GROUNDFISH MANAGEMENT TEAM REPORT
ON HARVEST SPECIFICATIONS AND MANAGEMENT MEASURES FOR 2021-2022 MANAGEMENT

The Groundfish Management Team (GMT) reviewed the draft harvest specifications, received an overview from Mr. John DeVore of Pacific Fishery Management Council (Council) staff, and provide comments below. Additionally, we have begun to develop a list of potential management measures for 2021-2022, which are discussed below.

Harvest Specifications

Default Harvest Control Rules

Default harvest control rules (HCRs), as implemented under Amendment 24[1], will be applied to the best available scientific information to generate the 2021-2022 harvest specifications, including overfishing limits (OFLs), acceptable biological catches (ABCs) and annual catch limits (ACLs). **The GMT recommends that the Council indicate at this meeting if it would like to depart from the default HCRs for any species**. This timing is necessary to coordinate with stock assessors and prepare information for the November 2019 Council meeting, when the Council is scheduled to adopt preliminary preferred ACL alternatives for overwinter analysis by the GMT. This information will also be discussed during the GMT's September 26, 2019 webinar and October 7-11, 2019 work session in Portland, Oregon.

Alternative Harvest Control Rules

The GMT emphasizes that the primary objective, at this time, is to identify a range of alternatives for further analysis. We provide some initial scoping for each proposal. We also note that annual catch targets (ACTs) that are set below ACLs are another allocation-based management option, but are considered "management measures," which we discuss after harvest specifications.

Comparing benefits and risks of higher harvest strategies

Higher ACLs can provide greater economic benefits, but can also increase conservation risks, especially when future stock assessments incorporating new data and life history information result in substantial shifts in estimates of spawning biomass and relative stock status. The Council should evaluate these biological differences amongst higher and lower harvest strategies and consider their relationship to assessment uncertainty. For this reason, stock assessors provide decision tables that allow the Council to compare how higher and lower catch streams (e.g., P* of 0.45 vs P* of 0.40, respectively) affect spawning biomass and relative stock status annually over the next ten years. As will be discussed for sablefish, higher and lower catch streams can produce similar long-term biological results, so decision tables should inform any assessments of risk. Decision tables also allow the Council to consider the impacts of assessment uncertainty when evaluating differences between high and low catch streams.

In particular, decision tables are used by the Council to evaluate risks associated with alternative management actions if the assessment base model is not reflective of the true spawning biomass

[1] http://www.pcouncil.org/wp-content/uploads/2015/03/GF_A24_FMP_Language_Feb2015.pdf

and relative stock status. This evaluation is done by comparing high and low catch streams under the "lower state of nature" and provides one means of evaluating the "risks of getting it wrong". The lower state of nature is designed to be representative of a less optimistic view of the stock based on the uncertainty estimated within the base model. Decision tables highlight the level of risk, low or high, associated with alternative management actions across plausible ranges of the stock, and thus are a useful tool to inform management actions.

Table 1 shows a potential range of alternative harvest specifications for 2021-2022, which are described further below.

Table 1. Alternative harvest specifications proposed by the GMT for 2021-2022 for Council consideration.

#	Stock	Default HCR	Alternative 1	Alternative 2
1	Shortbelly RF	ABC P* of 0.4, ACL = 500 mt	Use the same PPA selected under H.6 2020 shortbelly RF specifications	Manage as an Ecosystem Component Species
2	Oregon black RF	ABC P* of 0.45	"Case-by-case" ABC set = 2020 ABC of 512 mt	N/A
3	Cowcod South of 40° 10′ N lat.	ABC P* of 0.45	ABC P* of 0.40	ABC P* of 0.30
4	Petrale sole	ACL=ABC P* of 0.45	Constant 3,200 ACL	ABC P* of 0.40
5	Sablefish	ABC P*of 0.40	ABC P* of 0.45	N/A

1 - Shortbelly Rockfish

The GMT extensively discussed the subject of shortbelly rockfish bycatch associated with mid-water trawl fisheries under Agenda Item H.6. at this meeting (Agenda Item H.6.a, Supplemental GMT Report 1, September 2019). The GMT recommended increasing the No Action ACL of 500 mt for 2020, as this ACL was exceeded in 2018 and 2019, and is likely to be exceeded again in 2020. This default ACL was set at ~10 percent of the ABC to protect shortbelly rockfish, while not constraining mid-water trawl fisheries. Using specifications for 2020 adopted under Agenda Item H.6. at this meeting, or classifying shortbelly rockfish as an ecosystem component species, should protect shortbelly rockfish while avoiding negative socio-economic impacts associated with early fishery closures.

