GROUNDFISH MANAGEMENT TEAM REPORT ON BIENNIAL MANAGEMENT MEASURES FOR 2021-2022

This report covers Management Measures 1, 2, and 4 through 10 from the Action Item Checklist (Agenda Item H.8., Attachment 1). Items 3 (GMT Report 1) and 11 through 21 (GMT Report 3) will be in separate reports.

Contents

Action Item # 1: Any Outstanding Specifications

The GMT did not identify any outstanding items from Agenda Item H.6.

Action Item # 2: Updates to Selected Rockfish Conservation Area Coordinates

The GMT received a public request at the April 2019 meeting (Agenda Item B.1, Open Public Comment) to make adjustments to select waypoints off central California in an effort to better align the 40 fathom rockfish conservation area (RCA) boundary with actual depth contours. **Because these proposed waypoint changes are limited to minor adjustments of a current boundary, the GMT recommends adopting the revisions for detailed analysis.** The GMT notes that any requests or proposals which would open parts of the Non-Trawl RCA are not being considered in this biennium but in a separate, stand-alone package that is currently scheduled on the Year-At-A-Glance.

Action Item # 3: Off-the-Top Deductions

See Report 1 (Agenda Item H.8.a, Supplemental GMT Report 1)

Action Item # 4: Annual Catch Targets

Annual catch targets (ACTs) are a management target set below annual catch limits (ACLs). An ACT may be used along with accountability measures to ensure an ACL is not exceeded, in cases where there is increased uncertainty in inseason catch monitoring.

Cowcod South of 40° 10′ N lat.

The 2019 cowcod stock assessment indicated that cowcod south of 40°10′ N. lat. is healthy and rebuilt (e.g., cowcod between 34° 27′- 40° 10′ N. lat. is evaluated using Depletion-Based Stock Reduction Analysis (DB-SRA) and does not estimate a stock status). However, the estimates of current stock size and status is highly uncertain, due to the lack of available biological and fishery-dependent data. The ACL for 2021-2022 is 87 and 85 mt, respectively.

In response to the high degree of uncertainty in the assessment results, the GMT suggests the Council remain precautionary in managing cowcod south of 40° 10′ N. lat. by continuing to use an ACT until more data are collected to better inform the next stock assessment. Since cowcod is managed south of 40° 10′ N. lat., **the GMT recommends analyzing a single ACT for south of 40° 10′ N. lat.** Separating the ACT into two management areas is not possible, because it would require splitting previously allocated trawl quota shares into two management area allocations. The GMT suggests the analysis consider a range of 40-60 mt for an ACT under the ACL. Trawl individual fishing quota (IFQ) and inseason management in the non-trawl sector will be used to manage to the ACT.

Shortbelly rockfish

In September, Oceana proposed managing shortbelly rockfish with a 1,000 mt ACL and a 500 mt ACT that, if reached, would trigger inseason mitigation. The GMT discussed a variety of potential accountability measures that could be used in conjunction with an ACT (e.g., bycatch reduction areas), but did not identify any potential measures that would be effective at reducing bycatch

without de facto fishery closures. Shortbelly rockfish have a widespread geographic and temporal catch distribution, which would make time or space-based closures ineffective at reducing bycatch. As we discussed in September, the GMT believes that voluntary actions taken by the whiting cooperatives would be the most effective way to reduce shortbelly rockfish bycatch. The GMT recently discussed implementing cooperative self-management measures into formal regulations in the "Endangered Species Act Mitigation Measures for Salmon" item, considered for Final Preferred Alternative (FPA) at this meeting. Cooperatives in the whiting sector, which had experienced high bycatch of shortbelly rockfish in 2017 and 2018, would likely be able to react quickly to implement bycatch reduction measures inseason.

Action Item # 5: Recommend Harvest Guidelines for Species Managed within a Complex

Oregon black/blue/deacon rockfish and cabezon/kelp greenling complexes

The Oregon Department of Fish and Wildlife (ODFW) manages these stocks to their ACL contributions with harvest guidelines (HGs) specified in state regulations, which is functionally the same as federally-specified component stock HGs. The Council deliberated on, but did not implement, federally-specified component stock HGs for these stocks for 2019-2020. The GMT does not believe they are necessary for 2021-2022, as they would merely duplicate ODFW's state regulations.

Blackgill Rockfish South of 40° 10′ N. lat.

This holistic section is designed to address all of the actions that the Council tasked the GMT to evaluate for 2021-2022, when they rescinded their FPA from the Amendment 26 (A-26) rulemaking. The original FPA was to remove blackgill rockfish from the southern slope rockfish complex, manage it with stock-specific harvest specifications, and revise the Amendment 21 (A-21) allocations to shift more blackgill rockfish allocation into the non-trawl sector. However, the Council decided in April 2019 (April 2019 Motion for FPA) to instead keep blackgill rockfish in the complex to increase flexibility, reduce potential constraints to the IFQ fleet, and provide greater harvest amounts for the commercial non-trawl sectors that target blackgill rockfish.

The GMT-proposed tasks to accomplish the Council objectives for blackgill rockfish and the remaining southern slope contributors for 2021-2022 are as follows:

Task 1: Set an HG for blackgill rockfish equal to the component ACL

The objective of this task is to ensure the long-term sustainable management of blackgill rockfish. As described in the draft environmental assessment (EA) for A-26 (Agenda Item G.4 Attachment 1 April 2019), blackgill rockfish were previously in the precautionary zone and are characterized by slow growth and late maturation, so the GMT suggests a conservative management approach even though the stock is now projected to be healthy. **The GMT recommends the Council consider 176.5 mt and 174.0 mt HGs for blackgill rockfish in the southern slope complex for 2021-2022, respectively.** These are the blackgill component ACL contributions to the complex.

Task 2: Establish trawl/non-trawl shares of the blackgill rockfish HG

This would be similar to the "soft-cap" framework used by the Council, where HGs of canary rockfish and yelloweye rockfish are set to the coastwide nearshore fisheries, and then the Oregon and California nearshore fisheries are given "shares" based on constant percentages. The trawl and non-trawl shares of the blackgill rockfish HG would be the basis of management for each sector. **The GMT recommends that the Council consider the following shares of the HG, as shown in Table 1**: **165 mt and 72.9 mt for trawl (41 percent) and 106.3 mt and 104.8 mt for non-trawl (59 percent) in 2021-2022, respectively.** These were the original FPA allocation percentages from the A-26 rulemaking, based on removing blackgill rockfish from the complex, and were designed to provide higher economic benefits to the non-trawl sectors. Trawl and non-trawl representatives both provided public testimony in April 2019 that it is important to provide more blackgill rockfish opportunity for the non-trawl sectors.

Table 1. Proposed HG and trawl/non-trawl shares (mt) of blackgill rockfish in the southern slope complex.

Sector	**2021**	**2022**
HG (component ACL)	176.5	174.0
Trawl share (41%)	72.4	71.4
Non-trawl share (59%)	104.2	102.7

Task 3: Set trip limits for non-trawl to stay within their share of blackgill rockfish

As discussed in the draft EA, the retrospective non-trawl attainment (i.e., applying the proposed 59 percent share to previous ACL contributions) has been less than 50 percent each year from 2013-2018. The specific trip limit proposals are described in Agenda Item H.8.a., Supplemental GMT Report 3, November 2019.

Task 4: Evaluate a new method to keep the IFQ sector within their share of blackgill rockfish

Also as discussed in the draft EA, ensuring that the IFQ sector does not exceed management objectives is difficult if blackgill rockfish remains in the complex. The IFQ fishery does not have and does not want blackgill-specific quota pounds (QP), and their IFQ allocation of all southern slope complex species combined is higher than the blackgill rockfish component ACL and the new proposed trawl share. In other words, there is not yet a mechanism to use QP of the southern slope complex to ensure the IFQ sector does not reach or exceed the blackgill rockfish ACL contribution.

The maker of the April 2019 motion on A-26 blackgill rockfish confirmed that one of the Council objectives was for the GMT to analyze new blackgill rockfish mitigation measures beyond setting quota levels that could be effective for the IFQ sector in 2021-2022. As discussed in the draft EA, the majority of IFQ blackgill rockfish removals are attributed to landings from just a few boats that appear to be targeting blackgill rockfish. For instance, less than three boats on average who land between 10,000 and 60,000 mt of blackgill rockfish per year have been taking more than the other 12 boats in the fleet, on average, combined (Figure 1; duplicated from Figure 3 of the draft EA).

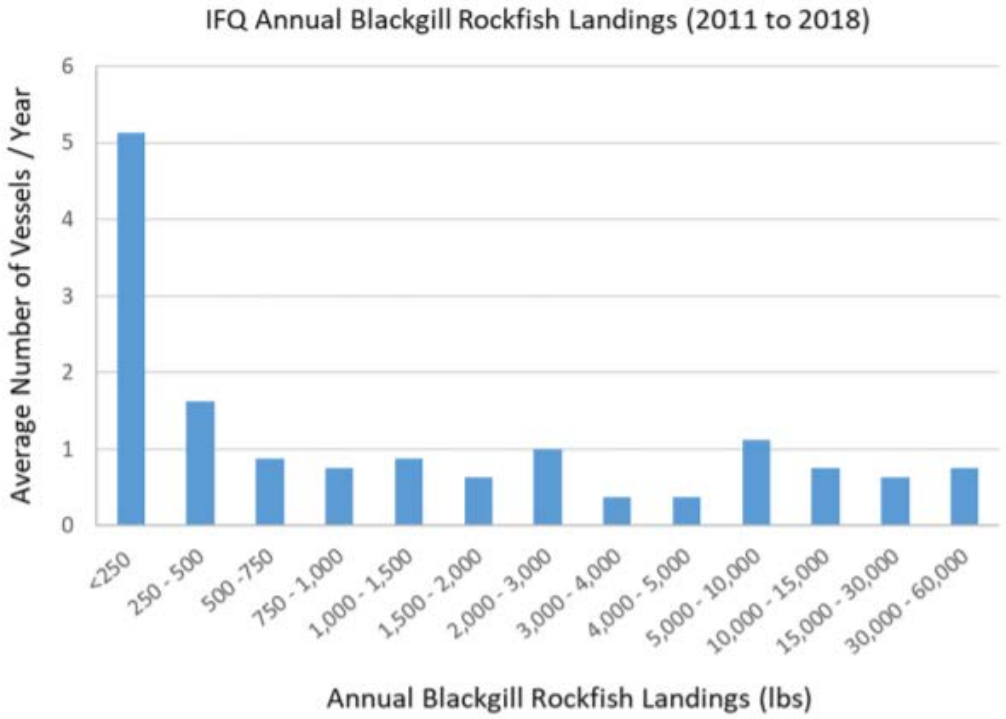

Figure 1. (Duplicate of Figure 3 from the draft EA). Average annual frequency distribution of vessels landing blackgill rockfish south of 40° 10' N. lat for the period 2011 to 2018 (IFQ fixed gear and trawl gear combined).

