6	40.7	47.9	3.6	10.3	21.0
2	2000-2014			238.2	212.5	11.6	14.2	284.4	27.9	95.7	14.1	50.9	95.8
3	2009-2010			215.9	148.9	27.7	39.3	306.7	7.1	17.4	31.6	103.1	147.6
4	Sep-15			278.7	211.7	39.1	27.9	243.9	18.6	32.8	16.6	57.2	118.8

Present and Recent Past Participation

Starting in 2011, with the advent of the rationalized trawl fishery, two-year trawl and non-trawl allocations have been established for canary rockfish using the same percentages proposed for 2017-2018 (53 percent trawl; 47 percent non-trawl). Despite providing roughly equal allocations to the sectors, the non-trawl sector was on average responsible for 73 percent of the mortality from 2011-2014 (Table 3). In most years, the nearshore commercial fishery had the highest mortality, followed by Oregon and California recreational fisheries. Within the trawl sector, mortality in the shorebased IFQ sector was the highest and has increased since the start of the rationalized fishery.

Prior to 2011, there were no formal trawl and non-trawl allocations. Generally, amounts were set aside via the use of an HG to provide for the recreational fisheries and estimated mortality in the nearshore and non-nearshore fisheries. During this time period, Washington and Oregon shared one HG and California had a state-specific HG. The remainder of the fishery HG was then provided to the trawl sectors. In 2007-2008, there were fleet-wide canary rockfish limits for the all three whiting sectors (i.e., shorebased whiting, CP, and MS). In 2009-2010, sector-specific bycatch caps for canary were established for all three whiting sectors. From 2007-2010, the trawl sector, specifically the shorebased trawl sector, was responsible for 48 percent of the canary rockfish mortality and non-trawl was responsible for 52 percent (Table 3). California recreational and the nearshore fishery was responsible for the majority of the non-trawl mortality. From 1990-1999, the trawl sector was responsible for the majority of the canary mortality (80 percent).

Other Considerations

Buffering the Non-Trawl Sector Projections

One approach to issuing allocations may be to buffer the at-sea and non-trawl projected impacts and allocate the remaining amounts to the shorebased IFQ program, which is similar to the approach that the Council used prior to 2011. Such an approach is based on the assumption that the shorebased IFQ sector, given individual accountability, will have the greatest opportunity to increase access to shelf species within the yelloweye rockfish constraints. In March 2016, the Oregon Department of Fish and Wildlife (ODFW) provided a draft methodology to accomplish such an approach ([Agenda Item G.3.a, REVISED Supplemental ODFW Report, March 2016](#)). The GMT and GAP are expected to comment on the buffering approach and methodologies, including those proposed by ODFW.

Annual Catch Target

The Council could also consider establishing an annual catch target (ACT), which is a management target set below the ACL to account for the uncertainty in the pre-season projections and inseason catch monitoring. As noted earlier in the document, there is uncertainty in the pre-season projections of canary rockfish mortality. Furthermore, the level of inseason monitoring varies by sector. The trawl sectors have 100 percent observer coverage and data are generally available on a 24-hour lag. The commercial fixed gear sectors have a range of observer coverage, with the highest average of 24 percent occurring in the limited entry primary fishery for sablefish (see WCGOP data at <http://tinyurl.com/ztn6u3x>). Discard from WCGOP are provided on a one-year lag. Fish ticket landings information is typically available on a two-month lag, though lags have

been as great as six months in California. Currently, recreational groundfish fisheries are tracked inseason on roughly a two-month lag by the states, and management actions are taken either by the state, National Marine Fisheries Service, or both, when an HG is approached or attained.

The ACT could be set below the fishery HG, similar to the ACTs proposed for cowcod and California scorpionfish. Alternately, sector-specific ACTs could be established, that is an ACT could be set below either the trawl or non-trawl allocation. The Council could consider an approach for canary rockfish whereby an amount is set aside through use of an ACT (either below the fish HG or sector-specific), and is then available to sectors via a routine inseason action. In such an approach, the Council must take care not to set too much aside, given that routine adjustments are only available five times a year at Council meetings.

Such an approach would be consistent with the current regulations which allow the Council to take routine inseason actions to make the set-asides from the ACL available to other sectors. These deductions are made to account for groundfish mortality in scientific research activities, non-groundfish fisheries, and EFPs. When projections or inseason data indicate that fish deducted from the ACL to account for these activities will go unharvested, the Council can take routine inseason action to make such yield available to other fisheries during the year. In taking such actions, the Council considers the allocation framework criteria outlined in the FMP and the objectives to maintain or extend fishing and marketing opportunities, taking into account the best available fishery information on sector needs.

PFMC
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