2 - Oregon Black Rockfish

The No Action 2021-2022 ABCs for Oregon black rockfish (479 mt and 474 mt, respectively) are based on using the maximum P* of 0.45 and the new time-varying sigmas that account for the age of the assessment. The Oregon Department of Fish and Wildlife (ODFW) is requesting a case-by-case ABC that is set equal to the 2020 ABC (512 mt), which uses the previous sigma value of 0.72. This alternative harvest specification for 2021-2022 would stabilize harvest goals and provide consistency for the fishery in the present. Additionally, this option would allow future

specifications to be informed by ODFW's incorporation of new hydroacoustic survey results describing current information on biomass in Oregon waters into a new full assessment in 2021.

3 - Cowcod South of 40° 10′ N lat.

As a reminder, a Depletion-Based Stock Reduction Analysis (DB-SRA) was used to estimate the OFL for the stock found in the area between 40° 10′ and 34° 27′ N. lat. and full assessment for the stock south of 34 ° 27′ lat. The OFLs for the two areas are summed to produce the OFL for cowcod south of 40° 10′ N. lat. The most recent assessments for cowcod indicated the stock in the area between 40° 10′ and 34° 27′ N. lat. is in an upward trajectory and the stock south of 34° 27′ N. lat. is rebuilt. Due to the updated status a P* of 0.45 was applied to each area to produce the ABCs. The ACLs for each area were set to equal to the ABC, and ABCs were then summed for a south of 40° 10′ N. lat. ABC. However, uncertainty in the analysis suggests that the Council should remain cautious in selecting an ACL for cowcod south of 40° 10′ N lat. Two alternatives are provided at levels that are precautionary compared to the default: P* of 0.40 and P* of 0.30. These alternatives provide harvest goals similar to the maximum sustainable yield based on spawning biomass at 40 percent or a low state of nature. The resulting 2021 ACLs from the alternatives would be 84 mt for P* of 0.40 or 58 mt for P* of 0.30. The Council could also choose the default ACL (98mt), but use an ACT resulting from one of these alternatives to mitigate impacts. Any of these options would provide relief to fisheries that have been constrained by cowcod while continuing to protect the species.

4 - Petrale Sole

The 2019 petrale sole update assessment noted several items of concern. Three strong recruitment years (2006, 2007, and 2008), as well as reduced harvests, were instrumental in quickly rebuilding the stock after the overfished declaration in 2009. However, these large year classes currently contribute a small proportion to the petrale sole spawning biomass of the present, due to being fished down and/or natural mortality. Since 2013, petrale sole recruitment is estimated to have been below the long-term average. Additionally, the assessment noted that the 2018 biomass estimate from the bottom trawl survey declined relative to previous years, and that the assessment model failed to fit this data point well. 2019 and 2020 data from the bottom trawl survey should be analyzed to determine whether the low 2018 data point was due to random sampling variation or a true decline in petrale sole biomass. Finally, the next full or update assessment of petrale sole will include new fecundity data. A sensitivity analysis using the new fecundity data for petrale sole from this year's update assessment showed that this information is likely to result in estimating a slightly more depleted stock.

The 2021-2022 ABC estimates from the 2019 update assessment reflect an increase to the potential ACL of greater than 20 percent relative to the 2019-2020 harvest specifications. In the short-term, full attainment of the 2021-2022 ABCs have a low likelihood of declining the stock below the management target of 25 percent. However, the areas of uncertainty described above indicate that a more conservative harvest goal in the short-term may mitigate future risks. To increase long-term fishery stability, an ACL of 3,200 mt (Alternative 1) could avoid imposing economic hardships to the fishery while implementing precautionary measures.