The GMT therefore concludes that a 100 lbs bimonthly trip limit for blackgill rockfish in the IFQ sector could be an effective inseason mitigation measure for the Council to consider, if the IFQ sector were approaching their share of the HG. The GMT notes there is legal precedence that could make this possible. Pacific whiting in the IFQ sector are managed both with IFQ and with trip limits if taken outside of the primary season (§660.131(b)(3)). There are also IFQ sector trip limits for big skate and longnose skate (unlimited), which are not managed with IFQ, as well as trip limits for other limited access privilege program (LAPP) fisheries.

Task 5: Change the A-21 hard-wired trawl/non-trawl allocations of southern slope complex

In the April 2019 motion, the Council made a request to explore removing the formal trawl/non-trawl allocations for the southern slope rockfish complex from the fishery management plan (FMP) and making biennial allocations in the 2021-2022 biennial specifications process. The GMT concludes that the primary purpose of this request would be to consider higher trawl allocations for the remainder (non-blackgill rockfish) stocks, the catch of which is dominated by trawl gear, as demonstrated in the draft EA. The approach for setting the two-year trawl/non-trawl allocations would then be to: (1) first establish the trawl/non-trawl shares of blackgill rockfish HG; (2) for the remainder of stocks in the complex, consider new allocation percentages that could provide more benefit for trawl; and (3) sum steps 1 and 2 to set the overall trawl/non-trawl two-year allocations, which would include blackgill rockfish.

The status quo A-21 southern slope allocations are 63 percent trawl and 37 percent non-trawl. The previous A-26 FPA for the other slope rockfish species, had blackgill rockfish been removed from

the complex, would have been 91 percent trawl and 9 percent non-trawl, which would sufficiently accommodate the 2011-2018 range of historical mortality for both sectors (Table 2).

Table 2. Historical attainment (mt) of the non-blackgill rockfish southern species, in relation to sum of their component ACLs apportioned, based on FPA A-26 revised allocations, had blackgill rockfish been removed from the complex.

ACL contributions		2021 share (mt)		2022 share (mt)		2011-2018 mortality range (mt)	
2021	2022	Trawl (91%)	Non-trawl (9%)	Trawl (91%)	Non-trawl (9%)	Trawl	Non-trawl
532.5	531.0	484.5	47.9	483.2	47.8	36 - 60	4 - 14

The last step to establishing the final two-year allocations of the southern slope complex is to sum the blackgill rockfish shares and the shares of the other slope species (Table 3). Since both were based on the component ACLs, the off-the-top deductions must be subtracted from the totals to prevent the complex ACL from being exceeded. The GMT proposes deducting the off-the-top amounts to trawl and non-trawl pro rata to their total shares. **The GMT recommends the Council consider the two-year trawl and non-trawl allocations of southern slope rockfish as shown in Table 3.**

Table 3. GMT's proposed two-year allocations of the southern slope rockfish complex (mt) as a whole and as shares of blackgill rockfish and other slope species.

Category	2021		2022	
	Trawl	Non-trawl	Trawl	Non-trawl
Blackgill share	72.4	104.2	71.4	102.7
Other slope share	484.5	47.9	483.2	47.8
Total share	556.9	152.1	554.5	150.5
% of total share	78.3%	21.7%	78.4%	21.6%
Total combined off-top	39.0		39.0	
Apportioned off-top	30.6	8.4	30.6	8.3
Final two-year allocation	526.3	143.7	523.9	142.2

Action Item # 6: Two-Year Trawl/Non-Trawl Allocations

In addition to allocations for the overfished species (i.e., yelloweye rockfish), the trawl and non-trawl allocations for some species are specified every two years. For the species below, data were queried from the Fisheries Observation Science (FOS) program's groundfish expanded multi-year mortality (GEMM) product for 2002-2018 (Somers et al. 2019) and state recreational estimates, except where noted. Each table below shows the ACLs, HGs, total groundfish mortality (through 2018), trawl/non-trawl allocations and mortality, and the percentage of sector mortality of total groundfish mortality from 2011-2018. The GMT notes that all recommendations will be used in the analysis and can be further refined in April 2020.

Rebuilding Species

Yelloweye Rockfish

Yelloweye rockfish has been one of the most constraining stocks for both the individual fishing quota (IFQ) and non-trawl fisheries since it was declared overfished in 2004. In recent years, the stock has been allocated as 8 percent to the trawl fishery and 92 percent to the non-trawl fisheries

shows the recent years' allocations (mt) and mortality (mt) and the sector's percentage of the total directed groundfish mortality.

Table 4. Yelloweye rockfish allocations and mortality statistics (mt) from 2011-2022. Trawl and non-trawl allocations do not sum to the fishery HG in cases where the Council included did not fully allocate the fishery HG. *The fishery HG (and resulting calculations) will be updated once draft off-the-top deductions are finalized.*

Year	ACL (mt)	Fishery HG (mt)	Total Directed Groundfish Mortality (mt)	Trawl				Non-Trawl			
				Sector Alloc. (mt)	Sector Mort. (mt)	Sector attain.	% of total directed GF mort. (mt)	Sector Alloc. (mt)	Sector Mort. (mt)	Sector attain.	% of total directed GF mort. (mt)
2011	17	11.1	8.78	0.6	0.06	10%	1%	10.5	8.72	83%	99%
2012	17	11.1	10.13	0.6	0.03	5%	0%	10.5	10.09	96%	100%
2013	18	12.2	9.21	1	0.06	6%	1%	11.2	9.15	82%	99%
2014	18	12.2	7.73	1	0.1	10%	1%	11.2	7.64	68%	99%
2015	18	12.2	10.33	1	0.04	4%	0%	11.2	10.29	92%	100%
2016	19	13.2	8.68	1.1	0.05	5%	1%	12.1	8.64	71%	100%
2017	20	14.6	16.21	1.1	0.17	15%	1%	13.1	16.04	122%	99%
2018	20	14	15.5	1.1	0.12	11%	1%	12.9	15.38	119%	99%
2019	48	41.9		3.4				38.6			
2020	49	42.9		3.4				39.5			
2021	50	41.2		3.3				37.9			
2022	51	42.2		3.4				38.8			

Although the non-trawl sector accounts for 99-100 percent of the directed groundfish mortality in each year, shifting the allocation formula to decrease the trawl allocation would adversely impact that fishery. As is, the IFQ sector has such a low allocation for yelloweye rockfish, that most recipients receive only a few pounds. The ACL has not been exceeded in any year.

Historical mortality in the trawl sector is 0.03-0.17 **mt**, lower than the 2021-2022 allocations of 3.3-3.4mt. The non-trawl mortality has ranged from 7.6-16 mt, which is less than 38.3-39.2 **mt** allocations in 2021-2022.

The GMT recommends adopting No Action proportions for trawl/non-trawl allocations (8 percent and 92 percent, respectively) for yelloweye rockfish. The current trawl/non-trawl split provides a small buffer for the trawl sector to account for any unanticipated catch events. Additional trawl/non-trawl allocations for yelloweye rockfish could be developed for the April meeting.

Non-Overfished Species

Bocaccio South of 40° 10′ N. lat.

Bocaccio south of 40° 10′ N. lat. is allocated 39 percent to trawl and 61 percent to non-trawl.

Table 5 provides the status quo harvest control rules, set-asides, and allocations (mt) from 2011-2022. The ACLs substantially increased during the 2019-2020 biennium as a result of the stock being rebuilt. However, the GMT suggests waiting until the effects of a number of near-term changes are known before deviating from the status quo. Specifically, the ACLs are However, because of the expected to decrease due to time-varying sigmas, and fishery dynamics are likely to change in response to removal of the trawl RCA, ability to fish across IFQ management lines, and non-trawl spatial management and mitigation measures,. **The GMT recommends the No Action proportion of 39 percent trawl and 61 percent non-trawl for bocaccio south of 40° 10′ N. lat. be used for 2021-2022 analysis.**

Table 5. Fishery statistics for bocaccio south of 40° 10′ N. lat. from 2011-2022.

Year	ACL (mt)	Fishery HG (mt)	Total Directed Groundfish Mortality (mt)	Trawl				Non-Trawl			
				Sector Alloc. (mt)	Sector Mort. (mt)	Sector attain.	% of total directed GF mort.	Sector Alloc. (mt)	Sector Mort. (mt)	Sector attain.	% of total directed GF mort.
2011	263	249.6	111.3	60	5.3	9%	5%	189.6	106.0	56%	95%
2012	263	249.6	137.9	60	8.8	15%	6%	189.6	129.1	68%	94%
2013	320	311.6	151.5	74.9	13	17%	9%	236.7	138.5	59%	91%
2014	337	328.6	127.2	79	19.8	25%	16%	249.6	107.4	43%	92%
2015	349	341	138.6	81.9	39.7	48%	29%	258.8	98.9	38%	71%
2016	362	354	118.7	85	42.9	50%	36%	269	75.8	28%	63%
2017	790	774.6	219.9	302.4	87.6	29%	40%	472.2	132.3	28%	60%
2018	741	725.6	306.4	283.3	177.6	63%	58%	442.3	128.8	29%	42%
2019	2,097	2,050.9		800.7				1,250.2			
2020	2,011	1,964.9		767.1				1,197.8			
2021	1,748	1,701.9		663.7				1,038.2			
2022	1,742	1,695.9		661.4				1,034.5			

Cowcod South of 40° 10′ N. lat.

