

GROUND FISH MANAGEMENT TEAM REPORT ON PRELIMINARY PREFERRED
 MANAGEMENT MEASURE ALTERNATIVES FOR 2023-2024 FISHERIES

The Groundfish Management Team (GMT) reviewed the documents under this agenda item and received an overview from Mr. John DeVore and Mr. Todd Phillips of Pacific Fishery Management Council (Council) staff. We have organized and numbered our comments in the order that is presented in the Action Item Checklist ([Agenda Item F.4., Attachment 1](#)). This report covers items 2 through 11, which deal with rockfish conservation area (RCA) coordinate updates, 2023-24 allocations, and harvest guidelines (HGs). Our report on item 1 was included in our report for Agenda Item F.3. ([Supplemental GMT Report 1](#)). Items 12 through 18 are included in Agenda Item F.4.a, Supplemental GMT Report 4, April 2022.

At the end of this report the Council will find an “Enhanced Action Item Checklist” that contains all the options for Council consideration along with the GMT’s recommendations, in bold to aid the Council in making their motions. For example, the Council could motion to: *“Select all GMT recommendations as PPA from the Enhanced Action Item Checklist in Agenda Item F.4.a., GMT Report 3, April 2022 with the following exceptions [if departing from GMT recommendations]”*.

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Appendix 1. GMT recommended off-the-top deductions for tribal, research, IOA, and EFPs in 2023 and 2024. 21

As a general comment, the GMT notes that there are no automatic actions for closure or mitigation for any of the management measures (e.g., HGs, annual catch targets (ACTs), off-the-top deductions, or allocations) discussed in this report. This gives the Council some flexibility to manage fisheries inseason, as some sectors may be more constrained than others in a given year. However, this also means that there is a risk of exceeding HGs and allocations if the Council did not take inseason action as needed.

2. RCA Coordinate Updates

The GMT reviewed the suite of proposed modifications to the latitude and longitude coordinates that define the RCA boundaries off of California, as presented in [Agenda Item E.5.a, Supplemental CDFW Report 1, November 2021](#). The proposed modifications fall into at least one of the following categories: establish new NT-RCAs around the islands, banks, and high spots within the CCA and address CDFW enforcement requests and industry requests to better align coordinates with the depth contour, as well as correct crossovers. **The GMT recommends that the RCA corrections be considered for the preliminary preferred alternatives (PPAs).**

3. Off-the-Top Deductions

The GMT reviewed the off-the-top deductions from the annual catch limits (ACLs) for tribal, non-groundfish fisheries, exempted fishing permits (EFPs), and scientific research. Updates and recommended changes by set-aside type are described below. **Tables showing the GMT recommended set-asides by species and complex can be found in Appendix 1 in this document.** In November 2021, the Council requested the GMT examine possible species-specific off-the-top deductions for copper and quillback rockfish off of California. In March of 2022, the Council gave guidance to the GMT to not analyze species-specific set-asides for those two species ([March 2022 Decision Summary](#)). Therefore, copper and quillback rockfishes are not considered as individually managed stocks in the remainder of this section but instead are managed as part of the complexes in which they reside (nearshore rockfish north and south of 40° 10' N. lat.).

Research

Research activities include the National Marine Fisheries Service (NMFS) bottom trawl survey, International Pacific Halibut Commission (IPHC) longline survey, and other federal and state research projects. In previous harvest specification cycles, the approach of the Council was to establish research set-asides equal to the maximum historical scientific research mortality since 2005 for all species other than yelloweye rockfish and cowcod. **The GMT recommends the Council continue to use the maximum historical scientific research mortality for set-asides for all species, except yelloweye rockfish and cowcod south of 40° 10' N. lat., for 2023 and 2024 (values found in Appendix 1).**

Cowcod

For cowcod south of 40° 10' N. lat., the Council adopted a research set aside of 10 mt for 2021 and 2022 with the intent that it would meet the needs of current and additional research in the event

that there were changes to the NMFS Hook and Line survey, research conducted under California's Scientific Collecting Permit program, federal Scientific Research Permits, or Letters of Authorization. Although the GMT is not aware of any additional research needs at this time, the GMT notes that there is a great need for additional biological data and fishery dependent data. The GMT also notes that if there are modifications to the Cowcod Conservations Areas, the modifications may allow for additional research opportunities in the Southern California Bight. **The GMT does not see a need to deviate from the 10 mt allocation at this time.**

Yelloweye rockfish

For yelloweye rockfish, the Council adopted 2.92 mt for 2021 and 2022 research, based on anticipated research needs of the IPHC (1.1 mt); Washington Department of Fish and Wildlife (WDFW; 1.0 mt); Oregon Department of Fish and Wildlife (ODFW; 0.4 mt); California Department of Fish and Wildlife (CDFW; 0.22 mt); and other projects (0.2 mt). No changes to those values have been indicated, and therefore, **the GMT recommends the Council adopt 2.92 mt as PPA for 2023-24 for yelloweye rockfish research.**

Incidental Open Access (IOA)

Similar to the process for establishing off-the-top deductions for scientific research, the Council has adopted off-the-top deductions for IOA fisheries based on the historical maximum mortality for the majority of species (based on the Groundfish Expanded Mortality Multiyear [GEMM] product, Somers et al. 2021). The GMT did not identify the need to deviate from this general approach for most species, other than the potential exceptions described below.

Darkblotched Rockfish

Darkblotched rockfish mortality ranged from 2.89 mt to 6.75 mt during 2015-2019, but 17.46 mt were harvested in 2020, warranting consideration of a departure from the 2022 set-aside of 9.8 mt. The 2021-2022 set-aside amount was based on the long-term (2005-2018) average mortality, rather than the maximum of 24.66 mt ([Agenda Item H.8.a, Supplemental GMT Report 1, November 2019](#)). When the two additional years of data are included, the long-term average (2005-2020) increases by only 0.03 mt and remains at 9.8 mt when rounded. **The GMT recommends continuing to use this long-term average approach and adopting an IOA set-aside of 9.8 mt for darkblotched rockfish for 2023-24.** Even with the high IOA mortality in 2020, only 41 percent of the darkblotched rockfish ACL was taken that year, and the ACL has not been exceeded in prior years, suggesting that exceedance of the 9.8 mt set-aside does not pose a risk to the ACL.

Petrable Sole

The 2005-2020 average value of 11.1 mt is expected to accommodate annual IOA mortality, as the sector has taken less than that each year during the Individual Fishing Quota (IFQ) era (2011-2020), with the exception of 2017. Additionally, low attainments in the non-trawl fishery translate to minimal risk of exceeding the ACL even if the IOA set-aside were to be exceeded. The historical maximum non-trawl mortality of 14 mt is far less than the 2023-24 non-trawl allocation of 35-37 mt. Using 11.1 mt for the IOA set-aside, instead of the maximum of 34.3 mt, would result in an additional 23.2 mt for the IFQ fishery, which the GMT projects could add an extra ~\$100,000 in income to fishermen, processors, and fishing support businesses. Therefore, **the GMT recommends using the 2005-2020 average IOA mortality (11.1 mt) instead of the historical (2005-2020) maximum of 34.3 mt (Table 1).**

Table 1. Historical mortality (mt) of petrale sole in the IOA and non-trawl fisheries.