An alternative to setting a constant ACL below the ABC would be to implement a precautionary P* of 0.40 (Alternative 2; Table 3). The application of a P* of 0.40 would result in higher ACLs for

2021-2022; for example, the 2021 and 2022 ACLs would be 3,8343 mt and 3,455 mt respectively, compared to a fixed ACL of 3,200 mt.

The GMT and the GAP discussed Alternatives 1 and 2 and the difficulty in assessing short-term compared to long-term benefits when selecting an ACL. Both advisory bodies agreed that alternative projections could help quantify these potential trade-offs based on this year's petrale sole update assessment. The GMT and the GAP will collaborate in the creation of a list of alternative catch projections. This will inform discussions at the November Council meeting to select an ACL based on the trade-offs and risks associated with future actions.

Table 2. Future OFL and ABC projections for petrale sole under the default HCR (ACL=ABC, P* of 0.45).

Year	OFL (mt)	ABC (mt)	Spawning Biomass (mt)	Relative Biomass (proportion)
2019	3,042	2,908	13,078	0.39
2020	2,976	2,845	12,558	0.38
2021	4,402	4,115	12,019	0.36
2022	3,936	3,660	10,799	0.32
2023	3,634	3,365	10,038	0.30
2024	3,470	3,199	9,655	0.29
2025	3,402	3,120	9,523	0.29
2026	3,392	3,097	9,527	0.29
2027	3,406	3,096	9,580	0.29
2028	3,425	3,097	9,635	0.29
2029	3,442	3,098	9,677	0.29
2030	3,452	3,093	9,701	0.29

Table 3. Future OFL and ABC projections for petrale sole under the default HCR (ACL=ABC, P* of 0.40).

Year	OFL (mt)	ABC (mt)	Spawning Biomass (mt)	Relative Biomass (proportion)
2019	4,774	2,908	13,078	0.39
2020	4,592	2,845	12,558	0.38
2021	4,402	3,843	12,019	0.36
2022	3,998	3,455	10,961	0.33
2023	3,741	3,202	10,315	0.31
2024	3,608	3,060	10,012	0.30
2025	3,564	2,994	9,941	0.30
2026	3,573	2,973	9,993	0.30
2027	3,605	2,971	10,091	0.30
2028	3,643	2,976	10,194	0.31
2029	3,676	2,974	10,280	0.31
2030	3,705	2,968	10,351	0.31

5 - Sablefish

The current P* of 0.40 for sablefish arose when the stock was in the precautionary zone. During the 2019 stock assessment review (STAR) panel, this was attributed to overfishing occurring due to future OFL projections assuming average recruitment (from the stock recruit curve), while actual recruitments were lower.

Sablefish are now projected to be healthy, with the relative stock status increasing above 40 percent beginning in 2020, largely driven by a strong 2016 year-class, even under the low state of nature provided in the decision (Table 4). A higher P* of 0.45 could result in greater economic benefits by increasing the combined (north and south of 36° N lat.) ACLs by 500-600 mt.

As shown in the sablefish decision table (Table 4), the "consequences of getting it wrong" are similar under the low state of nature and under both the default P* of 0.40 and P* of 0.45: both result in similar annual spawning biomass and annual depletion estimates, as well as having similar long-term depletion estimates (i.e., 34% P* of 0.45 and 36% P* of 0.45 by 2030), assuming that the low state of nature reflects the true state of the stock. The sablefish decision table assumes that the full ACLs (i.e., coastwide ABC) would be caught each year and beyond, but actual removals could be lower because historical attainments south of 36° N lat. have been well under the ACL. Hence, the decision table may overestimate the actual risk to the stock based on historical attainments.

Table 4. Decision table from the 2019 sablefish stock assessment that compares the potential outcomes for each state of nature under alternative P* values. The results from the P* of 0.35 are projected to be similar to what would occur with a P* of 0.45 under the "reduced catch scenario".

Table f. Decision table of 12-year projections of spawning stock biomass (SSB) and % unfished (depletion) for alternative states of nature (columns) and management options (rows) beginning in 2019. The low and high states of nature are based on the 2019 SSB ± 1.15·base model SSB standard deviation. The fixed value of unfished recruitment was used to find each state of nature. The results are conditioned on the 2019 and 2020 catches, provided by the Pacific Fisheries Management Council Groundfish Management Team (GMT), being achieved exactly. The low and high catch streams are based on the GMT's requested P* values of 0.35 and 0.45.