Cowcod south of 40° 10′ N. lat. has been managed with a 36 percent trawl and 64 percent non-trawl allocation (once the Council selects an ACT.

Table 6). As mentioned above, the GMT supports the continued use of an ACT for cowcod south of 40° 10′ N. lat., so the trawl/non-trawl allocations would be allocated from the ACT. Since cowcod was declared overfished in 2000 and retention has been prohibited since 2001, there has been limited fishery dependent information to fully inform any proposed changes to the allocations. Moreover, the dynamics of fishery operations and cowcod catch could alter in response to the impending regulatory changes of modifications of essential fish habitat (EFH)/RCA and non-trawl RCA configurations.

The GMT suggests waiting until data on these major management changes are available to inform allocation percentage changes and thus **recommends adopting the No Action proportions for trawl/non-trawl allocations for cowcod south of 40° 10′ N. lat.** Final values will be calculated once the Council selects an ACT.

Table 6. Summary of cowcod catch and fishery harvest guidelines (mt) from 2011-2022.

Year	ACL (mt)	Fishery HG (mt)	Total Directed Groundfish Mortality (mt)	Trawl				Non-Trawl			
				Sector Alloc. (mt)	Sector Mort. (mt)	Sector attain.	% of total directed GF mort.	Sector Alloc. (mt)	Sector Mort. (mt)	Sector attain.	% of total directed GF mort.
2011	3	2.7	1.6	1.8	0	0%	0%	0.9	1.6	179%	100%
2012	3	2.7	1.1	1.8	0.1	5.6%	9%	0.9	1.0	111%	91%
2013	3	2.9	1.8	1	0.2	20%	11%	1.9	1.6	84.2%	89%
2014	3	2.9	1.1	1	0.2	20%	18%	1.9	0.9	47.4%	82%
2015	10	8	1.2	1.4	0.4	28.6%	33%	2.6	0.8	30.8%	67%
2016	10	8	1.3	1.4	0.3	21.4%	23%	2.6	1.0	38.5%	77%
2017	10	8	1.8	1.4	0.6	42.9%	33%	2.6	1.2	46.2%	67%
2018	10	8	3.1	1.4	0.6	42.9%	19%	2.6	2.5	96.2%	81%
2019*	10	8		2.2				3.8			
2020**	10	9		3.2				5.1			
2021***	87	78		28				50			
2022 ***	85	75.6		27				48.6			

*****6 mt ACT set under the HG starting in 2019
** Off-the-top set asides were adjusted and the ACT removed for 2020
*** Based the GMT-recommended P* of 0.40

Canary Rockfish

Canary rockfish are an important species to every groundfish sector and have been subject to contentious two-year allocation debates. A holistic overview is provided, because since the canary rockfish two-year allocations span many Action Item Checklist of the action item check-list items at once (i.e., within non-trawl HGs, at-sea set-asides, and trawl/non-trawl allocations).

For non-trawl, canary rockfish are an important target stock of which both the fixed gear and recreational fisheries request greater are trying to gain more access to this important target stock.

For at-sea whiting, canary rockfish bycatch is relatively low (< 7 mt per year), but they were a stock of concern in past cycles, since they were managed with sector-specific hard-cap allocations. At-sea bycatch constraints will be greatly reduced in 2021-2022 as canary rockfish will be managed with soft-cap set-asides.

For IFQ, there is a market demand for canary rockfish landings, but the main desire for higher allocations is to prevent canary rockfish bycatch from constraining access to quotas for more prolific shelf stocks targeted by both mid-water rockfish trawl and shelf bottom trawl fishing. For example, there is only 1 lb of IFQ allocation of canary rockfish per 15 lbs of widow and yellowtail rockfishes, and the ratio is even lower for bottom trawl stocks like Dover sole. Low ratios of canary rockfish constraining access to more prolific quotas of other shelf stocks is exacerbated by the fact that canary rockfish bycatch is unpredictable and occurs over a wide range of habitats and are prone to lightning strikes in both the bottom trawl survey and trawl fisheries, where it is not uncommon for single tows targeting other species to include more than 50,000 lbs of canary rockfish. Although canary rockfish attainment in the IFQ fishery is low, higher allocations could reduce constraints to individuals and result in greater attainments of all shelf species as a whole.

Canary rockfish two-year allocations were a main focus of 2017-2018 harvest specifications, as they pertained to large, tenfold increases to the ACL associated with the stock rebuilding. The Council and advisory bodies spent considerable time discussing the benefits associated with different allocation options, since canary rockfish had been constraining to all sectors. The final approach that was adopted for 2017-2018 was: (1) to set fixed amounts to meet the “needs” of each non-trawl sector (Table 7); (2) set fixed amounts for each at-sea whiting sector that included a cushion due to them being a hard-cap species; and (3) allocate the remainder to IFQ to potentially reduce bycatch constraints and catch more prolific co-occurring stocks.

Table 7. Within non-trawl HGs from 2017-2018 that were based on fixed amounts to meet fishery needs and 2019-2020 HGs, which declined since based on using status quo proportions.

	Fixed allocations from 2017-2018	2017-2018 Proportion	2019 allocation based on proportion	2020 allocation based on proportions
Non-Trawl Total	**406.5**		**386.1**	**363.1**
---Non-Nearshore	46.5	11.4%	44	41.4
---Nearshore	100	24.6%	95	89.3
---WA Rec	50	12.3%	47.5	44.7
---OR Rec	75	18.5%	71.4	67.2
---CA Rec	135	33.2%	128.2	120.5

For 2019-2020, the Council took a different approach. Instead of using fixed amounts for non-trawl, they instead applied the proportions from the 2017-2018 fixed amounts to base the trawl/non-trawl allocations. The Council then gave each non-trawl fishery their status quo proportion of the non-trawl allocations. For trawl, the Council continued to use fixed amounts for the at-sea sector and allocating the remainder to trawl. Using status quo proportions ensures that sectors (except at-sea) are impacted similarly when the ACL declines. However, the non-trawl sector raised concerns that using the status quo proportions would result in HGs that were less than the fixed amounts established in 2017-2018 to meet their needs.

For the 2021-2022 biennium, it is important to focus again on canary rockfish to ensure that the non-trawl sectors are accommodated and enough allocation is given to IFQ to reduce bycatch constraints. Impacts from the non-trawl fisheries could increase in 2021-2022, because the Council is considering higher trip and bag limits, and potential modifications to the non-trawl RCA is tentatively slated as a stand-alone agenda item starting in March 2020. Future impacts on canary rockfish by the non-trawl sector have not yet been analyzed.

Three canary rockfish allocation options and one sub-option were discussed for 2021-2022 (Table 8).

> Option 1 (No Action): the trawl and non-trawl allocations would continue to be 72.3 and 27.7 percent, respectively, and the non-trawl HGs would continue to be based on the proportions from the fixed amounts established in 2017-2018. A main disadvantage with Option 1 is that it would result in non-trawl HGs that continue to drop below the fixed amounts in 2017-2018 that were designed to meet the "needs" of these fisheries.
>
> Option 2: the allocation framework would be the same as established in 2017-2018: (1) non-trawl would be allocated their fixed amounts; (2) at-sea would be allocated their fixed amounts of 16 mt for catcher-processor (CP) and 30 mt for mothership (MS), and (3) IFQ would be allocated the remainder. A downside to Option 2 is that IFQ would absorb any declines in the ACL, since the other allocations remain fixed. For instance, the IFQ sector

would be allocated 54 mt less in 2021 and 63 mt less in 2022 (with Option 2). However, the IFQ allocations of 819 mt and 789 mt in 2021-2022, respectively, would still be more than double their 2017-208 average mortality. The GMT therefore developed Option 3 to offset some of the IFQ allocation declines while maintaining the fixed amounts for non-trawl.

Option 3: similar to Option 2, as non-trawl would continue to be allocated their fixed amounts. However, sector-specific at-sea set-asides (i.e., 16 mt for CP and 30 mt for MS) would be reduced to a single 10 mt set-aside for both together. This would result in an extra 36 mt that could be allocated to the IFQ fishery and help offset the 54 mt and 63 mt decreases associated with Option 2. Reducing at-sea set asides to a single 10 mt would be unlikely to constrain the fishery, because historical bycatch has been less than 7 mt per year and, perhaps more importantly, canary rockfish will be managed as a soft cap beginning in 2021-2022.

Table 8. Potential canary rockfish allocation options for 2021-2022 in reference to historical mortality (in mt). The fixed amounts to meet the "needs" of the non-trawl sectors from 2017-2018 are shaded to demonstrate that Option 1 would result in lower quotas.

Category	Option 1: SQ %'s		Option 2: Fix non-trawl and SQ at-sea		Option 3: Fix non-trawl, reduce at-sea and give to IFQ		2017-18 avg mt
	2021	2022	2021	2021	2021	2022	
ACL	1338.0	1307.0	1338.0	1307.0	1338.0	1307.0	
Off-top	66.4	66.4	66.4	66.4	66.4	66.4	
Fishery HG	1271.6	1241.6	1271.6	1241.6	1271.6	1241.6	
Trawl Allocation	919.3	897.7	865.1	835.1	865.1	835.1	
(trawl %)	0.7	0.7	0.7	0.7	0.7	0.7	
--IFQ	873	852	819	789	855	825	343
--CP	16	16	16	16	10	10	1
--MS	30	30	30	30			5
Non-trawl	352.225	343.91	406.5	406.5	406.5	406.5	
(non-trawl %)	27.7%	27.7%	32.0%	32.7%	32.0%	32.7%	
--Non-nearshore (11.4%)	40.2	39.2	46.5	46.5	46.5	46.5	5
--Nearshore (24.6%)	86.6	84.6	100	100	100	100	8
--WA Rec. (12.3%)	43.3	42.3	50	50	50	50	5
--OR Rec (18.5%)	65.2	63.6	75	75	75	75	33
--CA Rec. (33.2%)	116.9	114.2	135	135	135	135	72

The California Department of Fish and Wildlife (CDFW) proposal could apply to all options and would have all the non-trawl sectors operate under a collective non-trawl allocation without each having their own separate HG (Agenda Item H.8.a, Supplemental CDFW Report 1, September 2019). Having separate HGs could result in constraining individual sectors while overall attainments remain low. This has been an issue for yelloweye rockfish in the past but does not seem to be as problematic for canary rockfish since 2017-2018 average mortality has been well below their 2021-2022 HGs. The GMT discussed managing all non-trawl sectors under a collective non-trawl allocation for yelloweye rockfish in the last biennial process, but most sectors were opposed due to concerns with potentially relinquishing their HG. The GMT presumes that there may also be similar concerns with removing canary rockfish HGs with the sub-option. The GMT also again notes that the 2021-2022 HGs do not appear to be constraining based on the average mortality in 2017-2018, when all sectors were first allowed to retain this species.