Year	IOA	Non-trawl
2005	20.5	0.9
2006	34.3	1.2
2007	11.7	1.5
2008	32.4	5.7
2009	15.4	0.8
2010	11.5	0.8
2011	2.4	1.3
2012	1.8	1.7
2013	2.2	3.2
2014	3.0	1.3
2015	5.2	3.9
2016	6.6	5.5
2017	19.6	7.9
2018	5.5	9.3
2019	4.3	14.0
2020	1.9	8.6
Max	34.3	14.0
Avg	11.1	4.2

Sablefish South of 36° N. lat.

Annual sablefish mortality in the IOA sector has been less than 2.5 mt since 2004. Given this consistently low attainment and the low risk of constraining other fisheries, as well as the potential for increased catch if the non-trawl RCA is modified, the **GMT recommends continuing to set the 2021-22 set-aside at 25 mt to cover the IOA sectors without adversely impacting other sectors.**

Yelloweye Rockfish

In September 2021, the GMT discussed the appropriate value for estimated IOA fishery mortality, noting that the majority of mortality in recent years has come from the directed commercial Pacific halibut fishery. In our September 2021 inseason report ([Agenda Item C.7.a, Supplemental GMT Report 1, September 2021](#)), we recommended using an average of the years with observer data in the directed Pacific halibut fishery (2017-2020; 2.66 mt) for 2021 for inseason management. We also stated that unless new data emerged, we should use that same value as the set-aside for IOA fisheries for 2023-2024. Because no new data have arisen, **the GMT recommends a value of 2.66 mt for the yelloweye rockfish IOA set-aside for 2023-24.**

Nearshore Rockfish North of 40° 10' N. lat.

The majority of the increased impacts to the nearshore rockfish complex north of 40° 10' N. lat. in 2019 and 2020 came from the directed commercial Pacific halibut fishery. Therefore, the **GMT recommends the same methodology as has been used for yelloweye rockfish to determine the**

set-aside, which is using the average of the years that the directed Pacific halibut fishery has been observed (2017-2020; 1.3 mt) to determine the set-aside for 2023 and 2024.

Therefore, the GMT recommends that the Council continue to adopt the maximum historical high mortality for incidental open access deductions for 2023-24 for all species except (values found in Appendix 1):

- petrale sole (11.1 mt),
- darkblotched rockfish (9.8 mt),
- sablefish south of 36° N. lat. (25 mt),
- yelloweye rockfish (2.66 mt), and
- nearshore rockfish north of 40° 10' N. lat. (1.3 mt).

EFPs

The GMT has not received any information regarding potential changes to the set-asides necessary for EFPs for 2023-24. Therefore, the values are the same as adopted in November 2021 (Table 2 in [Agenda item E.4.a, Supplemental GMT Report 1, November 2021](#)). The total amount (not broken out by individual EFPs) of set-asides for EFPs can be found in Appendix 1.

4. Treaty Fisheries

The GMT has been notified that the tribes intend on continuing all of their existing groundfish fisheries for 2023 and 2024 and have requested the set-asides as noted within [Agenda Item E.5.a, Supplemental Tribal Report 2, November 2021](#). These set-asides are consistent with the off-the-top deductions requested by the tribes during the 2021-22 biennial specifications process, with the exception of Pacific ocean perch (increased to 130 mt) and darkblotched rockfish (increased to 5 mt). These set asides were adopted by the Council in November 2021 and reflect the current requests of the tribes.

Pacific ocean perch is landed within both the treaty yellowtail directed mid-water trawl fishery and Pacific whiting fisheries. In November, the GMT discussed that the increased tribal request of 130 mt, and associated modification to the HG, should not be constraining to non-treaty fisheries.

The current darkblotched rockfish harvest guideline for the tribes is 0.2 mt. In recent years, treaty harvest of darkblotched rockfish has increased, and the 0.2 mt limit has become constraining to some tribal fisheries. Increasing the tribal set aside to 5 mt is a relatively small adjustment, and impacts would be spread between all sectors, resulting in minimal changes in overall sector allocations and negligible impact to non-treaty fisheries.

The GMT recommends the Council adopt the Tribal requested set-asides as requested in [Agenda Item E.5.a, Supplemental Tribal Report 2 November 2021](#).

5. Annual Catch Targets

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

Cowcod South of 40° 10' N. lat.

The 2019 stock assessment indicated that cowcod south of 40° 10' N. lat. was successfully rebuilt. However, since the estimates of current stock size and status were highly uncertain, the Council adopted an ACT for cowcod of 50 mt for south of 40° 10' N. lat. for 2021-22. The ACLs for 2023 and 2024 are 80 and 79 mt, respectively.

[Agenda item F.4.a, GMT Report 1, April 2022](#) discusses effects of the ACT on the fishery and potential future impacts of removing the ACT. For 2023 and beyond, Option 2 would allow for the expansion of opportunities farther offshore by reducing the potential for sector closures, thus creating stability for the non-trawl sector and the coastal communities south of 40° 10' N. lat. Option 2 would also provide additional flexibility to the non-trawl sector to increase attainment of underutilized shelf, slope, and other deep-water species. For these reasons, **the GMT recommends the Council select Option 2 and remove the ACT of 50 mt for south of 40° 10' N. lat. as the PPA. The GMT supports the status quo trawl (36 percent) and non-trawl (64 percent) allocation proportions for cowcod, utilizing a 50:50 sharing arrangement within the non-trawl sectors (Limited Entry and Open Access [LE/OA] and recreational), and setting ACTs for each non-trawl sector.** Retention in the non-trawl sector will continue to be prohibited, except for California Commercial Passenger Fishing Vessels (CPFV) participating in CDFW's Cowcod EFP.

Quillback rockfish off California

At the November 2021 meeting, the Council directed the GMT to include placeholders for sector-specific ACTs for each groundfish fishery that incurs fishery mortality. In March, the Council motioned to analyze two sets of ACTs for quillback rockfish off California, one for the area between 42° - 40° 10' N lat. and one for the area south of 40° 10' N lat.

Section 5 of [Agenda Item F.4. Attachment 2](#) proposes the methodology of reducing the ACL contribution by 25 percent, 50 percent, or 75 percent and then setting an ACT equal to one of those values. No ACT values are provided at this time since the GMT is waiting for the harvest control rule discussion to happen during the harvest specifications agenda item in June. However, upon further discussion, the GMT also sees merit in two other methods for calculating ACTs: 1) setting an ACT equal to the ACL contribution, or 2) selecting a more conservative SPR harvest rate from a rebuilding analysis.

However, the GMT has concerns with managing ACTs at low values as it is extremely difficult to manage to harvest targets that are less than 1 mt given limitations of commercial and recreational landings data and the lag of one year for the commercial mortality estimates. Additionally, the GMT has concerns about the consequences following from an expansion of small sample sizes. Sampling programs are designed to provide an average representative sample over time. Even the best sampling programs can experience issues with outliers where a handful of fish can result in unrealistically large or small estimates of total mortality and have the potential to trigger potentially unnecessary management review. In essence, the GMT urges the Council to consider the usefulness of an ACT given these wide uncertainties in inseason estimates resulting from low catch targets or rare catch events.

If the Council moves forward with an ACT, the GMT will strive to provide the most accurate and up to date information possible to the Council and its advisory bodies. The Council should

consider what routine management measures would be appropriate and/or available (i.e., trip limits, bag limits, season, etc.) if the ACT is projected to be exceeded. The GMT will inform the Council through the inseason reporting process so that the Council can consider whether an inseason action is warranted.