			Low state (0.25)		Base (0.5)		High state (0.25)	
Catch scenario	Year	Total catch	SSB	Depletion	SSB	Depletion	SSB	Depletion
P*=0.35	2019	6,145	42,968	38%	57,444	39%	71,915	41%
	2020	6,288	47,594	42%	63,350	43%	79,161	45%
	2021	7,644	51,414	45%	68,120	46%	84,950	49%
	2022	7,269	51,922	46%	69,059	47%	86,290	50%
	2023	7,064	51,094	45%	68,740	47%	86,292	50%
	2024	6,849	49,847	44%	68,316	46%	86,367	50%
	2025	6,668	48,544	43%	68,079	46%	86,781	50%
	2026	6,513	47,297	41%	68,038	46%	87,474	50%
	2027	6,382	46,136	40%	68,145	46%	88,349	51%
	2028	6,279	45,063	40%	68,354	46%	89,327	51%
	2029	6,182	44,064	39%	68,629	46%	90,356	52%
	2030	6,105	43,135	38%	68,953	47%	91,411	53%
P*=0.4	2019	6,145	42,968	38%	57,444	39%	71,915	41%
	2020	6,288	47,594	42%	63,350	43%	79,161	45%
	2021	8,208	51,414	45%	68,120	46%	84,950	49%
	2022	7,811	51,636	45%	68,778	47%	86,008	49%
	2023	7,599	50,517	44%	68,177	46%	85,727	49%
	2024	7,388	48,988	43%	67,482	46%	85,532	49%
	2025	7,207	47,411	42%	66,984	45%	85,685	49%
	2026	7,055	45,902	40%	66,691	45%	86,129	49%
	2027	6,930	44,489	39%	66,555	45%	86,761	50%
	2028	6,837	43,169	38%	66,525	45%	87,503	50%
	2029	6,752	41,925	37%	66,564	45%	88,300	51%
	2030	6,679	40,750	36%	66,652	45%	89,126	51%
P*=0.45	2019	6,145	42,968	38%	57,444	39%	71,915	41%
	2020	6,288	47,594	42%	63,350	43%	79,161	45%
	2021	8,791	51,414	45%	68,120	46%	84,950	49%
	2022	8,375	51,342	45%	68,488	46%	85,717	49%
	2023	8,158	49,920	44%	67,594	46%	85,142	49%
	2024	7,946	48,097	42%	66,618	45%	84,666	49%
	2025	7,758	46,241	41%	65,851	45%	84,551	49%
	2026	7,614	44,468	39%	65,304	44%	84,740	49%
	2027	7,499	42,799	38%	64,918	44%	85,125	49%
	2028	7,401	41,226	36%	64,643	44%	85,624	49%
	2029	7,331	39,739	35%	64,445	44%	86,188	50%
	2030	7,275	38,320	34%	64,296	44%	86,782	50%

To better model likely catch amounts in the south, the GMT requested a "reduced catch scenario" that assumes the north would catch their full ACL, and the south would remain near their recent

(2011-2018) high of 600 mt. Due to time constraints, the stock assessment team (STAT) was only able to produce a second decision table for the P* of 0.40 of the reduced catch scenario, which projects the depletion would remain above 40 percent long-term under the lower state of nature. This is higher than the main decision table assuming full ACL removals in both management areas (i.e., coastwide ABC), which would decrease to 36 percent long-term under the lower state of nature. The STAT did however indicate that the results of a higher P* of 0.45 under the "reduced catch scenario" would be similar to the P* of 0.35 under the main decision table (assuming full ACL removals) as the catches would be similar, and this would keep the stock above 38 percent long-term under the low state of nature.