For canary rockfish, the GMT recommends analyzing all three two-year allocation options.

Big Skate

In the 2017-2018 biennium, big skate was reclassified from an ecosystem component species to a single-species management stock. At that time, a 95 percent trawl / 5 percent non-trawl allocation ratio was set. Trip limits were then established for the shorebased IFQ fishery, due to concerns that historical mortality (i.e., 441.4 mt in 2014) could result in exceedance of the 494 mt constant ACLs in 2017-2020 if additional markets developed. A sorting requirement for big skate was not established until June 1, 2015, so 2011-2014 mortality estimates were reconstructed based on species compositions as done in Agenda Item I.8.a, Supplemental GMT Report, November 2015. We note that these estimates may differ from WCGOP mortality reports, which do not attempt this estimation.

The 2017-2020 ACLs of 494 mt were set conservatively based on a fishing mortality rate applied to the estimated spawning biomass from the trawl survey, which occurs deeper than 0-30 fathom depths where big skate fishery catch per unit of effort (CPUEs) by depth imply that they are most abundant. For 2021-2022, the ACLs will increase approximately threefold, due to the new 2019 full assessment's accounting for that shallower biomass and other reasons (

Table 9). Under status quo allocations, historical non-trawl mortality would only be 4-12 percent of the non-trawl allocation and historical trawl mortality would only be 14-36 percent of the trawl allocation. For big skate, the GMT recommends continuing with the No Action alternative (status quo) of 95 percent trawl and 5 percent non-trawl allocations for further analysis.

Longnose Skate

From 2013-2020, longnose skate has been managed with a constant 2,000 mt ACL, is allocated 90 percent to trawl and 10 percent to non-trawl, and has unlimited trip limits due to low attainment. The approach for setting the allocations has been to first set the non-trawl percentage to cover their high historical mortality, plus a cushion, and then allocate the remainder for trawl. Although the ACL for 2021-2022 is decreasing below 2,000 mt, historical mortality under the status quo would only result in 29-62 percent attainment for non-trawl and 43-59 percent for trawl (
Table 10). **Therefore, the GMT recommends continuing with the No Action allocation of 90 percent to trawl and 10 percent to non-trawl for 2021-2022 for analysis.**

Table 9. Summary of big skate annual catch limits (ACL), harvest guidelines (HG) and directed mortality for the trawl and non-trawl sectors for 2011-2022.

Year	ACL (mt)	Fishery HG (mt)	Total Directed Groundfish Mortality (mt)	Trawl				Non-Trawl			
				Sector Alloc. (mt)	Sector Mort. (mt)	Sector attain.	% of total directed GF mort.	Sector Alloc. (mt)	Sector Mort. (mt)	Sector attain.	% of total directed GF mort.
2011			298.9		289.3		97%		9.6		3%
2012			289		278.9		97%		10.1		3%
2013			187.2		175.2		94%		12		6%
2014			441.4		431.8		98%		9.6		2%
2015			270.8		234.3		87%		3.7		1%
2016			366.5		360.6		98%		5.9		2%
2017	494	437	237.4	414.8	230.9	56%	97%	21.8	6.5	30%	3%
2018	494	437	157.5	414.8	148.5	36%	94%	21.8	9	41%	6%
2019	494	452		429.5				22.6			
2020	494	452		429.5				22.6			
2021	1,477.0	1,435.1		1,363.3				71.8			
2022	1,389.0	1,347.1		1,279.7				67.4			

Table 10. Longnose skate annual catch limits (ACL), harvest guidelines, and mortality for trawl and non-trawl sectors for 2011 to 2022.

Year	ACL (mt)	Fishery HG (mt)	Total Directed Groundfish Mortality (mt)	Trawl				Non-Trawl			
				Sector Alloc. (mt)	Sector Mort. (mt)	Sector attain.	% of total directed GF mort.	Sector Alloc. (mt)	Sector Mort. (mt)	Sector attain.	% of total directed GF mort.
2011	1,349	1,220	907	1,159	819	71%	90%	61	88	144%	10%
2012	1,349	1,220	988	1,159	922	80%	93%	61	66	108%	7%
2013	2,000	1,928	981	1,735	924	53%	94%	193	57	30%	6%
2014	2,000	1,928	902	1,735	851	49%	94%	193	51	26%	6%
2015	2,000	1,927	836	1,734	779	45%	93%	193	57	30%	7%
2016	2,000	1,927	903	1,734	824	48%	91%	193	80	41%	9%
2017	2,000	1,853	880	1,668	773	46%	88%	185	107	58%	12%
2018	2,000	1,853	757	1,668	677	41%	89%	185	80	43%	11%
2019	2,000	1,852		1,667				185			
2020	2,000	1,852		1,667				185			
2021	1,823	1,792		1,613				179			
2022	1,761	1,730		1,557				173			

Minor Shelf Rockfish Complex North of 40° 10′ N. lat.

The shelf rockfish complex north of 40° 10′ N. lat. has been managed with a 60.2 percent trawl and 39.8 percent non-trawl allocation. Both sectors have remained well below their allocations in recent years (

Table 11). The more than 200 mt increase in trawl mortality in 2017-2018 was mainly attributed to an increase in catch of chilipepper, bocaccio, and greenstriped rockfish associated with the re-emergence of the mid-water rockfish trawl fishery.

For 2021-2022, both sectors are also expected to be well within their status quo allocations; historical trawl mortality is only 2-35 percent of trawl allocation and historical non-trawl mortality has only been 3-6 percent of the non-trawl allocation. Potential re-openings of the non-trawl RCA, which are tentatively scheduled for scoping in March 2020, are not expected to result in large non-trawl sector catch increases. That is because the shelf rockfish complex contains trawl-dominant stocks, and not the other shelf stocks that are desired by the non-trawl sectors (e.g., lingcod, yellowtail, canary, and widow rockfishes).

The GMT recommends continuing with No Action trawl (60.2 percent) and non-trawl (39.8 percent) for the shelf rockfish complex north of 40° 10′ N. lat. for analysis.

Minor Shelf Rockfish Complex South of 40° 10′ N. lat.

The minor shelf rockfish complex south of 40° 10′ N. lat. has been managed to sector-specific allocations of 12.2 percent to trawl and 87.8 percent to non-trawl. Both sectors have remained significantly below their allocations, since the ACL more than doubled in 2015. Table 12 shows status quo harvest control rules, set-asides, and allocations (mt) from 2021-2022. **The GMT recommends using No Action management methods for the shelf rockfish complex south of 40° 10′ N. lat. for analysis.**

Table 11. Minor shelf rockfish complex north of 40°10′ N. lat. fishery statistics from 2011-2022.

Year	ACL (mt)	Fishery HG (mt)	Total Directed GF Mort. (mt)	Trawl				Non-Trawl			
				Sector Alloc. (mt)	Sector Mort. (mt)	Sector attain.	% of total directed GF mort. (mt)	Sector Alloc. (mt)	Sector Mort. (mt)	Sector attain.	% of total directed GF mort. (mt)
2011	968	925	44.8	557	17	3%	38%	368	27.8	8%	62%
2012	968	925	68	557	41.2	7%	61%	368	26.8	7%	39%
2013	968	903	51.5	543	30.8	6%	60%	359	20.7	6%	40%
2014	968	903	62.6	543	34.9	6%	56%	359	27.7	8%	44%
2015	1944	1872	51.4	1127	34.1	3%	66%	745	17.3	2%	34%
2016	1952	1880	55	1132	38.5	3%	70%	748	16.5	2%	30%
2017	2049	1965	285.7	1183.1	256.5	22%	90%	782.1	29.2	4%	10%
2018	2047	1963	322.2	1181.8	292.1	25%	91%	784.1	30.1	4%	9%
2019	2054	1977		1190.2				786.9			
2020	2048	1971		1186.6				784.5			
2021	1511	1436		864.5				571.5			
2022	1450	1375		827.5				547.1			

Table 12. Fishery statistics for the minor shelf rockfish complex south of 40° 10′ N. lat. from 2011-2022.

Year	ACL (mt)	Fishery HG (mt)	Total Directed GF Mort. (mt)	Trawl				Non-Trawl			
				Sector Alloc. (mt)	Sector Mort. (mt)	Sector attain.	% of total directed GF mort. (mt)	Sector Alloc. (mt)	Sector Mort. (mt)	Sector attain.	% of total directed GF mort. (mt)
2011	714	701	354.1	86	3.0	3%	1%	615	351.1	57%	99%
2012	714	701	398.4	86	13.5	16%	3%	615	384.9	63%	97%
2013	714	668	424.4	81	20.9	26%	5%	587	403.5	69%	95%
2014	714	668	392.3	81	10.0	12%	3%	587	382.3	65%	97%
2015	1,624	1,575	551.5	192	9.4	5%	2%	1,383	542.1	39%	98%
2016	1,625	1,576	433.6	192	4.6	2%	1%	1,384	429.0	31%	99%
2017	1,623	1,576	547.6	192.2	2.2	1%	0%	1,383.6	545.4	39%	100%
2018	1,624	1,577	534.8	192.4	5.5	3%	1%	1,384.4	529.3	38%	99%
2019	1,625	1,546		188.6				1,357.3			
2020	1,625	1,546		188.6				1,357.3			
2021	1438	1,358.9		165.8				1,193.3			
2022	1428	1,358.9		164.6				1,184.3			

Action Item # 7: Amendment 21 Trawl/Non-Trawl Allocations

The Council has the ability to amend the FMP to remove or adjust the hard-wired A-21 formulas used to set trawl and non-trawl allocations.