Copper rockfish off California

The Council also requested ACTs be analyzed for copper rockfish off California for the area between 42° - 40° 10' N. lat. and south of 40° 10' N. lat. The GMT sees two potential options for selecting ACTs for copper rockfish off California: 1) taking a 25 percent, 50 percent, or 75 percent reduction of the ACL contribution and then setting an ACT to one of those values, or 2) setting an ACT equal to the ACL contribution. However, for the same reasons stated above the GMT also has concerns about setting ACTs at low values for copper rockfish, particularly in the area between 42° - 40° 10' N. lat.

As mentioned above, the GMT strives to provide the most accurate and up to date information possible throughout the season. Should the Council proceed with setting an ACT for copper rockfish, the GMT can inform the Council through the inseason reporting process of how the fisheries are tracking. The Council should consider what routine management measures would be appropriate and/or available (i.e., trip limits, bag limits, season, etc.) if the ACT is projected to be exceeded. If an ACT is approached or exceeded, the Council could consider if an inseason action is warranted and what the appropriate inseason action should be at that time. The GMT notes that the same limitations noted above also apply for copper rockfish.

6. Two-Year Trawl/Non-Trawl Allocations

The GMT recommends the Council select for PPA the status quo trawl and non-trawl allocations as shown in Table 2.

Table 2. Status quo trawl and non-trawl allocations (percent) of stocks under two-year allocations.

Stock	Trawl	Non-Trawl
Big skate	95%	5%
Bocaccio south of 40° 10' N. lat.	39%	61%
Canary rockfish	72.3%	27.7%
Cowcod south of 40° 10' N. lat.	36%	64%
Lingcod south of 40° 10' N. lat.	40%	60%
Longnose skate	90%	10%
Minor shelf rockfish north of 40° 10' N. lat.	60.2%	39.8%
Minor shelf rockfish south of 40° 10' N. lat.	12.2%	87.8%
Petrale sole	remainder	30 mt
Slope rockfish south of 40° 10' N. lat., including blackgill rockfish	custom sharing approach	
Blackgill rockfish shares (of component ACL)	41%	59%
"Other slope" rockfish shares (of sum of component ACLs)	91%	9%
Widow rockfish	remainder	400 mt
YELLOW EYE ROCKFISH	8%	92%

None of these allocations are expected to constrain either the trawl or non-trawl sectors, except yelloweye rockfish, which constrains both. The GMT provided detailed rationale for adopting status quo proportions in November 2021 ([Agenda Item E.5.a, Supplemental REVISED GMT Report 2, November 2021](#)).

7. Amendment 21 Trawl/Non-Trawl Allocations

The Council has the ability to amend the Pacific Coast Groundfish Fishery Management Plan (FMP) to remove or adjust the formal Amendment 21 (A-21) formulas used to set trawl and non-trawl allocations. The GMT does not see a need to make any changes to the current trawl/non-trawl allocation shares for stocks with A-21 allocations, which are listed in Table 3. **Therefore, the GMT recommends continuing to use the status quo A-21 trawl/non-trawl allocation shares in 2023 and 2024 for the stocks listed in Table 3.**

Table 3. Status quo trawl and non-trawl allocation shares (percent) for stocks with A-21 allocations ([Table 6-1, Pacific Coast Groundfish Fishery Management Plan, August 2020](#)).

Stock or Complex	Trawl	Non-Trawl
Arrowtooth flounder	95%	5%
Chilipepper rockfish south of 40° 10' N. lat.	75%	25%
Darkblotched rockfish	95%	5%
Dover sole	95%	5%
English sole	95%	5%
Lingcod north of 40° 10' N. lat.	45%	55%
Longspine thornyhead north of 34° 27' N. lat.	95%	5%
Other flatfish	90%	10%
Pacific cod	95%	5%
Pacific ocean perch	95%	5%
Sablefish south of 36° N. lat.	42%	58%
Shortspine thornyhead north of 34° 27' N. lat.	95%	5%
Shortspine thornyhead south of 34° 27' N. lat.	50 mt	remainder
Slope rockfish north of 40° 10' N. lat.	81%	19%
Splitnose rockfish south of 40° 10' N. lat.	95%	5%
Starry flounder	50%	50%
Yellowtail rockfish north of 40° 10' N. lat.	88%	12%

8. Recommend Harvest Guidelines for Species Managed within a Complex

Blackgill rockfish (within the slope rockfish complex south of 40° 10' N. lat.)

The GMT recommends continuing to use the custom approach to allocate blackgill rockfish and “other slope” rockfish to the trawl and non-trawl sectors for the 2023-24 biennium.

In the 2021-22 biennium, the Council chose to manage blackgill rockfish within the slope rockfish complex south of 40° 10' N. lat. by setting an HG for blackgill rockfish that was equal to the species-specific ACL contribution to the slope rockfish complex south of 40° 10' N. lat. The blackgill rockfish HG was then used to allocate 41 percent to the trawl sector and 59 percent to the non-trawl sector; these percentages were selected as part of the original Amendment-26 final preferred alternative. Then, the A-21 trawl (63 percent) and non-trawl (37 percent) allocations were applied to the remaining species in the complex. This allocation scheme, although complex, seems to meet the needs of trawl and non-trawl sectors, and thus, **the GMT recommends continuing to use this approach for the 2023-24 biennium.** Table 4 shows the proposed 2023-24 HGs for blackgill rockfish and the resulting trawl and non-trawl allocations. Table 4 also shows the proposed 2023-24 HGs for the remaining species in the slope rockfish complex south of 40° 10' N. lat. and the resulting trawl and non-trawl allocations.

Table 4. Two-year allocations of the southern slope rockfish complex (mt) as a whole and as shares of blackgill rockfish and other slope species.

Category	2023		2024	
	Trawl (mt)	Non-trawl (mt)	Trawl (mt)	Non-trawl (mt)
Blackgill share	70.7	101.7	69.7	100.2
Other slope share	330.5	194.1	334.6	196.5
Subtotal share	401.2	295.8	404.3	296.7
Total	697.0		701.0	
% of total share	57.56%	42.44%	57.67%	42.33%
Total combined off-top	39		39	
Apportioned off-top	22.4	16.6	22.5	16.5
Final two-year allocation	378.7	279.3	381.8	280.2

Oregon black/blue/deacon rockfish complex

The Oregon black/blue/deacon rockfish complex was created in 2019. At that time there were discussions about species-specific HGs within the complex. The goal was to prevent overfishing of the species-specific contribution to the complex. ODFW informed the Council that they would be managing the complex to stay within the species-specific contributions to the complex. During the two years for which total mortality data are available, the mortality of both species has remained below the species-specific contributions to the OFL, ABC, and ACLs (Table 5).

Table 5. The black rockfish and blue/deacon rockfish 2019 and 2020 species-specific OFL, ABC, and ACL contributions to the Oregon black/blue/deacon rockfish complex, with annual mortality by species.

Species	2019					2020				
	OFL cont. (mt)	ABC cont. (mt)	ACL cont. (mt)	Total Mort. (mt)	Over/Under OFL cont. (mt)	OFL cont. (mt)	ABC cont. (mt)	ACL cont. (mt)	Total Mort. (mt)	Over/Under OFL cont. (mt)
Black RF	565.0	515.8	515.8	440.1	-124.9	561.0	512.2	512.2	437.9	-123.1
Blue/deacon RF	112.3	101.5	101.5	26.9	-85.4	108.8	98.4	98.4	27.1	-81.7
Complex Total	677.3	617.4	617.4	467.0	-210.3	669.8	610.5	610.5	465.0	-204.8

Based on the above, the GMT does not see a need for harvest guidelines for either species within the Oregon black/blue/deacon rockfish complex.