The GMT notes that actual future catches could be between full ACL removals (in both areas which would equal the coastwide ABC) and the "reduced catch scenario", as there is a proposal under Agenda Item H.8. to remove limited entry (LE) and open access (OA) daily and weekly sablefish trip limits and retain only bi-monthly trip limit. Additionally, there may be proposals to adjust the outer boundary of the Western Cowcod Conservation Area (CCA) and the Non-Trawl Rockfish Conservation Area (RCA) in the southern California bight under the Non-Trawl RCA Modification agenda item slated to begin in March 2020. Bi-monthly trip limits south of 36° N. lat. could provide more flexibility with landings to the southern LE and OA fixed gear fleet and the adjustments to the conservation areas may provide more access to deepwater sablefish fishing grounds. All of which could increase attainment south of 36° N lat. The most realistic scenario could therefore be between the two decision tables. For a P* of 0.45, the stock would be projected to remain above 34 percent (full ABC removals) and 38 percent ("reduced catch scenario") long-term under the lower state of nature. For a P* of 0.40, the stock would be projected to remain above 36 percent (full ABC removals) and 41 percent ("reduced catch scenario") long-term under the lower state of nature. The GMT does not see enough contrast between the full ABC and "reduced catch scenarios" projections to merit requesting new, "more realistic" catch scenarios.

Sablefish is one of the most economically important stocks on the West Coast, and the P* choice will be one of the most important harvest specifications decisions made during the 2021-22 cycle. The Council has long taken a precautionary approach for sablefish and that, along with strong recent recruitment, has led to the stock becoming healthy (under the base model). Stocks assessments will always be uncertain, so one of the best ways to appropriately manage the stock would be more regular full or update assessments that could detect declines in relative abundance and better project dynamic recruitments and inform more nimble management.

Table 5. 10-year projections for a P*of 0.40 with the "reduced catch scenario" that assumes the north with catch their full ACL each year and the south will catch 600 mt which is near their recent high. Actual attainments in the south could increase if modifications to CCA and non-trawl RCA south of 36° N lat. provide access to sablefish fishing grounds, so the most realistic catch scenario results could be between these and the full ACL removals (**Table 5Table 4**).

Year	Total Catch (mt)	Take north of 36° N. lat. (mt)	Take south of 36° N. lat. (mt)	Low State		Base		High State	
				Spawn Biomass (mt)	Depletion	Spawn Biomass (mt)	Depletion	Spawn Biomass (mt)	Depletion
2019	6,145			42,968	37.7%	57,444	38.9%	71,915	41.3%
2020	6,288			47,594	41.7%	63,350	42.9%	79,161	45.5%
2021	8,208	6,057	600	51,414	45.1%	68,120	46.1%	84,950	48.8%
2022	7,811	5,765	600	52,421	46.0%	69,528	47.1%	86,783	49.9%
2023	7,599	5,608	600	52,084	45.7%	69,648	47.1%	87,260	50.1%
2024	7,388	5,453	600	51,294	45.0%	69,625	47.1%	87,770	50.4%
2025	7,207	5,319	600	50,399	44.2%	69,742	47.2%	88,569	50.9%
2026	7,055	5,207	600	49,518	43.4%	70,014	47.4%	89,606	51.5%
2027	6,930	5,115	600	48,684	42.7%	70,400	47.7%	90,786	52.2%
2028	6,837	5,045	600	47,905	42.0%	70,858	48.0%	92,036	52.9%
2029	6,752	4,983	600	47,173	41.4%	71,354	48.3%	93,307	53.6%
2030	6,679	4,929	600	46,486	40.8%	71,874	48.7%	94,575	54.3%

Request for a SSC review of the methods used to apportion sablefish ACLs

Stock assessments which produce OFL and ABC projections are often conducted over broad areas that cross important management lines. In these cases, the ABC must be apportioned by management area to determine area-specific ACLs. The STATs develop the apportionment methods, which are reviewed during the STAR panel and by the SSC. The STATs use the best scientific information available to base the apportionment on the distribution of the stock by management area.

The 2019 sablefish stock assessment is a coastwide assessment that produces OFL and ABC projections. The coastwide ABC is then apportioned north and south of 36° N. lat. to determine ACLs for each management area based on the long-term (2003-2018) average ratio of annual trawl survey swept area biomass estimates by area. As shown in Figure 1, a rolling 5-year average better fits the survey biomass distributions in recent years and has lower statistical error.