During the intersector allocation review process (Agenda Item F.4 Attachment 2 April 2017), the Council was given an extensive overview of the performance of all A-21 trawl and non-trawl allocations. The Council and GMT both agreed it would be beneficial to delay the intersector review process, which could be accomplished in this process. The GMT determined making southern lingcod (south of 40° 10′ N lat.) a two-year allocation stock for 2021-2022 and shifting more of the allocation to non-trawl could be beneficial to industry. The GMT did not see similar benefit or rationale to revising the A-21 allocations of other stocks, at this time.

As discussed under Action Item # 5, the GMT is proposing that the Council remove the A-21 allocations for the southern slope complex (63 percent trawl and 37 percent non-trawl) and instead use two-year allocations. **The GMT recommends the Council remove the A-21 allocations for the southern slope complex, make them a two-year allocation stock, and evaluate allocations of 526.3 mt and 523.9 mt for trawl in 2021-2022 and 143.7 mt and 142.2 mt for non-trawl in 2021-2022.**

Lingcod South 40° 10′ N lat.

The current A-21 sharing allocation for lingcod south of 40° 10′ N. lat. is 45 percent trawl and 55 percent non-trawl. Since the implementation of the IFQ program in 2011, the trawl sector has had very low attainment of lingcod, which can be attributed, in part, to a lack of access to fishing grounds currently closed as RCAs (Table 13). The EFH/RCA rule is expected to be effective January 2020, which will open areas currently closed to bottom trawl fishing. The trawl sector allocations under A-21 are 491 and 522 mt for 2021-2022, respectively. The non-trawl sector has been constrained over the last several years by the 45 percent allocation amounts, such that action has been taken to reduce open access (OA)trip limits and reduce recreational bag limits from 2 to 1 fish (south of 40° 10′ N. lat.) for the 2019-2020 biennium. In early 2019, the recreational sector requested a re-evaluation of the 2018 recreational catch estimates to determine whether a two fish bag limit could be accommodated. A review of both the recreational and commercial fixed gear catch information indicated the projected impacts would be at or approximately 100 percent of the allocation if the two fish bag limit were implemented, and moderate increases to trip limits were ultimately reinstated for 2019 and 2020. NMFS implemented an inseason action for both sectors (84 FR 25708) with the understanding that the trawl sector's consistent under-attainment would ensure that no conservation concern would develop.

Table 13. Fishery statistics for lingcod south of 40° 10′ N. lat. from 2011-2022.

Year	ACL (mt)	Fishery HG (mt)	Total Directed GF Mortality (mt)	Trawl				Non-Trawl			
				Sector Alloc. (mt)	Sector Mort. (mt)	% attain.	% of total directed GF mort. (mt)	Sector Alloc. (mt)	Sector Mort. (mt)	% attain.	% of total directed GF mort.
2011	2,102	2,095	359.6	943	7.3	1%	2%	1152	352.3	31%	98%
2012	2,164	2,157	449.5	971	16.2	2%	4%	1186	433.3	37%	96%
2013	1,111	1102	593.6	496	16.8	3%	3%	606	576.8	95%	97%
2014	1,063	1,054	749.4	474	18.7	4%	2%	580	730.7	126%	98%
2015	1,004	995	903.6	448	32.5	7%	4%	547	871.1	159%	96%
2016	946	937	851.8	422	23.8	6%	3%	515	828	161%	97%
2017	1,251	1,242	670.2	558.9	24.3	4%	4%	683.1	645.9	95%	96%
2018	1,144	1,135	549.2	510.8	51.5	10%	9%	624.3	497.7	80%	91%
2019	1,039	1,028		462.5				565.2			
2020	869	857.7		386				471.7			
2021	1,102	1,091		491				600			
2022	1,172	1,161		522.5				638.5			

The GMT discussed how the upcoming EFH/RCA changes could potentially change/increase attainment in the trawl sector and notes that making a minor adjustment to increase the percent share for non-trawl could provide stability while not significantly impacting the trawl sector. The GMT has put forward options for consideration which is a two (Table 14) or twenty (Table 15) shift in allocations to the non-trawl. For example, in 2021, a two percent shift would result in a 20 mt reduction to trawl allocations, and a twenty percent shift would result in a 218.2 mt reduction.

Table 14. Allocation change of two percent, set at 43 percent trawl and 57 percent non-trawl for lingcod south of 40° 10′ N. lat.

Year	ACL (mt)	Fishery HG (mt)	Trawl Alloc. (43%)	Non-Trawl Alloc. (57%)
2021	1,102	1,091	469.1	621.9
2022	1,172	1,161	499.2	661.8

Table 15. Allocation change of twenty percent, set at 25 percent trawl and 75 percent non-trawl for lingcod south of 40° 10′ N. lat.

Year	ACL (mt)	Fishery HG (mt)	Trawl Alloc. (25%)	Non-Trawl Alloc. (75%)
2021	1,102	1,091	272.8	818.2
2022	1,172	1,161	290.3	870.7

The GMT proposes analyzing up to 25 percent trawl and 75 percent non-trawl two-year allocation, as a means to provide bookends of potential benefits associated with higher non-trawl allocations. The Council could consider lower shifts to non-trawl based on this higher bookend analysis. These proposals would impact 2021-2022. The Council could re-adjust two-year allocations in the future if needed, which is one of the main benefits of removing the A-21 hardwired formulas and instead managing lingcod south of 40° 10′ N. lat. with two-year allocations.

After consultation with the GAP, the GMT recommends Council select one of the options below for analysis:

No Action: A-21 formulas: 45 percent trawl, 55 percent non-trawl allocation share
Option 1: Two-year allocation: 43 percent trawl, 57 percent non-trawl
Option 2: Two-year allocation: 25 percent trawl, 75 percent non-trawl

Action Item # 8: Within-Trawl Allocations

The GMT notes that there are no longer any within-trawl allocations, as the former allocations are being converted to set-asides through the Five-Year Review Follow-On Actions regulations through A-21-4.

Action Item # 9: At-Sea Set Asides

The at-sea sector was previously managed using sector-specific hard-cap allocations based on hardwired A-21 formulas for Pacific ocean perch, darkblotched rockfish, and widow rockfish and via two-year hard-cap allocations for canary rockfish. However, these will be changed to soft-cap set-asides once the Amendment 21-4 proposed rulemaking is finalized, which is expected in 2020. This rulemaking would also remove the fixed formulas for establishing the set-asides and would provide the ability to use a more custom approach during the biennial harvest specifications package. The Council directed the GMT to first analyze the A-21 formulas for 2021-2022 and then to consider alternative approaches if warranted.

Unlike set-asides that are taken as off-the-top deductions after setting the ACL, set-asides for some species are taken from the trawl allocation to accommodate bycatch in the at-sea whiting fishery, with the remainder allocated to the IFQ fishery. Species with at-sea sector set-asides will be managed on an annual basis, unless there is a risk of exceeding a harvest specification, unforeseen impact on another fishery, or conservation concerns, in which case action may be taken (§660.150 and §660.160).

Set-asides to account for potential bycatch in the at-sea fisheries is taken from the trawl allocation, which reduces the IFQ pounds available for the shorebased sector. The at-sea sector either discards bycatch or uses it to produce fishmeal, whereas the shorebased sector is able to process some bycatch as higher value products, in addition to parts of the midwater rockfish sector targeting many of the newly rebuilt non-whiting midwater stocks caught incidentally in the whiting fishery.

Landings of widow and yellowtail rockfish in 2018 earned average ex-vessel prices of $560 and $603 per metric ton, respectively. Quota prices for these species as reported to National Marine Fisheries Service (NMFS) would value the allocation of both at about $66 per mt to the shorebased sector. In 2018, the average quota price reported to NMFS for darkblotched rockfish was $0.40/lb, and $0.67 for Pacific ocean perch.

Some catcher vessels participate in both sectors, and these vessels may prefer to have set-aside pounds that they can access as incidental catch without cost. Catcher vessels that are not endorsed for the mothership sector would face increased scarcity (and likely higher prices) for quota in the shoreside IFQ fishery, along with lower vessel limits (based on the IFQ sector allocation). Higher at-sea set-asides may thus negatively impact IFQ fishermen and shoreside processors.

Lower at-sea set-asides can negatively impact the ability of at-sea whiting to efficiently catch their whiting allocations, as the whiting cooperatives report that moving to avoid bycatch of important species can be costly. These high costs may increase the cost to avoid bycatch. The GMT notes the bycatch rate (ratio of catch of incidental species to catch of Pacific whiting) has been increasing in the at-sea sectors since the mid-2010s. The bycatch rate in the mothership sector in 2018, and to date in 2019, is 1.8 percent, which is higher than what has been observed in that sector since the 1990s. In the CP sector, 2018 bycatch was 1.6 percent of Pacific whiting catch, which was the highest in a decade. A variety of factors likely influence this rate, including fishing incentives and strategies, ocean conditions, and increasing abundance of co-occurring midwater species. Because at-sea set asides have historically been set at observed high catches as a buffer, if at-sea bycatch increases with the costs to move, then future at-sea set-asides would be set higher in the future.

This positive feedback loop could gradually reduce IFQ allocations over the long-term, which negatively impact the shorebased sector.

