

GROUND FISH MANAGEMENT TEAM REPORT ON BIENNIAL MANAGEMENT
MEASURES FOR 2017-18

The Groundfish Management Team (GMT) had lengthy discussions about the 2017-2018 biennial groundfish harvest specifications and management measures at our October work session held in Portland and at this meeting. Below are our thoughts and considerations.

Action Item 4: Off-The-Top Deductions

The Council adopts off-the-top deductions from the annual catch limits (ACLs) to accommodate removals from research, exempted fishing permits (EFPs), and groundfish mortality in non-groundfish fisheries (i.e., incidental open access). To reduce the probability of overages from these sectors affecting the inseason progression of fisheries, and to prevent ACL overages, the Council has taken a conservative approach of using the highest value from the past to account for ongoing research projects (e.g., National Marine Fisheries Service; NMFS bottom trawl survey; International Pacific Halibut Commission; IPHC survey) and incidental open access (IOA; e.g., pink shrimp and California halibut). For EFPs, set-asides are based on levels deemed acceptable by the Council for these activities to meet their intended objectives.

For stocks in which the off-the-top deductions routinely do not approach their allocations (e.g., Pacific ocean perch), this conservative approach for setting off-the-top deductions has had little bearing on fisheries (as a more liberal set-aside would only result in greater quantities of underutilized fish). However, a conservative approach for constraining species like yelloweye and canary rockfish can limit access to these species if the set aside is higher than what is needed. This is particularly difficult as restrictive regulations are used to keep fisheries within their sector-specific allocations, while at the same time the actual set-aside removals are routinely less than what was deducted off-the-top. Reducing the off-the-top deduction for yelloweye rockfish could provide additional opportunity to fisheries, while still resulting in total removals being within the ACL (although the probability of an overage increases by the degree to which the off-the-top deductions are reduced). However, if the deductions are too low, then inseason adjustments to ongoing non-trawl fisheries would be necessary since we cannot pull back IFQ allocations inseason. The GMT notes that ACL set-asides, except for the Pacific Coast tribal fisheries amounts, can be modified through inseason action and made available to other fisheries based on inseason projections (see regulations at 660(c)(3)). While conservative set-asides of canary rockfish may have been burdensome to the fisheries in the past, the recent rebuilding of the stock may have alleviated the issue (as off-the-top deductions will be a lesser percentage of the total ACL).

Given the timeline of Council Action on I.6 the GMT did not have time to consider off-the-top deductions for blackgill rockfish south of 40°10' N. lat. The GMT will follow the similar methodology as taken here for other species unless instructed differently by the Council.

Research

Research activities include the NMFS trawl survey, IPHC longline survey, and other federal and state research. For the 2015-2016 cycle, the Council approach was to establish research set-asides equal to the maximum historical scientific research catch from 2005-2012, except for canary and yelloweye rockfishes. The GMT reviewed the historical catch with new information for 2013 and 2014 (Table 1). The Council considered the high canary rockfish research catch of 7.2 mt in 2006, which is still the highest research catch through 2014, a rare event. The largest catches came from the NMFS trawl survey, and surveys in later years encountered substantially less canary rockfish. The Council adopted a 4.5 mt canary rockfish off-the-top deduction, which is higher than the average research catch from 2005-2012. However, in 2015, the GMT was informed that the NMFS trawl survey had encountered high numbers of canary rockfish during the first of their two passes. Based on data available for the June Council meeting, research projected impacts were increased to 7.2 mt to account for catch that had occurred, as well as a placeholder for the second pass of the NMFS trawl survey. The trawl survey has since concluded with preliminary estimated canary rockfish impacts of 4.7 mt. Even though the final estimated research catch of canary rockfish was closer to the set aside amount than the 7.2 inseason estimate, there remains the potential for increased canary rockfish encounters in the trawl survey as has been seen in other sectors. Therefore, **the Council may wish to reconsider the research set-aside for canary rockfish.**

Table 1. Actual mortality of overfished species from research, 2010-2014. Data from WCGOP annual groundfish mortality reports.