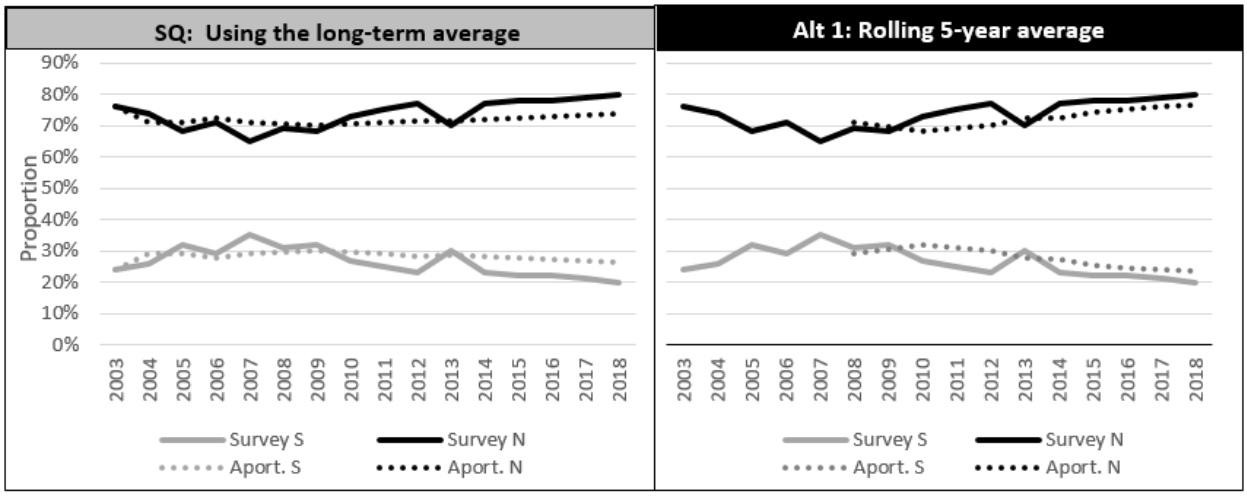

Figure 1. The annual proportions of estimated biomass of sablefish observed in the bottom trawl survey from north and south of 36° N. lat. (solid lines) and approaches for apportioning the coastwide ABC to the ACLs for each area based on those data (dotted lines).

The SSC was given a short briefing at this meeting in regard to alternative sablefish ACL apportionment methods. They would be willing to conduct a review of the GMT's proposed methods during the November 2019 Council meeting if they received a proposal by the advanced briefing book deadline. If a new method were endorsed (e.g., rolling 5-year average), then those new ACL apportionments would be reflected in all sablefish harvest specification alternatives (e.g., P*of 0.40 and P* of 0.45) that the Council adopts. **The GMT recommends that the Council request the SSC review the GMT's proposed sablefish ACL apportionment methods at the November 2019 Council meeting.** The GMT proposal could also consider alternative methods (e.g., a 3-year average).

Recommendations

(1) The GMT recommends the Council provide guidance on the potential range of alternative harvest specifications for 2021-2022, which are shown in Table 1.

(2) The GMT recommends that the Council request the SSC review the GMT's proposed sablefish ACL apportionment methods at the November 2019 Council meeting.

Management Measures

Annual Catch Targets

While the Council could select an ACL lower than the ABC to account for management uncertainty, another approach could be the use of an ACT. ACTs are soft targets, not hard caps, and are useful when there is unusually high uncertainty in projections of fishery impacts or delays in monitoring inseason catches.

Preliminary Range of Management Measures

Under this agenda item, the Council must adopt a preliminary range of management measures. Adopting the measures at this meeting provides the GMT with a preliminary list of management measures for our October work session and allows for more substantive feedback to Council at the November meeting.

Per the new prioritization process adopted by the Council in March 2019, new management issues should be presented and prioritized by the Council through the regular groundfish prioritization agenda item. The Council can continue to prioritize new management measures brought up under this agenda item by scheduling them as stand-alone agenda items on the year-at-a-glance. In order to best utilize this process and provide increased transparency to constituents, the GMT suggests the Council *not* include emerging management issues in the 2021-2022 Harvest Specifications and Management Measures. Providing analysis to support changes on such issues would detract from our ability to engage on prioritized stand-alone agenda items, such as changes to the non-trawl spatial management tools and gear switching/sablefish area management. The GMT has been given guidance by NMFS that management measures in the 2021-2022 package be limited to changes to trip limits, bag limits, season structures, and other measures needed to implement the harvest specifications for the biennium.