For most stocks, attainment in the IFQ and non-trawl sectors is low enough to provide some level of buffer in the event that the at-sea sector exceeds a set-aside. In the past, set-asides have remained in place unless exceeded, and then to use a number above the recent highs as the set-aside, which decreases the IFQ allocation over time. In order to streamline management, **the GMT proposes combining CP and MS sector set-asides in the 2021-2022 biennium, and deleting zero catch species from the set-aside table in regulation (English sole, longspine thornyheads, Pacific cod, Petrale sole, and starry flounder, noted in strikeout in Table 13 below).**

In order to better align at-sea set asides with catch over time, and with concerns about the detriment of increasingly high at-sea set asides to the IFQ sector noted above, **the GMT recommends the Council use a five-year average catch as the set-asides for analysis for 2021-2022 for stocks with ACL attainment below 90 percent (all but sablefish N. of 36° N. lat.).** While at-sea mortality has exceeded these proposed at-sea set-asides in record years, the average is a better proxy for expected catch than a historic high, and will not risk exceeding the ACL, because both trawl and non-trawl shoreside sectors under-attain these stocks. Additionally, catch would continue to be monitored inseason. Table 16 below provides the 2015-2019 five-year average (through mid-November 2019) along with the 2015-2019 high for the set-aside species, in the event the Council selects more precautionary values. Sablefish N. of 36° N. lat., the ACL of which was exceeded in 2017, had a series of record high catches in the at-sea sector, and is highly attained in all sectors, is discussed in greater detail along with former hard-cap stocks below. If the Council adopts this approach, the final 2015-2019 average could be calculated prior to analysis after the CP and MS cease operations.

Table 16 At-sea Pacific whiting set-aside values in regulation for 2019-2020 (generally similar to previous biennia), the 2015-11/8/2019 5 Year Average and 2015-11/8/2019 5 Year High. Species not listed have a set aside of 0 and are not measurably caught in the mid-water whiting fishery. The GMT suggests removing all non-rebuilding species with no measurable catch in the at-sea fishery in the past 5 years from the table in regulation; those species have been struck out.

Species/Species Group [c]	Area	2018 ACL Attainment (Proxy for future risk to the ACL)	5 Year Average (mt)	5 Year High (mt)	Value in 2019-2020 Regulations (mt)
YELLOWEYE ROCKFISH	Coastwide	67%	0	0	0
Arrowtooth flounder	Coastwide	8%	36	67	70
Canary rockfish	Coastwide	38%	4	7	46
Darkblotched rockfish [a]	Coastwide	53%	33	65	38.7
Dover sole	Coastwide	13%	2	4	5
~~English sole~~	~~Coastwide~~	~~3%~~	~~0~~	~~0~~	~~5~~
Lingcod	N. of 40°10' N. lat.	33%	1	3	15
Longnose skate	Coastwide	44%	1	2	5
~~Longspine thornyhead~~	~~N. of 34°27′ N. lat.~~	~~13%~~	~~0~~	~~0~~	~~5~~
Minor shelf rockfish	N. of 40°10' N. lat.	15%	1	13	35
Minor slope rockfish	N. of 40°10' N. lat.	34%	13	161	100
Other flatfish	Coastwide	11%	3	31	20
~~Pacific cod~~	~~Coastwide~~	~~6%~~	~~0~~	~~0~~	~~5~~
Pacific halibut*	Coastwide				10
Pacific ocean perch [b]	N of 40°10′ N. lat	54%	32	61	394
~~Petrale sole~~	~~Coastwide~~	~~96%~~	~~0~~	~~0~~	~~5~~
Sablefish	N. of 36° N. lat.	98%	74	153	50
Shortspine thornyhead	N. of 34° 27′ N. lat.	46%	31	69	30
~~Starry flounder~~	~~Coastwide~~	~~1%~~	~~0~~	~~0~~	~~5~~
Widow rockfish	Coastwide	83%	219	475	611.4
Yellowtail rockfish	N. of 40°10′ N. lat.	59%	194	317	300

*The 10 mt of Pacific halibut (legal and sublegal, round weight) set aside is intended to accommodate bycatch in the at-sea Pacific whiting fishery and in the shorebased trawl fishery south of 40° 10′ N. lat.

Select at-sea set aside stock discussion

At-sea set-asides can constrain the IFQ sector for highly attained species (e.g., sablefish N. of 36° N. lat.) and even for moderately attained IFQ stocks, which can cause constraints to individual IFQ participants (e.g., darkblotched rockfish). At-sea set-asides of canary rockfish are discussed

in the holistic "trawl/non-trawl" section that pertains to all two-year allocations of this important stock that affects all fisheries.

Sablefish North of 36° N. lat.

The status quo set aside is a single 50 mt at-sea aside for CP and MS combined. At-sea total mortality had been below 50 mt from 2002 to 2016, but was 153 mt in 2017 and 117 mt in 2018 (Table 17). The GMT discussed whether or not to increase the sablefish set-aside for the at-sea sectors. It is our understanding that the at-sea sectors encountered a large amount of the 2016 year class in 2017 and 2018. The 2017 set-aside overage contributed to exceedance of the ACL, and the subsequent 2018 overage led NMFS to issue a "Request for Industry Cooperation To Avoid Sablefish Bycatch in the At-Sea Whiting Fishery" on October 24, 2018. Industry cooperation and other changes led to decreased incidental catch rates in 2019, and, as of October 2019, it seems likely the at-sea sector will not reach the 50 mt set aside in 2019. Sablefish north of 36° N. lat. is one of the most highly-attained and valuable groundfish stocks, and the GMT wishes to avoid stranding allocations for this stock in the at-sea set-aside. Re-allocating 100 mt from the trawl allocation to the at-sea set-asides to cover the highs of 2017 and 2018 would likely significantly impact the trawl sector. This further reduction in available shorebased quota could result in an annual decrease of $400 thousand in ex-vessel revenue from Sablefish North and $1.25 million of trip-level revenue based on 2016-2018 fishery data. The GMT cautions that, should the at-sea sector exceed the 50 mt set-aside between now and the 2023-2024 biennium, this set-aside will have to be further increased at the expense of the IFQ sector. **The GMT recommends the Council weigh the management risk of a lower set-aside that potentially jeopardizes the ACL against the potential negative impacts of lower allocations to the IFQ sector in selecting an appropriate at-sea set-aside for sablefish N. of 36° N. lat.**

Table 17. At-sea catch (mt) of sablefish N. of 36° N. lat. 2011-2019.

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019*
Sablefish N. of 36° N. lat.	5	5	13	16	12	28	153	117	75

*GMT year-end projection assuming both CP and MS attain their full whiting allocations.

Table 18. 2021 Trawl allocations (mt) sablefish N. of 36° N. lat., based on the P* choice and the method for apportioning the coastwide ABC to north and south of 36° N. lat. ACLs TBD by the Council at this meeting.

Alternative	73.6% ABC	78.4% ABC
No Action (P*0.40)	2,699	2,876
Alternative 1 (P*0.45)	2,895	3,085

If the 2021-2022 allocations were to be set above the recent high catch in the at-sea sector, an additional 103 mt would be transferred from the IFQ sector. With sablefish generally at full attainment and a 2019 average quota price of $0.63 cents/lb, this transfer would cost IFQ owners in the trawl sector $143,058.

Darkblotched rockfish

Darkblotched rockfish is one of the stocks that was formerly managed with hard-cap allocations based on A-21 formulas but will now be managed with set-asides. The Council tasked the GMT to analyze 2021-2022 set-asides based on the A-21 formulas (Table 19) and to consider other options if warranted. Darkblotched rockfish has been a main stock of concern, because IFQ participants state the stock can be constraining despite IFQ attainments typically being less than 40 percent per year. These concerns may be heightened for 2021-2022, because IFQ catches may increase with the removal of the trawl RCA off Oregon and California.

Table 19. At-sea set-asides of darkblotched rockfish based on the A-21 formulas.

Year	ACL	Fishery HG	Trawl allocation (95%)	All Whiting (9%)	MS (24%)	CP (34%)	Total at-sea
2021	882.0	848.0	805.6	72.5	17.4	24.7	42.1
2022	831.0	797.1	757.3	68.2	16.4	23.2	39.6

The at-sea whiting sectors are likely to exceed the A-21 based set-asides in 2021-2022 based on their 2017-2019 high bycatches (Table 20). The alternative approach being discussed for all stocks would be to use a single at-sea set-aside based on the five-year average (33 mt) or the five-year maximum (65 mt). The GMT supports use of a single set-aside, since sector-specific set-asides are not needed for soft caps. At-sea is also likely to exceed the five-year average based on their 2017-2019 bycatches, but is expected to be close or below the five-year maximum. At the same time, potential overages would not be expected to cause a risk to the ACL, due to low attainments in the IFQ sector, and the species is constraining in the shorebased whiting sector.

Table 20. Total mortality (mt) of darkblotched rockfish by the at-sea whiting sectors.

Sector	2011	2012	2013	2014	2015	2016	2017	2018	2019*
CP	10.3	1.4	2.1	3.4	5.6	3.5	32.0	41.8	21.1
MS	1.7	1.3	4.2	7.2	2.4	1.6	7.6	23.2	31.1
Total	12.0	2.7	6.3	10.6	7.9	5.1	39.6	65.1	52.2

*GMT year-end projection if both at-sea whiting sectors caught their full whiting allocation

Because darkblotched rockfish is a limiting species in the whiting fishery, small changes in the amount of darkblotched rockfish quota available results in large changes in whiting target fishing opportunity. To illustrate potential costs of increasing the set-aside for darkblotched rockfish compared to the A21 allocation formula, an increase from 38 to 65mt would result a 4 percent decrease in darkblotched quota available to the IFQ program. Because vessels tend to hold pounds in reserve through the end of the year to cover rare high-bycatch events, this species is constraining to overall whiting attainment in the shorebased sector. We would expect a reduction of $1.18

million in ex-vessel revenue in the IFQ fishery as a result of lower total catch per trip because of lower availability of the constraining species based on 2016-2018 fishery data.

The Council could therefore consider using the less precautionary five-year average at this time, and to consider using the more precautionary maximum in future cycles if IFQ attainments increase with the removal of the trawl RCA.

Pacific ocean perch North 40°10′ N. lat.

Pacific ocean perch (POP) was one of the most contentious stocks to allocate between the at-sea and IFQ sectors during the overfished era; however, POP has since rebuilt, the ACLs have increased twentyfold, and allocation of the stock is no longer controversial. As with darkblotched rockfish, POP is no longer managed with hard-cap allocations, but instead with at-sea set-asides that continue to be based on the previous formulas used to set the hard caps.