Species	2010	2011	2012	2013	2014	Maximum Value 2005-2014	2016 set aside
Bocaccio	0.65	0.92	2.55	2.03	4.24	4.6	4.6
Canary rockfish	1.86	0.62	3.75	0.70	3.71	4.5	4.5
Cowcod	0.11	0.14	0.22	0.18	0.22	2	2
Darkblotched rockfish	1.02	1.63	1.74	2.45	1.50	2.45	2.1
Pacific ocean perch	1.68	1.94	1.63	2.14	0.57	5.2	5.2
Petrable sole	2.95	14.22	4.43	5.02	17.70	17.7	14.2
Yelloweye rockfish	0.49	0.84	1.25	0.93	0.31	1.25	3.3
Exception to the Max value for canary and yelloweye. Number is the value adopted by the Council							

For yelloweye rockfish, the Council during the last couple of cycles adopted a 3.3 mt research off-the-top deduction based on anticipated research needs of: IPHC (1.1 mt); Washington Department of Fish and Wildlife (WDFW; 1 mt); Oregon Department of Fish & Wildlife (ODFW; 1 mt); and other miscellaneous projects (0.2 mt). Table 1 has the actual amount of annual mortality from research for IPHC, WDFW, and ODFW. Between 2011 and 2014, total research mortality averaged 2.06 mt lower than the research off-the-top deductions specified. The 1.0 mt for ODFW was intended for enhanced rockfish survey stations conducted in conjunction with the IPHC annual survey. However, ODFW has not been able to secure funding for that project since 2010. There have been smaller scale research projects conducted

by ODFW, such as marine reserve baseline studies and barotrauma work. However, those projects have been averaging less than 0.1 mt annually. Additionally, there is 1.1 mt reserved for the IPHC annual longline stock assessment survey. In the last four years, the average mortality from the IPHC survey has averaged 0.49 mt. The GMT has been informed that WDFW intends to continue their research projects and will need the 1.0 mt that is set aside. Therefore, **the Council may wish to reconsider what is the appropriate amount of yelloweye rockfish to set aside for the research off-the-top deduction.**

Table 2. Yelloweye rockfish research set-asides and actual mortality for 2011-2014.

Year	Project	Amount Set Aside (mt)	Actual Mortality (mt)	Difference
2011	IPHC	1.1	0.37	0.73
	WDFW	1	0.38	0.62
	ODFW	1	N/A	1.00
	Other	0.2	0.09	0.12
	TOTAL	3.3	0.84	2.47
2012	IPHC	1.1	0.35	0.75
	WDFW	1	0.62	0.38
	ODFW	1	0.16	0.84
	Other	0.2	0.13	0.07
	TOTAL	3.3	1.26	2.04
2013	IPHC	1.1	0.44	0.66
	WDFW	1	0.36	0.64
	ODFW	1	0.02	0.98
	Other	0.2	0.12	0.08
	TOTAL	3.3	0.938	2.36
2014	IPHC	1.1	0.79	0.31
	WDFW	1	0.83	0.17
	ODFW	1	0.03	0.97
	Other	0.2	0.27	-0.07
	TOTAL	3.3	1.92	1.38

Research catch of petrale sole increased from the prior maximum amount of 14.2 mt (2011 research catch) to 17.2 mt based on catch in 2014 (Table 1). This increase in encounters seems reasonable given the rebuilt status of the stock. Increased ACL amounts for 2017 and 2018 (3,136 and 3,013 mt respectively) should be sufficient to accommodate a higher petrale sole off-the-top deduction for the next biennium. **The Council may wish to consider increasing the off-the-top deduction for research catch to accommodate potentially higher encounters with petrale sole in 2017 and 2018.**

Incidental Open Access Fisheries

For the off-the-top deductions for the IOA fisheries, the GMT does not see the need to deviate from the approach used in the past by using the maximum-catch for off-the-top deductions for the majority of species (Table 3).