Table 6 lists the allocation measures that we have identified so far. Table 7 lists the catch control measures that we have identified so far. The GMT will provide additional information at the November Council meeting on items from this list, from the GAP, and any others that the Council identifies.

Table 6. Allocation measures identified by the GMT, so far, for consideration for 2021-2022.

Item # (not ranked)	Management Measure	Sector(s) affected	Description
All Sectors			
1	ACT(s)	All	Possibly cowcod
2	Off-the-top deductions (EFPs, Research, IOA, Treaty)	All	Anticipating multiple Treaty set-aside changes/updates
3	Trawl/non-trawl allocations	All	Cowcod, yelloweye, big skate, longnose skate, minor shelf rockfish north, minor shelf rockfish south, bocaccio, canary
4	Within trawl allocations	Trawl	Canary and widow rockfish
5	Within trawl at-sea set-asides	Trawl	
6	Within non-trawl HGs, or shares	Non-trawl	Cowcod, yelloweye, bocaccio south, canary, blackgill, sablefish south of 36°, minor nearshore rockfish north
7	Oceana shortbelly ACL = 1000 mt, ACT = 500 mt (if ACT reached, then need new MM)	All	
8	Slope rockfish S of 40° 10' N lat. switch from A-21 to biennial allocations	All	
9	Blackgill rockfish harvest guideline	All	

Table 7. Catch control measures identified by the GMT, so far, for consideration for 2021-2022.

Item # (not ranked)	Management Measures	Sector(s)	Description
All Sectors			
1	develop accountability measure guidelines for all groundfish stocks in the regulations that clearly define what the NMFS reaction/requirements should be when catch approaches an ACL inseason or exceeds an ACL	All	
Trawl			
2	management action required if shortbelly rockfish 500 mt ACT is exceeded (Oceana)	Whiting	only needed if ACT is implemented
Non-Trawl			
3	double slope and darkblotched (from 4k bimonthly), separate off darkblotched	LEFG N 40°10′ N lat.	
4	triple yellowtail (from 1,000 month)	LEFG N 40°10′ N lat.	shelf stock: consider in CCA/non-trawl RCA standalone
5	open yelloweye at 300 lbs bimonthly to get age samples	LEFG N 40°10′ N lat.	
6	double lingcod n42 (from 2,000 bimonthly)	LEFG N 40°10′ N lat.	shelf stock: consider in CCA/non-trawl RCA standalone
7	move silvergrey from shelf to slope "where they belong"	LEFG N 40°10′ N lat.	
8	double POP (from 1800 bimonthly)	LEFG N 40°10′ N lat.	
9	canary 3000 lbs (up from 300 bimonthly)	LEFG N 40°10′ N lat.	shelf stock: consider in CCA/non-trawl RCA standalone
10	2000 lbs. lingcod month (up from 900)	OA N 40° 10′ N lat.	shelf stock: consider in CCA/non-trawl RCA standalone
11	canary 1000 lbs month (up from 300 lbs bimonthly)	OA N 40° 10′ N lat.	shelf stock: consider in CCA/non-trawl RCA standalone

12	shortspine thornyhead 1000 lbs month (up from 50)	OA N 40° 10′ N lat.	
13	longspine thornyhead 1000 lbs month (up from 50)	OA N 40° 10′ N lat.	
14	slope/darkblotched (2,000 lbs month (up from 500)	OA N 40° 10′ N lat.	
15	minor shelf + widow...split widow off and make 2000 lb month (from 200)	OA N 40° 10′ N lat.	
16	open retention of shortspine and longspine n 3427...maybe match the N4010 proposal?	OA S 40° 10′ N lat.	
17	troll yellowtail (500 lbs mo., 10 lbs YTRF per 2 lbs salmon + extra 10 lbs YTRF)	Troll N 40° 10′ N lat.	Steve Wilson request to WDFW
18	additional south requests (CA)	S 42° N lat.	see CDFW report
19	WA rec season structure	WA Rec	bag limits, season structure, length limits, etc.
20	OR rec season structure	OR Rec	bag limits, season structure, length limits, etc.
21	CA rec season structure	CA Rec	bag limits, season structure, length limits, etc.

PFMC
09/17/19