The GMT does not recommend using the A-21 formulas, since it would result in at-sea set-asides (Table 21) that would be 300 mt higher than annual mortality since 2011. Using the five-year average (32 mt) as a single at-sea set-aside would be expected to cover at-sea bycatch in most years (Table 22), not cause a risk to the ACL if an overage were to occur since POP is a low attainment stock, and could increase economic benefits to the IFQ sector.

Table 21. Sector-specific at-sea set-asides of POP (mt) based on the formulas previously used to set the hard-cap allocations.

Year	ACL	Fishery HG	Trawl allocation (95%)	All Whiting (17%)	MS (24%)	CP (34%)	Total at-sea
2021	3,854.0	3,829.0	3,637.6	618.4	148.4	210.3	358.7
2022	3,771.0	3,746.3	3,559.0	605.0	145.2	205.7	350.9

Table 22. Historical mortality of POP (mt) by the at-sea whiting sectors.

Sector	2011	2012	2013	2014	2015	2016	2017	2018	2019*
CP	6.5	3.2	4.3	0.3	7.0	3.1	20.3	30.8	16.4
MS	0.7	1.4	1.1	3.6	1.7	7.2	5.9	24.8	12
Total at-sea	7.2	4.5	5.4	3.9	8.7	10.3	26.3	55.6	28.4

*GMT year-end projection assuming full attainment of the whiting allocations.

Widow rockfish

Widow rockfish is the final stock that was previously managed using hard-cap allocations for the at-sea whiting sectors that were based on A-21 formulas (Table 23). Widow rockfish has reemerged as a major economic driver for the shorebased IFQ sector after the stock and markets

have rebuilt. Accommodating at-sea bycatch without stranding fish is of heightened importance for widow rockfish.

Table 23. Widow Rockfish ACLs, HG, trawl allocation, and sector shares under the A-21 formulas.

Year	ACL	Fishery HG	Trawl allocation (91%)	All Whiting (10%)	MS (24%)	CP (34%)	Total at-sea
2021	14,725.0	14,476.0	13,173.2	1,317.3	316.2	447.9	764.1
2022	13,788.0	13,539.2	12,320.6	1,232.1	295.7	418.9	714.6

The GMT does not recommend using the A-21 formulas, since it would result in at-sea set-asides hundreds of mt higher than 2011-2019 catches (Table 24). The GMT sees merit to using the 5-year average (194 mt) as a single set-aside for both at-sea whiting sectors, since it would be expected to accommodate bycatch in most years, overages would not be expected to cause risk to the ACL due to low non-trawl attainment, and it could increase IFQ attainments by over 500 mt worth ~$500,000 in ex-vessel revenue.

Table 24. Historical mortality (mt) of widow rockfish by the at-sea whiting sectors.

Sector	2011	2012	2013	2014	2015	2016	2017	2018	2019*
CP	24.1	42.0	15.7	16.6	17.5	112.3	409.9	62.6	132.9
MS	12.9	37.3	15.5	39.6	17.2	74.4	66.1	144.3	125.3
Total	37.0	79.3	31.3	56.2	34.7	186.7	476.0	206.9	258.3

*GMT year-end projection if they were to catch their full whiting allocations

Action Item # 10: Within Non-Trawl HGs/Shares

Overfished Species

Under this action item, the Council will adopt the preliminary two-year within non-trawl allocations for yelloweye rockfish.

Yelloweye Rockfish

The GMT notes that yelloweye rockfish is rebuilding ahead of schedule and that the Council took action to change the SPR and the target year for rebuilding (T_{TARGET}). This provided additional allocation to each sector, with managers electing conservative measures to remain within the new allocations. Managers are expected to continue to experiment with management measures to allow increased access to healthy stocks without exceeding the yelloweye rockfish catch targets.

Attainment of target stocks in the nearshore and non-nearshore sectors are high for most species, except lingcod, which has been limited by yelloweye rockfish bycatch (Table 25). However, during the overwinter analysis, the GMT may identify sectors that could benefit from adjustments to the allocation sharing. After discussing the recent fisheries history and 2021-2022 season structures, the GMT does not see a need to vary from the current allocation sharing (Table 26).

Table 25. Recent non-trawl yelloweye rockfish mortality and percent of allocation attained, by sector.

Sector	2018 HG		2018 Mortality		2019 HG		2019 ACT (SQ)	
	mt	%	mt	%	mt	%	mt	%
Non-Nearshore	0.7	5.4%	1.34	8.7%	2.0	5.2%	1.6	5.3%
Nearshore	2.0	15.5%	2.27	14.8%	6.0	15.6%	4.7	15.6%
WA Rec.	3.3	25.6%	3.15	20.5%	10.0	26.0%	7.8	25.8%
OR Rec.	3.0	23.3%	3.62	23.6%	8.9	23.1%	7.0	23.2%
CA Rec	3.9	30.2%	4.99	32.5%	11.6	30.1%	9.1	30.1%
Total	**12.9**	**100%**	**15.37**	**100%**	**38.5**	**100%**	**30.2**	**100.0%**

Table 26. Status quo yelloweye rockfish within non-trawl sector shares, based on the draft fishery HG, and non-trawl allocation for 2021-2022. *These values will be updated once off-the-top deductions are approved.*

Sector	SQ %	2021 HG (mt)	2022 HG (mt)	Reduction factor from HG to ACT a/	2021 ACT (mt)	2022 ACT (mt)
Non-Nearshore	5%	1.9	1.9	0.784	1.5	1.5
Nearshore	16%	6.1	6.2		4.8	4.9
WA Rec.	26%	9.9	10.1		7.7	7.9
OR Rec.	23%	8.7	8.9		6.8	7.0
California Rec	30%	11.4	11.6		8.9	9.1
Total (non-trawl allocation)	**100%**	**37.9**	**38.8**		**29.7**	**30.4**

a/ based on the proportional difference between the 2019-2020 HGs and ACTs applied to the 2021-2022 HG.

At this time, the GMT recommends using No Action proportions for yelloweye rockfish from the 2020 annual catch target for the 2021-2022 within non-trawl HGs/Shares.

Non-Overfished Species

Cowcod South of 40° 10′ N. lat.

The non-trawl fisheries are currently managed under a collective non-trawl allocation of 64 percent (36 percent to trawl). In other words, there are no individual ACTs or shares for each of the non-trawl fisheries for cowcod. In consideration of future changes to RCA boundaries and expected changes to fishery operations in the next several years, creating separate shares for recreational and commercial could provide an additional back stop to avoid sectors directly impacting one another. As retaining cowcod has been prohibited in the non-trawl sector since 2002, a 50:50 split would be a straightforward sharing approach until further fishery attainment data could inform

whether changes to the split would be appropriate. Over winter, the GMT could develop accountability measures to address high levels of catch where either sector was to approach or be projected to exceed their ACT. Methods such as the GMT evaluating attainment levels in the other sector to determine if catch control measures were needed to reduce bycatch levels and avoid exceeding the ACL. These catch controls could include, but would not be limited to, modifications of the RCA boundary or fishery periods or seasonal closures. **The GMT recommends considering separate ACTs or shares within the non-trawl for analysis.**

Bocaccio South of 40° 10′ N. lat.

Bocaccio south of 40° 10′ N. lat. is currently managed with allocation sharing between the non-nearshore, nearshore, and recreational fisheries (Table 27). The division among these fisheries were implemented when the stock was declared overfished and warrants additional review at this time, given that bocaccio is now rebuilt. Specifically, the 0.4 percent allocation for the nearshore sector is not currently modeled or tracked separately from the non-nearshore sector. Officially combining these allocations will have minimal, if any, impact on fishery operations. **The GMT recommends combining percentages for the non-nearshore and nearshore fisheries for a total of 30.9 percent.**

Table 27. Status quo non-trawl sector shares (mt) for bocaccio south of 40° 10′ N. lat.

Sector	**2018 Allocation**	**SQ %**
Non-Trawl	442.3	100%
Fishery	**2018 Shares**	**SQ%**
Non-Nearshore	135.1	30.5%
Nearshore	1.7	0.4%
CA Rec.	305.5	69.1%

Sablefish South of 36º N. lat.

The sablefish fishery south of 36° N. lat. currently uses a 70-30 percent sharing of the non-trawl allocation between the limited entry south (LES) and open access south (OAS) sectors. Prior to 2017-2018, there was a 55-45 split. The GMT uses these shares to monitor the fishery inseason. Table 28 below shows the non-trawl allocation (mt) from 2013-2018, the landed share (mt, used for modeling and equal to the share minus assumed discard mortality), landings (mt), and the percent attainment of each sector.

Table 28. Non-trawl allocations (mt) from 2013-2020 with the landed share (mt) for each sector, landings (mt), and percent attainment.

Year	Non-Trawl Allocation	LES			OAS		
		Share	Landings	% Attain.	Share	Landings	% Attain.
2013	832	443	460.7	104%	362	60.9	17%
2014	902	480	442.7	92%	393	35.4	9%
2015	994	529	407.7	77%	433	33.2	8%
2016	1,088	578	384.8	67%	473	23.0	5%
2017	1,078	728	324.7	45%	312	26.4	8%
2018	1,125	759	393.4	52%	325	22.2	7%
2019	1,151.8	806			346		
2020	1,176	823			353		

The GMT recommends continuing with the No Action 70-30 percent sharing between LES and OAS for 2019-2020 for analysis.

Nearshore Rockfish Complex North of 40º 10′ N. lat.

The GMT recommends that the Council consider using the status quo sharing arrangement to set state-specific HGs for the nearshore rockfish complex north of 40° 10′ N. lat.

Table 29). This sharing arrangement is biologically-based, because states retain 100 percent of state-specific assessment ACL contributions. For stock assessments that overlap management areas, biologically-based methods were used to apportion ACL contributions. These state-specific HGs reflect the 3.08 mt off-the-top deduction (i.e., incidental open access, research, tribal, and EFP) being apportioned to each state, pro rata to the sharing arrangement (e.g., Oregon's overall share is 28.8 percent, so 28.8 percent of the 3.08 mt is deducted from their HG).

Table 29. Proposed state HGs (mt) for the nearshore rockfish north complex based on the status quo sharing arrangement. "Contr." is the ACL contribution for each stock, which is divided amongst states by the SQ sharing arrangement percent (some values do not sum up due to rounding).