Cabezon/kelp greenling complexes in WA and OR

The cabezon/kelp greenling complex off both Washington and Oregon were created in 2019. At that time, there were discussions about species-specific HGs within the complex. As with the Oregon black/blue/deacon rockfish complex discussed above, the goal was to prevent overfishing of the species-specific contribution to the complex. WDFW and ODFW informed the Council that they would be managing the complex to stay within the species-specific contributions to the complex. During the two years for which total mortality data are available, the mortality of both species in the Oregon complex has remained below the species-specific contributions to the OFL, ABC, and ACLs (Table 6). In 2019, the OFL contribution of cabezon to the WA cabezon/kelp greenling complex was exceeded; however, the following year mortality was below the OFL contribution (Table 7). The WA cabezon OFL contribution increased from 2020 to 2021 and continues to be at a higher level than in the year where the exceedance occurred.

Table 6. The cabezon and kelp greenling 2019 and 2020 species-specific OFL, ABC, and ACL contributions to the Oregon cabezon/kelp greenling complex, with annual mortality by species.

Species	2019					2020				
	OFL cont. (mt)	ABC cont. (mt)	ACL cont. (mt)	Total Mort. (mt)	Over/Under OFL cont. (mt)	OFL cont. (mt)	ABC cont. (mt)	ACL cont. (mt)	Total Mort. (mt)	Over/Under OFL cont. (mt)
Cabezon	49.0	46.8	46.8	46.2	-2.8	49.0	46.8	46.8	35.4	-13.6
Kelp Greenling	180.9	171.1	171.1	16.8	-164.1	166.5	157.5	157.5	29.4	-137.1
Complex Total	229.9	217.9	217.9	63.0	-166.9	215.5	204.4	204.4	64.7	-150.8

Table 7. The cabezon and kelp greenling 2019 and 2020 species-specific OFL, ABC, and ACL contributions to the Washington cabezon/kelp greenling complex, with annual mortality by species.

Species	2019					2020				
	OFL cont. (mt)	ABC cont. (mt)	ACL cont. (mt)	Total Mort. (mt)	Over/Under OFL cont. (mt)	OFL cont. (mt)	ABC cont. (mt)	ACL cont. (mt)	Total Mort. (mt)	Over/Under OFL cont. (mt)
Cabezon	5.5	4.6	4.6	9.8	4.3	5.4	4.5	4.5	3.7	-1.7
Kelp Greenling	7.1	5.9	5.9	1.7	-5.4	7.1	5.9	5.9	1.0	-6.1
Complex Total	12.6	10.5	10.5	11.5	-1.1	12.5	10.4	10.4	4.6	-7.9

Similar to the Oregon black/blue/deacon rockfish complex, **the GMT does not see a need for harvest guidelines for either species within the Oregon cabezon/kelp greenling complex or the Washington cabezon/kelp greenling complex.**

Nearshore rockfish complex north of 40 10' N. lat. - by state

See Action Item #11

10. At-Sea Set Asides

For the at-sea sectors, some groundfish species other than Pacific whiting are managed as set-asides, amounts for which are based on the best available information on bycatch by these sectors and other relevant factors, including, but not limited to, status of the set-aside stocks, expected utilization in other sectors of the trawl fishery (i.e., IFQ), and expected management conditions in any sector in upcoming fishing years, as determined in the biennial harvest specifications and management measures decision process. At-sea set-asides are deducted from the trawl allocation, the remainder of which is allocated to the IFQ fishery.

In our November 2021 report, the GMT describes in detail the conversion of all remaining hard cap allocations to set-asides, as well as the adjustment of many set-asides during the 2021-22 biennial specifications cycle ([Agenda Item E.5.a, Supplemental REVISED GMT Report 2, November 2021](#)). The GMT updated Table 15 provided in November 2021 to include 2021 ACL attainments and 2021 at-sea catches for the entire year (Table 8).

Table 8. At-sea set-aside values in regulation for 2021 and 2022, the 2017-2020 4-Year Average Catch, 2017-2020 4-Year Maximum Catch, and 2021 at-sea catches. Stocks for which 2021 and 2022 set-asides were modified from status quo (i.e., A-21 calculation) are bolded. Pacific whiting is italicized because it is not managed as a set-aside.

Species/Species Group	Area	2021 ACL Attainment (%; Proxy for future risk to the ACL) a/	4 Year Average Catch (mt)	4 Year Max Catch (mt)	2019-2020 Set-Asides (mt)	2021-2022 Set-Asides (mt)	2021 At-Sea Catch (mt)
<i>Pacific whiting b/</i>	Coastwide	73%	168,695	203,390	2019 = 233,556 2020 = 225,601	2021 = 176,323	139,111
Arrowtooth flounder	Coastwide	7%	28.4	55.4	70	70	20.6
Canary rockfish	Coastwide	42%	4.8	6.6	46	36	5.9
Darkblotched rockfish	Coastwide	35%	52.4	76.5	38.7	76.4	41.0
Dover sole	Coastwide	8%	2.3	6.3	5	10	1.9
Lingcod	North of 40°10' N. lat.	16%	1.6	3.4	15	15	1.0
Minor shelf rockfish	North of 40°10' N. lat.	30%	10.9	15.5	35	35	8.1
Minor slope rockfish	North of 40°10' N. lat.	31%	171.5	294.9	100	300	137.4
Pacific halibut c/	Coastwide	N/A	0.57	0.7	10	10	0.7
Pacific ocean perch	North of 40°10' N. lat.	13%	56.2	141.9	404.5	300	52.2
Petrale sole	Coastwide	67%	0.0	0.0	5	5	0.0
Sablefish	North of 36° N. lat.	76%	82.8	153.2	50	100	57.7
Shortspine thornyhead	North of 34° 27' N. lat.	31%	48.1	76.1	30	70	76.2
Widow rockfish	Coastwide	74%	217.1	475	611.4	476	115.4
Yellowtail rockfish	North of 40°10' N. lat.	48%	214.5	317.6	300	320	80.5

a/ 2021 ACL attainment is based on actual retained weight (mt) plus estimated discard weight (mt), which is estimated using a rolling three-year average annual discard mortality from the West Coast Groundfish Observer (WCGOP) Program. Final WCGOP discard mortality estimates for 2021 are not yet available.

b/ The fishery harvest guideline for Pacific whiting is allocated among the three whiting sectors as follows: 34 percent CP, 24 percent MS, and 42 percent shorebased IFQ.

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

Only one stock's at-sea set-aside was exceeded in 2021, shortspine thornyhead north of 34° 27' N. lat., but only 31 percent of the stock's 2021 ACL of 1,428 mt is estimated to have been attained. At-sea bycatch of all other stocks managed with set-asides were well within their set-aside amount for 2021. The over-winter analysis indicates that the status quo at-sea set-asides are not expected to constrain either the at-sea sectors or the IFQ fishery in 2023 and 2024 ([Agenda Item F.4, Attachment 2, April 2022](#)). Under No Action harvest specifications, the IFQ fishery is projected to attain 76 percent of the Petrale sole allocation, 72 percent of the sablefish north of 36° N. lat. allocation, 81 percent of the widow rockfish allocation, 68 percent of the yellowtail rockfish allocation, and less than 50 percent of the remaining stocks' allocations. Alternatives 1 and 2 of sablefish harvest specifications would result in higher ACLs in 2023 and 2024 than those of 2021 and 2022, indicating that the IFQ fishery is even less likely to be constrained by the status quo 100 mt at-sea set-aside for sablefish north of 36° N. lat. in 2023 and 2024. **Therefore, the GMT recommends the Council select as PPA the status quo at-sea set-asides, listed as "2021-2022 Set-Asides" in Table 15 above, for 2023 and 2024.**

During over-winter analysis, the GMT explored the potential for a Pacific spiny dogfish set-aside for the at-sea Pacific whiting sectors due to recent high bycatch in the sectors and declining ACLs in 2023 and beyond. However, **the GMT does not recommend establishing a Pacific spiny dogfish set-aside because of the stock's annual variability in catch and dependency on the Pacific whiting Total Allowable Catch (TAC) and season start date.** Those factors make it difficult to estimate a consistent amount of expected at-sea catch to set aside. Additionally, there is no IFQ allocation of Pacific spiny dogfish, as it is not a target species, nor a trawl allocation, and therefore, it is not necessary to set-aside an amount of expected at-sea mortality. The at-sea sectors already take measures to avoid any stocks of concern, including Pacific spiny dogfish, and the GMT will track Pacific spiny dogfish catch data that is available inseason. If trawl-related bycatch of Pacific spiny dogfish becomes a concern, the Council could implement spatial management tools in areas of high bycatch via inseason action.

11. Within Non-Trawl Harvest Guidelines, Annual Catch Targets, or Shares

The GMT recommends the Council adopt the status quo within non-trawl HGs, ACTs, and shares for all stocks except the following stocks, which have options for consideration.

Yelloweye rockfish

The GMT notes that yelloweye rockfish is rebuilding ahead of schedule and that the Council took action to change the spawning potential ratio and the target year for rebuilding (T_{TARGET}). This has resulted in additional allocations to each sector in recent years, with managers electing for conservative measures to remain within the new allocations. The yelloweye rockfish ACL is projected to increase even further in the 2023-24 biennium. Managers are expected to continue to experiment with management measures to allow increased access to healthy stocks without exceeding the yelloweye catch targets.

Attainment of target stocks in the combined nearshore/non-nearshore sector, which is generally constrained by yelloweye rockfish bycatch (Table 9), are high for most species, except lingcod.

After discussing the recent fisheries history and 2023-2024 season structures, the GMT does not see a need to diverge from the current allocation sharing (Table 10).

Table 9. Recent non-trawl yelloweye rockfish harvest guidelines, ACTs, and mortality (mt), and percent of the total ACT or mortality, by sector.

Sector	2019					2020				
	Allocation			Mortality		Allocation			Mortality	
	HG mt	ACT (mt)	% of Total	mt	% of Total	HG mt	ACT (mt)	% of Total	mt	% of Total
Non-Nearshore & Nearshore	8	6.3	20.8%	4.3	22%	8.1	6.4	20.8%	4.5	30.1%
WA Rec.	10	7.8	26.0%	3.8	19.7%	10.2	8.1	26.0%	1.8	12.4%
OR Rec.	8.9	7.0	23.1%	5.0	26.2%	9.1	7.2	23.1%	6.6	44.0%
CA Rec	11.6	9.1	30.1%	6.2	32.1%	11.9	9.4	30.1%	1.9	13.1%
Total	38.5	30.2		19.3		39.3	30.3		14.8	

Table 10. Status quo yelloweye rockfish within non-trawl sector shares, based on the draft fishery HG, and non-trawl allocation for 2023-2024. May be updated once off-the-top deductions are adopted.

Sector	SQ %	2023 HG (mt)	2024 HG (mt)	Reduction factor from HG to ACT (mt) a/	2023 ACT (mt)	2024 ACT (mt)
Non-Nearshore & Nearshore	21%	10.6	10.6	0.784	8.4	8.4
WA Rec.	26%	13.2	13.2		10.4	10.4
OR Rec.	23%	11.7	11.7		9.2	9.2
CA Rec.	30%	15.3	15.3		12.0	12.0
Total (non-trawl allocation)	100%	50.9 b/	50.9 b/		39.9 b/	39.9 b/

a/ based on the proportional difference between the 2021-2022 HGs and ACTs applied to the 2023-2024 HG.

b/ Values don't add up due to rounding issues

At this time, the GMT recommends using No Action proportions for yelloweye rockfish from the 2021 annual catch target for the 2023-2024 within non-trawl HGs/Shares.

Cowcod South of 40° 10' N. Lat.

As mentioned above under item #5 (ACTs), the GMT recommends setting sector specific ACTs in the non-trawl sector based on the previous 50:50 sharing arrangement within non-trawl sectors (Option 2, Table 11). Utilizing sector-specific ACTs within the non-trawl sector, in addition to maintaining zero retention in the non-trawl sector (except the CA CPFV EFP) should help to reduce management uncertainty with the removal of the 50 mt ACT below the fishery harvest guideline.

Table 11. No Action (Option 1) and proposed (Option 2) allocations of the Fishery HG for cowcod south of 40° 10' N. lat. in 2023-24.

Option	Year	ACL (mt)	Set asides (mt)	Fishery HG (mt)	ACT (mt)	Trawl Alloc. 36% (mt)	Non-Trawl Alloc. 64%	
							Non-trawl commercial ACT (mt)	Recreational ACT (mt)
Opt. 1	2023	80	11.17	68.8	50	18	16	16
	2024	79	11.17	67.8	50	18	16	16
Opt. 2	2023	80	11.17	68.8	N/A	24.8	22	22
	2024	79	11.17	67.8	N/A	24.4	21.7	21.7

Canary Rockfish

Based on a request from WDFW in March, the GMT provided some information on recent canary rockfish catches from the non-trawl sector (Table 3, [Agenda Item E.9.a, Supplemental GMT Report 1 March 2022](#)). Based on the information and discussion from March, **the GMT recommends maintaining the status quo non-trawl sharing of canary rockfish (Table 12).** The Council may wish to have some discussion on whether these shares (i.e., allocations) should be treated as hard caps like the yelloweye rockfish ACTs or as softer caps similar to how the state shares of the nearshore rockfish complex north of 40° 10' N. lat. are treated.

Table 12. The canary rockfish allocations for 2023 and 2024 based on status quo sharing percentages. The 2021 and 2022 values are shown for reference.

Category	2021 (mt)	2022 (mt)	2023 (mt)	2024 (mt)
ACL	1,338	1,307	1,284	1,267
Off-the-top	66.4	66.4	65.9	65.9
Fishery HG	1,272	1,241.6	1,218.1	1,201.1
Trawl Allocation	919.3	897.7	880.7	868.4
(trawl %)	72.3%	72.3%	72.3%	72.3%
--IFQ	883.3	861.7	844.7	832.4
--At-sea	36	36	36	36
Non-trawl	352.2	343.9	337.4	332.7
(non-trawl %)	27.7%	27.7%	27.7%	27.7%
--Non-nearshore & Nearshore (36 %)	126.8	123.8	121.5	119.8
--WA Rec. (12.3%)	43.3	42.3	41.5	40.9
--OR Rec. (18.5%)	65.2	63.6	62.4	61.5
--CA Rec. (33.2%)	116.9	114.2	112.0	110.5

Bocaccio South of 40° 10' N. Lat.