Stock	Sharing arrangement			2021				2022			
	WA%	OR%	CA%	ACL contr.	WA	OR	CA	ACL contr.	WA	OR	CA
Black and Yellow	12.90	58.40	28.70	0	0	0	0	0	0	0	0
Blue/deacon (CA)	0.00	0.00	100.00	28.6	0	0	28.6	28.5	0	0	28.5
Blue/deacon (WA)	100.00	0.00	0.00	6.3	6.3	0	0	6.1	6.1	0	0
Brown	0.00	8.00	92.00	1.7	0	0.1	1.6	1.7	0	0.1	1.6
Calico	NA	NA	NA	NA	0	0	0	NA	0	0	0
China (WA)	100.00	0.00	0.00	9.1	9.1	0	0	8.7	8.7	0	0
China (OR + CA)	0.00	80.90	19.10	18.1	0	14.7	3.5	17.6	0	14.2	3.4
Copper	26.00	49.00	25.00	8.1	2.1	4	2	8.1	2.1	4	2
Gopher	12.90	58.40	28.70	0	0	0	0	0	0	0	0
Grass	12.90	58.40	28.70	0.5	0.1	0.3	0.1	0.5	0.1	0.3	0.1
Kelp	NA	NA	NA	0	0	0	0	0	0	0	0
Olive	12.90	58.40	28.70	0.2	0	0.1	0.1	0.2	0	0.1	0.1
Quillback	12.90	58.40	28.70	5.7	0.7	3.3	1.6	5.7	0.7	3.4	1.6
Treefish	12.90	58.40	28.70	0.2	0	0.1	0	0.2	0	0.1	0
Total				**78.7**	**18.4**	**22.7**	**37.6**	**77.3**	**17.7**	**22.2**	**37.4**
off-top				3.08				3.08			
off-top %					23.35%	28.83%	47.82%		22.92%	28.71%	48.36%
HG					**17.7**	**21.8**	**36.2**		**17**	**21.3**	**35.9**

Public Comments

The GMT reviewed the four public comments on this agenda item in the briefing book, and offers the following thoughts on comments not addressed elsewhere in our reports:

The GMT notes that Non-Trawl RCA boundary changes will be considered as part of the range in the overwinter analysis. The trip limit changes referenced are discussed in H.8.a, Supplemental GMT Report 3.

Two comments mentioned the desire to create a new black/blue rockfish complex in California similar to the action taken for Oregon in the 2019-2020 Biennial Harvest Specifications and Management Measures process. The GMT discussed this option but is not recommending it for further consideration as the current blue rockfish contribution to the ACL for minor nearshore rockfish north (40 10 N. lat. to 42 N. lat.) is based on an apportionment method from the 2017 stock assessment, whereas black rockfish is a statewide ACL making it challenging to combine into a single complex. Moreover, there is little benefit to moving blue rockfish from the minor nearshore rockfish complex into another complex as it would still be limited to the current shares. If the intent of these requests is to gain more access to blue rockfish in the commercial non-trawl sector, that could be included in the standard evaluation of trip limits already included in the range of analyses recommended by the GMT.

The GMT notes that one public comment included concerns about the trawl exempted fishing permit (EFP), which would be best addressed under H.5 and future Council discussion of 2021-2022 EFPs in June 2020.

Informational Item

The Council tasked the GMT with analyzing four sablefish ACL alternatives, therefore we will not have time to look at intersector allocations at this meeting.

Recommendation Summaries for H.8 Supplemental GMT Report 2 in the Action Item Checklist

2021-2022 Harvest Specifications and Management Measures				
#	**Category**	**Sector(s)**	**Specifications**	**GMT Report #**
1		All	Adopt final 2019-2020 overfishing limits, final P*/acceptable biological catches, preliminary preferred annual catch limits for stocks and stock complexes	Rpt 1
RCA Coordinate Updates, Allocations, and Harvest Guidelines (HG)				
2	Revisions	All	Updates to selected Rockfish Conservation Area (RCA) coordinates in California	Rpt 2
3	Off-the-top deductions		Recommend deductions to account for groundfish mortality in tribal fisheries, research activities, non-groundfish fisheries, incidental open access (IOA), and exempted fishing permits (EFP)[1] for analysis	Rpt 1
4	Annual Catch Target		Recommend annual catch targets (ACT), set below the fishery harvest guideline (HG), as necessary for analysis. ● Cowcod - **Analyze a single ACT for south of 40° 10′ N lat and. suggests the analysis consider a range of 40-60 mt for an ACT** ● Shortbelly rockfish - *no recommendation*	Rpt 2
5	HG		Recommend HGs for species managed within a complex for analysis. In 2019-2020 the following species are managed with HG within a complex ● OR BBD, and kelp greenling/cabezon stock complexes - *no recommendation* ● Blackgill rockfish within the slope rockfish complex south of 40° 10´ N. lat.[2] o Consider trawl/non/trawl shares of HG	Rpt 2

[1] The Pacific FIshery Management Council (Council) is scheduled under Agenda Item H.5. to consider EFPs for 2020-2021, including deductions from the ACL as necessary.

[2] Amendment 26, which was recommended by the Council in 2015, proposes to remove blackgill rockfish from the slope rockfish complex south of 40^0 10' N. lat. and reallocate blackgill rockfish and the remaining species in the southern slope rockfish complex.

			Task 1: Set a HG - **Consider 176.5 mt and 174.0 mt HGs for blackgill rockfish in the southern slope complex for 2021-2022, respectively.** Task 2: Establish trawl/non-trawl shares of the HG - **Consider the following shares of the HG as shown in Table 1: 165 mt and 72.9 mt for trawl (41 percent) and 106.3 and 104.8 mt for non-trawl (59 percent) in 2021-2022, respectively.** Task 3: Set non-trawl trip limits for non-trawl - *See options in Report 3* Task 4: Evaluate a new method to keep the IFQ sector within their share of blackgill rockfish - **Consider a 100 lb bimonthly trip limit for blackgill rockfish in the IFQ sector could be an effective inseason mitigation measure.** Task 5: Change the A-21 trawl/non-trawl allocations of southern slope complex - **Consider the two-year trawl and non-trawl allocations of southern slope rockfish as shown in Table 3.**	
6	Allocations	Trawl, Non-Trawl	Adopt preliminary 2-year trawl and non-trawl allocations ● Bocaccio south of 40°10' N. lat.- **Adopt the No Action (status quo) proportions (39 percent trawl, 61 percent non-trawl).** ● Cowcod south of 40°10' N. lat.- **Adopt the No Action (status quo) proportions (36 percent trawl, 64 percent non-trawl).** ● Canary rockfish - **Analyze all three two-year allocation options.** ● Yelloweye rockfish - **Adopt No Action (status quo) proportions (8 percent trawl, 92 percent non-trawl)** ● Big skate -**Adopt No action (status quo) proportions (95 percent trawl, 5 percent non-trawl).** ● Longnose skate - **Adopt No Action (status quo) proportions (90 percent trawl, 10 percent non-trawl).** ● Minor shelf rockfish north of 40°10' N. lat. - **Adopt No Action (status quo) proportions (60.2 percent trawl, 39.8 percent non-trawl).** ● Minor shelf rockfish south of 40°10' N. lat.- **Adopt No Action (status quo) proportions (12.2 percent trawl, 87.8 percent non-trawl).**	Rpt 2
7	Allocation	Trawl, Non-Trawl	Remove Amendment 21 trawl/non-trawl allocations (switch to biennial allocations) ● Slope rockfish South of 40° 10′ N lat. - **Remove the Amendment 21 allocations for the southern slope complex, make them a two-year allocations stock,**	Rpt 2

			and evaluate allocations of 526.3 mt and 523.9 mt for trawl in 2021-22 and 143.7 mt and 142.2 mt for non-trawl in 2021-22. Adjust Amendment 21 trawl/non-trawl allocations ● Lingcod south of 40°10' N. lat.- **Select one** **<u>No Action</u>: A-21 formulas: 45 percent trawl, 55 percent non-Trawl allocation share** **<u>Option 1</u>: Two year allocation: 43 percent Trawl, 57 percent non-Trawl** **<u>Option 2</u>: Two year allocation: 25 percent Trawl, 75 percent non-Trawl**	
8	Allocation	Within Trawl	No longer needed as former allocations have been converted to set-asides	Rpt 2
9	Set-aside	Trawl, At-Sea	Adopt preliminary set-asides to accommodate bycatch in the at-sea Pacific whiting fisheries ● **Combined CP and MS sector set-asides in the 2021-2022 biennium, and deleting zero catch species from the set-aside table in regulation.** ● **Use a five-year average catch as the set-asides for analysis for 2021-2022 for stocks with ACL attainment below 90 percent (all but sablefish N. of 36° N. lat.)** ● **Sablefish North of 36° N. lat. - weigh the management risk of a lower set-aside that potentially jeopardizes the ACL against the potential negative impacts of lower allocations to the IFQ sector to set an appropriate set-aside.**	Rpt 2
10	HG or Shares	Non-trawl	Adopt preliminary 2-year within non-trawl HGs or shares for: ● Cowcod south of 40°10´ N. lat - **Consider separate ACTs or shares within the non-trawl sector for analysis.** ● Bocaccio south of 40°10´ N. lat - **Combined percentages for the non-nearshore and nearshore fisheries for a total of 30.9 percent.** ● Yelloweye rockfish - **use No Action proportions** ● Canary rockfish o Remove non-trawl HGs for canary rockfish *See Action Item #6* ● Blackgill south of 40°10' N. lat. for limited entry and open access trip limit modeling - *See Action Item # 5*	Rpt 2

			● Sablefish south of 36º N. lat. for limited entry and open access trip limit modeling - **Continue with the No Action (status quo) 70-30 percent sharing between LES and OAS for 2019-2020 for analysis. (Amendment 6)** ● Nearshore rockfish complex north of 40°10´ N. lat. o Consider a Federal HG for the area 42° to 40°10´ N. lat. o Consider state-specified HG for Washington and Oregon **Consider using the status quo sharing arrangement to set state-specific HGs for the nearshore rockfish complex north of 40° 10′ N. lat.**	

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