The GMT recommends continuing to use a combined commercial share and continuing to use the status quo share percentages for the non-trawl allocation (Table 13) given low non-

trawl attainment in recent years. The GMT anticipates that the 2023-24 shares will accommodate the sectors based on recent mortality.

Table 13. Status quo (SQ) 2023 non-trawl sector shares for bocaccio south of 40° 10' N. lat.

Sector	2023 Allocation (mt)	Status Quo %
—Non-Trawl	1,094.5	100%
Fishery	2023 Shares (mt)	Status Quo %
—Non-Nearshore & Nearshore	338.2	30.9%
—CA Rec.	756.3	69.1%

Sablefish South of 36° N. Lat.

The GMT recommends maintaining the 70 percent LEFG / 30 percent OA shares from 2019-20. Neither sector is projected to be constrained by these allocations.

Nearshore Rockfish Complex North of 40° 10' N. Lat.

The GMT recommends that the Council continue using the status quo sharing arrangement to set state-specific HGs for the nearshore rockfish complex north of 40° 10' N. lat. (Table 14). The ACL contribution values may need to be updated in Table 14 depending on the Council's action under Agenda Item F.3. at this meeting on the quillback rockfish ACL contribution. 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 3.3 mt off-the-top deduction 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 3.3 mt is deducted from their HG).

Table 14. Proposed state HGs for the nearshore rockfish north complex for 2023 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 percentages (some values do not sum up due to rounding). 2024 would be calculated the same way.

Stock	Sharing arrangement			2023				2024			
	WA%	OR%	CA%	ACL contr.	WA	OR	CA	ACL contr.	WA	OR	CA
Black and Yellow	12.9%	58.4%	28.7%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blue/deacon (CA)	0.0%	0.0%	100.0%	28.3	0.0	0.0	28.3	28.5	0.0	0.0	28.5
Blue/deacon (WA)	100.0%	0.0%	0.0%	5.9	5.9	0.0	0.0	5.8	5.8	0.0	0.0
Brown	0.0%	8.0%	92.0%	1.7	0.0	0.1	1.6	1.7	0.0	0.1	1.6
Calico	NA	NA	NA	NA	0.0	0.0	0.0	NA	0.0	0.0	0.0
China (WA)	100.0%	0.0%	0.0%	8.3	8.3	0.0	0.0	8.0	8.0	0.0	0.0
China (OR + CA)	0.0%	80.9%	19.1%	17.0	0.0	13.8	3.3	16.6	0.0	13.4	3.2
Copper (WA)	100.0%	0.0%	0.0%	1.9	1.9	0.0	0.0	1.9	1.9	0.0	0.0
Copper (OR)	0.0%	100.0%	0.0%	15.7	0.0	15.7	0.0	15.0	0.0	15.0	0.0
Copper (4010-42)	0.0%	0.0%	100.0%	3.1	0.0	0.0	3.1	3.1	0.0	0.0	3.1
Gopher	12.9%	58.4%	28.7%	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Grass	12.9%	58.4%	28.7%	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	0.0	0.0	0.0	0.0
Olive	12.9%	58.4%	28.7%	0.2	0.0	0.1	0.1	0.2	0.0	0.1	0.1
Quillback (WA) a/	100.0%	0.0%	0.0%	2.2	2.2	0.0	0.0	2.2	2.2	0.0	0.0
Quillback (OR) a/	0.0%	100.0%	0.0%	2.7	0.0	2.7	0.0	2.7	0.0	2.7	0.0
Quillback (40°10'-42°) a/	0.0%	0.0%	100.0%	0.1	0.0	0.0	0.1	0.2	0.0	0.0	0.2
Treefish	12.9%	58.4%	28.7%	0.2	0.0	0.1	0.0	0.2	0.0	0.1	0.0
Total				87.9	18.5	32.9	36.5	86.7	18.0	31.8	36.9
off-top				3.27				3.27			
off-top %					23.35%	28.83%	47.82%		22.92%	28.71%	48.36%
HG					17.7	32.0	34.9		17.2	30.9	35.3

a/ These values may need to be updated after the Council takes action on Agenda Item F.3. at this meeting.

Summary of GMT Recommendations

#	Category	Sector	Management Measures
RCA Coordinate Updates			
2	Area Management	All	Proposed RCA Coordinate Updates: <ul style="list-style-type: none"> • Correct Crossovers C.8.a, CDFW Rpt 1, Sept 2021 and G.6.a CDFW Rpt 1, June 2021
2023-2024 Set-Asides and Harvest Guidelines (HG)			
3	Off-the-top deductions	Research, EFPs, and IOA	<p>Research activities:</p> <ul style="list-style-type: none"> • Historic highs (SQ methodology), except for: <ul style="list-style-type: none"> ○ cowcod south of 40°10' N. lat. (10 mt) and ○ yelloweye rockfish (2.92 mt) <p>Incidental open access (IOA):</p> <ul style="list-style-type: none"> • Historic highs (SQ methodology) except for: <ul style="list-style-type: none"> ○ darkblotched rockfish (9.8 mt), ○ petrale sole (11.1 mt), ○ sablefish south of 36° N. lat. (25 mt), ○ yelloweye rockfish (2.66 mt), and ○ nearshore rockfish complex north of 40° 10' N. lat. (1.3 mt) <p>Exempted fishing permits (EFP):</p> <ul style="list-style-type: none"> • Values adopted in November <p>Adopt all GMT recommended values in Appendix 1 as PPA</p>
2023-2024 Treaty Fisheries			
4	Off-the-Top Deductions	Treaty Fisheries	Adopt recommended management measures for treaty fisheries
2023-2024 Allocations and Harvest Guidelines (HG)			
5	ACT	All	<ul style="list-style-type: none"> ➤ Yelloweye rockfish: non-trawl ACT of 39.8 mt ➤ Cowcod south of 40°10' N. lat.: remove the 50 mt ACT ➤ Consider quillback rockfish off California: Sector-specific ACT <ul style="list-style-type: none"> ○ The GMT does not have a recommendation at the time ➤ Consider copper rockfish off California: Sector-specific ACT <ul style="list-style-type: none"> ○ The GMT does not have a recommendation at the time

2023-2024 Allocations and Harvest Guidelines (HG) *Continued*

6	Two Year Allocations	Trawl/ Non-Trawl	<p>STATUS QUO 2-year trawl/non-trawl allocations:</p> <ul style="list-style-type: none"> ● Big skate: 95 percent trawl, 5 percent non-trawl ● Bocaccio south of 40°10' N. lat.: 39 percent trawl, 61 percent non-trawl ● Canary rockfish: 72.3 percent trawl, 27.7 percent non-trawl, with a combined commercial non-trawl HG ● Cowcod south of 40°10' N. lat.: 36 percent trawl, 64 percent non-trawl ● Lingcod south of 40°10' N. lat.: 40 percent trawl, 60 percent non-trawl ● Longnose skate: 90 percent trawl, 10 percent non-trawl ● Minor shelf rockfish north of 40°10' N. lat.: 60.2 percent trawl, 39.8 percent non-trawl ● Minor shelf rockfish south of 40°10' N. lat.: 12.2 percent trawl, 87.8 percent non-trawl ● Petrале sole: 30 mt non-trawl, remainder trawl ● Slope rockfish complex south of 40° 10' N lat., including blackgill rockfish: custom sharing approach <ul style="list-style-type: none"> ○ Blackgill rockfish: 41 percent trawl, 59 percent non-trawl ○ “Other slope” rockfish: 91 percent trawl, 9 percent non-trawl ● Widow rockfish: 400 mt non-trawl, remainder trawl ● Yelloweye rockfish: 8 percent trawl, 92 percent non-trawl
6b	Rebuilding Species Allocations	All	Yelloweye rockfish: STATUS QUO allocations
7	Amendment 21 Allocation Changes	Trawl/ Non-Trawl	<p>STATUS QUO Amendment 21 allocations:</p> <ul style="list-style-type: none"> ● Arrowtooth flounder: 95 percent trawl, 5 percent non-trawl ● Chilipepper rockfish south of 40°10' N. lat.: 75 percent trawl, 25 percent non-trawl ● Darkblotched rockfish: 95 percent trawl, 5 percent non-trawl ● Dover sole: 95 percent trawl, 5 percent non-trawl ● English sole: 95 percent trawl, 5 percent non-trawl ● Lingcod north of 40°10' N. lat.: 45 percent trawl, 55 percent non-trawl ● Longspine thornyhead north of 34° 27' N. lat.: 95 percent trawl, 5 percent non-trawl ● Other flatfish: 90 percent trawl, 10 percent non-trawl ● Pacific cod: 95 percent trawl, 5 percent non-trawl ● Pacific ocean perch: 95 percent trawl 5 percent non-trawl ● Sablefish south of 36° N. lat.: 42 percent trawl, 58 percent non-trawl ● Shortspine thornyhead south of 34° 27' N. lat.: 95 percent trawl, 5 percent non-trawl ● Shortspine thornyhead north of 34° 27' N. lat.: 50 mt trawl, remainder non-trawl ● Slope rockfish north of 40°10' N. lat.: 81 percent trawl, 19 percent non-trawl ● Splitnose rockfish south of 40°10' N. lat.: 95 percent trawl, 5 percent non-trawl ● Starry flounder: 50 percent trawl, 50 percent non-trawl ● Yellowtail rockfish north of 40°10' N. lat.: 88 percent trawl, 12 percent non-trawl

2023-2024 Allocations and Harvest Guidelines (HG)			
8	HGs / State Shares for Stocks in a Complex	All	<p>Set preliminary HGs equal to component ACLs:</p> <ul style="list-style-type: none"> ● Blackgill rockfish (within the slope rockfish complex south of 40°10' N. lat.): <ul style="list-style-type: none"> ○ Status quo allocation scheme ● Oregon black/blue/deacon rockfish complex: <ul style="list-style-type: none"> ○ No need for species-specific HG ● Cabazon/kelp greenling complexes off of WA & OR: <ul style="list-style-type: none"> ○ No need for species-specific HG ● Nearshore rockfish complex north of 40°10' N. lat.: status quo sharing arrangement, by state
9	Within trawl Allocations	Trawl	Recommendations to adjust trawl allocations
10	Within trawl set-asides	At-sea whiting	Adopt STATUS QUO at-sea set-asides
11	Within non-trawl HGs, ACTs, or Shares	LEFG/OA/Recreational	<p>Adopt STATUS QUO preliminary 2-year within non-trawl HGs or shares for:</p> <ul style="list-style-type: none"> ● Blackgill south of 40°10' N. lat. for limited entry and open access trip limit modeling ● Bocaccio south of 40°10' N. lat. - combined commercial and recreational shares ● Canary rockfish ● Cowcod south of 40°10' N. lat. ● Sablefish south of 36° N. lat. for limited entry and open access trip limit modeling ● Nearshore rockfish complex north of 40°10' N. latitude: <ul style="list-style-type: none"> ○ Consider federal HG for the area 42° N. lat. to 40° 10' N. lat. ○ Consider state-specific HGs for Washington and Oregon ● Nearshore rockfish complex south of 40° 10' N. latitude ● Yelloweye rockfish

Appendix 1. GMT recommended off-the-top deductions for tribal, research, IOA, and EFPs in 2023 and 2024.

Table A-1. GMT recommended off-the-top deductions for Tribal, research, EFPs, and incidental open access sectors for 2023.

Stock/Complex	Area	ACL	Tribal	EFP	Research	IOA	Set-aside Total	Fishery HG
Arrowtooth flounder	Coastwide	18,632	2,041	0.0	12.98	41.00	2,094.98	16,537.0
Big skate	Coastwide	1,320	15	0.0	5.49	39.31	59.80	1,260.2
Black rockfish (WA)	Washington	290	18	0.0	0.10	0.00	18.10	271.9
Black rockfish (CA)	California	334		1.0	0.08	1.18	2.26	331.7
Bocaccio	S of 40°10' N. lat.	1,842		40.0	5.60	2.52	48.12	1,793.9
Cabazon (CA)	S of 42° N. lat.	182		1.0	0.02	0.61	1.63	180.4
California scorpionfish	S of 34°27' N. lat.	262		0.0	0.18	3.71	3.89	258.1
Canary rockfish	Coastwide	1,284	50	3.0	10.08	2.83	65.91	1,218.1
Chilipepper	S of 40°10' N. lat.	2,183		70.0	14.04	13.66	97.70	2,085.3
Cowcod	S of 40°10' N. lat.	80		1.00	10.00	0.17	11.17	68.8
Darkblotched rockfish	Coastwide	785	5.0	0.5	8.46	9.80	23.76	761.2
Dover sole	Coastwide	50,000	1,497	0.0	50.84	49.27	1,597.11	48,402.9
English sole	Coastwide	9,018	200	0.0	17.00	42.52	259.52	8,758.5
Lingcod	N of 40°10' N. lat.	4,378	250	0.0	17.71	11.92	279.63	4,098.4
Lingcod	S of 40°10' N. lat.	726		1.5	3.19	8.31	13.00	713.0
Longnose skate	Coastwide	1,708	220	0.0	12.46	18.84	251.30	1,456.7
Longspine thornyhead	N of 34°27' N. lat.	2,295	30	0.0	17.49	6.22	53.71	2,241.3
Longspine thornyhead	S of 34°27' N. lat.	725		0.0	1.41	0.83	2.24	722.8
Pacific cod	Coastwide	1,600	500	0.0	5.47	0.53	506.00	1,094.0
Pacific ocean perch	N of 40°10' N. lat.	3,573	130.0	0.0	5.39	10.09	145.48	3,427.5

Stock/Complex	Area	ACL	Tribal	EFP	Research	IOA	Set-aside Total	Fishery HG
Pacific whiting	Coastwide	<i>TBD</i>	<i>TBD</i>	0.0	<i>TBD</i>	1,500.00	1,500.00	<i>TBD</i>
Petrale sole	Coastwide	3,485	350	1.0	24.14	11.10	386.24	3,098.8
Sablefish	N of 36° N. lat.	8,486	See Appendix 1 Table 3					
Sablefish	S of 36° N. lat.	2,338		0.0	2.40	25.00	27.40	2,310.6
Shortspine thornyhead	N of 34°27' N. lat.	1,359	50	0.0	10.48	17.82	78.30	1,280.7
Shortspine thornyhead	S of 34°27' N. lat.	719		0.0	0.71	6.00	6.71	712.3
Spiny dogfish	Coastwide	1,456	275	1.0	41.85	33.63	351.48	1,104.5
Splitnose rockfish	S of 40°10' N. lat.	1,592		1.5	11.17	5.75	18.42	1,573.6
Starry flounder	Coastwide	392	2	0.0	0.57	45.71	48.28	343.7
Widow rockfish	Coastwide	12,624	200	18.0	17.27	3.05	238.32	12,385.7
YELLOWEYE ROCKFISH	Coastwide	66	5	0.12	2.92	2.66	10.70	55.3
Yellowtail rockfish	N of 40°10' N. lat.	5,666	1,000	0.0	20.55	7.00	1,027.55	4,638.5
Stock Complexes								
Nearshore rockfish north	N of 40°10' N. lat.	88	1.5	0.0	0.47	1.30	3.27	84.7
Nearshore rockfish south	S of 40°10' N. lat.	886		0.0	2.68	1.86	4.54	881.5
Shelf rockfish north	N of 40°10' N. lat.	1,283	30	0.0	15.32	25.62	70.94	1,212.1
Shelf rockfish south	S of 40°10' N. lat.	1,465		50.0	15.10	67.67	132.77	1,332.2
Slope rockfish north	N of 40°10' N. lat.	1,540	36	0.0	10.51	18.88	65.39	1,474.6
Slope rockfish south	S of 40°10' N. lat.	701		1.0	18.21	19.73	38.94	662.1
Other fish	Coastwide	223		0.0	6.29	14.95	21.24	201.8
Other flatfish	Coastwide	4,862	60	0.0	23.63	137.16	220.79	4,641.2
Oregon black/blue/deacon rockfish	Oregon	562		0.0	0.08	1.74	1.82	560.2

Stock/Complex	Area	ACL	Tribal	EFP	Research	IOA	Set-aside Total	Fishery HG
Oregon cabezon/kelp greenling	Oregon	185		0.0	0.05	0.74	0.79	184.2
Washington cabezon/kelp greenling	Washington	20	2	0.0	-	-	2.00	18.0

Table A-2. GMT recommended off-the-top deductions for Tribal, research, EFPs, and incidental open access sectors for 2023.

Stock/Complex	Area	ACL	Tribal	EFP	Research	IOA	Set-aside Total	Fishery HG
Arrowtooth flounder	Coastwide	14,178	2,041	0.0	12.98	41.00	2,094.98	12,083.0
Big skate	Coastwide	1,267	15	0.0	5.49	39.31	59.80	1,207.2
Black rockfish (WA)	Washington	289	18	0.0	0.10	0.00	18.10	270.9
Black rockfish (CA)	California	329		1.0	0.08	1.18	2.26	326.7
Bocaccio	S of 40°10' N. lat.	1,828		40.0	5.60	2.52	48.12	1,779.9
Cabezon (CA)	S of 42° N. lat.	171		1.0	0.02	0.61	1.63	169.4
California scorpionfish	S of 34°27' N. lat.	252		0.0	0.18	3.71	3.89	248.1
Canary rockfish	Coastwide	1,267	50	3.0	10.08	2.83	65.91	1,201.1
Chilipepper	S of 40°10' N. lat.	2,121		70.0	14.04	13.66	97.70	2,023.3
Cowcod	S of 40°10' N. lat.	79		1.00	10.00	0.17	11.17	67.8
Darkblotched rockfish	Coastwide	750	5.0	0.5	8.46	9.80	23.76	726.2
Dover sole	Coastwide	50,000	1,497	0.0	50.84	49.27	1,597.11	48,402.9
English sole	Coastwide	8,960	200	0.0	17.00	42.52	259.52	8,700.5
Lingcod	N of 40°10' N. lat.	3,854	250	0.0	17.71	11.92	279.63	3,574.4
Lingcod	S of 40°10' N. lat.	722		1.5	3.19	8.31	13.00	709.0
Longnose skate	Coastwide	1,660	220	0.0	12.46	18.84	251.30	1,408.7
Longspine thornyhead	N of 34°27' N. lat.	2,162	30	0.0	17.49	6.22	53.71	2,108.3

Stock/Complex	Area	ACL	Tribal	EFP	Research	IOA	Set-aside Total	Fishery HG
Longspine thornyhead	S of 34°27' N. lat.	683		0.0	1.41	0.83	2.24	680.8
Pacific cod	Coastwide	1,600	500	0.0	5.47	0.53	506.00	1,094.0
Pacific ocean perch	N of 40°10' N. lat.	3,443	130.0	0.0	5.39	10.09	145.48	3,297.5
Pacific whiting	Coastwide	<i>TBD</i>	<i>TBD</i>	0.0	<i>TBD</i>	1,500.00	1,500.00	<i>TBD</i>
Petrале sole	Coastwide	3,285	350	1.0	24.14	11.10	386.24	2,898.8
Sablefish	N of 36° N. lat.	7,780	See Appendix 1, Table 3					
Sablefish	S of 36° N. lat.	2,143		0.0	2.40	25.00	27.40	2,115.6
Shortspine thornyhead	N of 34°27' N. lat.	1,328	50	0.0	10.48	17.82	78.30	1,249.7
Shortspine thornyhead	S of 34°27' N. lat.	702		0.0	0.71	6.00	6.71	695.3
Spiny dogfish	Coastwide	1,407	275	1.0	41.85	33.63	351.48	1,055.5
Splitnose rockfish	S of 40°10' N. lat.	1,553		1.5	11.17	5.75	18.42	1,534.6
Starry flounder	Coastwide	392	2	0.0	0.57	45.71	48.28	343.7
Widow rockfish	Coastwide	11,482	200	18.0	17.27	3.05	238.32	11,243.7
YELLOWEYE ROCKFISH	Coastwide	66	5	0.12	2.92	2.66	10.70	55.3
Yellowtail rockfish	N of 40°10' N. lat.	5,560	1,000	0.0	20.55	7.00	1,027.55	4,532.5
Stock Complexes								
Nearshore rockfish north	N of 40°10' N. lat.	87	1.5	0.0	0.47	1.30	3.27	83.7
Nearshore rockfish south	S of 40°10' N. lat.	891		0.0	2.68	1.86	4.54	886.5
Shelf rockfish north	N of 40°10' N. lat.	1,278	30	0.0	15.32	25.62	70.94	1,207.1
Shelf rockfish south	S of 40°10' N. lat.	1,465		50.0	15.10	67.67	132.77	1,332.2
Slope rockfish north	N of 40°10' N. lat.	1,516	36	0.0	10.51	18.88	65.39	1,450.6
Slope rockfish south	S of 40°10' N. lat.	697		1.0	18.21	19.73	38.94	658.1

Stock/Complex	Area	ACL	Tribal	EFP	Research	IOA	Set-aside Total	Fishery HG
Other fish	Coastwide	223		0.0	6.29	14.95	21.24	201.8
Other flatfish	Coastwide	4,874	60	0.0	23.63	137.16	220.79	4,653.2
Oregon black/blue/deacon rockfish	Oregon	553		0.0	0.08	1.74	1.82	551.2
Oregon cabezon/kelp greenling	Oregon	180		0.0	0.05	0.74	0.79	179.2
Washington cabezon/kelp greenling	Washington	17	2	0.0	-	-	2.00	15.0

Table A-3. GMT recommended off-the-top deductions for Tribal, research, EFPs, and incidental open access sectors for 2023 and 2024 for sablefish north of 36° N. lat.

Year	ACL	Tribal Share	Research	Rec.	EFP	Commercial HG
2023	8,486.5	848.6	30.7	6.0	1.0	7,600.1
2024	7,779.6	778.0	30.7	6.0	1.0	6,963.9