The GMT discussed the pros and cons of using the maximum catch for determining the appropriate off-the-top deduction to accommodate darkblotched rockfish in incidental open access fisheries. The maximum catch may be overly conservative particularly for the pink shrimp fishery, due to the widespread adoption of bycatch reducing light emitting diode (LED) lights in 2015. Prior to use of the lights, a record 24.53 mt of darkblotched rockfish were encountered in the pink shrimp fishery during 2014. After the Council's decision in September to move darkblotched rockfish to the at-sea sectors, NMFS received preliminary information from the West Coast Groundfish Observer Program (WCGOP) for 2015, and projected the pink shrimp bycatch to be 5.7 mt ([Agenda Item I.8.a, Supplemental NMFS letter](#)). The official WCGOP mortality estimate for the IOA sector in 2015 will not be available until November 2016. However, unlike with yelloweye rockfish research deductions, reducing the darkblotched off-the-top deduction may have little benefit to the fisheries that might be constrained by it as only 8.6 percent of fishery HG (9 percent of the 95 percent trawl allocation allocated to whiting) would become available to fisheries. For instance, under the No Action 2017 ACL, if the entire current pink shrimp off-the-top deduction was eliminated from the 2016 set-aside in regulation, it would only result in 0.9 mt additional darkblotched rockfish for both the mothership and catcher processor sectors combined.

Accordingly, for darkblotched rockfish, it may be more beneficial to continue to use a more conservative set-aside as any residual could be transferred to sectors in need per Council and NMFS discretion (while considering current allocation schemes), as was done in 2015 for the at-sea whiting sectors. While the GMT has concerns with using set-asides as reserve pools, residual set aside amounts can be beneficial when fisheries are attempting to minimize their bycatch, but exceed their allocations due to accidental high bycatches. The GMT notes that using set-asides as a reserve pool could reduce the incentive for fisheries to minimize their bycatch, and could raise equity concerns across sectors. Further, the amount of residual remaining in set-asides in the current year is uncertain, as the IOA fisheries such as pink shrimp are not managed inseason and darkblotched encountered are discarded, as such, inseason projections are typically unavailable. In conclusion, **the GMT recommends the Council consider the historical maximum catch approach for darkblotched rockfish and adopt the high catch in 2014 (24.5 mt), for the off-the-top deduction for 2017-2018.**

The GMT notes that similar to research catch, petrale sole catch in the incidental open access sectors also increased in 2014. The 2014 catch of Pacific Ocean perch was higher in 2014 than in catch from 2005-2012. **The GMT recommends that the Council adopt the maximum historical high value for off-the-top deductions for Pacific Ocean perch (10 mt) and petrale sole (3.25 mt) to accommodate catch in incidental open access fisheries in 2017-2018.**

Table 3. Actual mortality of overfished species in the Incidental Open Access fisheries, 2010-2014. Data from WCGOP annual groundfish mortality reports.

Species	2010	2011	2012	2013	2014	Maximum 2005-2014	2016 set aside
Bocaccio Rockfish	0.14	0.09	0.03	0.13	0.70	0.82	0.7
Canary Rockfish	0.07	0.03	1.17	0.36	0.10	1.17	2.0
Cowcod Rockfish	0.03	0.00	0.00	0.00	0.00	0.03	0.0
Darkblotched Rockfish	12.42	12.12	5.04	4.13	24.53	24.53	18.4
Pacific Ocean Perch	0.22	0.57	0.40	0.50	9.97	9.97	0.6
Petrale Sole	1.54	2.27	2.29	2.69	3.17	3.25	2.4
Yelloweye Rockfish	0.00	0.29	0.09	0.19	0.35	0.37	0.2

Tribal

In accordance with federal regulations (CFR 660.50), and as described by [Council Operating Procedure \(COP\) 9](#), the Washington coastal treaty Indian tribes requested changes to allocations and/or regulation specific to the tribes for 2017 and 2018. The GMT has read the letter submitted by the Makah Tribe ([Agenda I.9.a Supplemental Tribal Report \(Makah\)](#)) and understands the Tribe intends to continue all of its existing groundfish fisheries, and that they are requesting an increase in Pacific Coast Treat Indian allocations for widow and canary rockfishes. The proposed off-the-top deductions for widow rockfish is 200 mt annually for 2017-2018; canary rockfish numbers are to be determined before the June 2016 Council meeting.

The GMT discussed that widow rockfish is currently a constraining species in the tribal midwater yellowtail rockfish directed fishery. Currently, the tribal midwater fishery is managed so that landings of widow rockfish are limited to 10 percent of the weight of yellowtail rockfish throughout the year. Widow rockfish bycatch in excess of 10 percent of the yellowtail rockfish catch has forced tribal vessels to forego fishing opportunities when yellowtail and widow rockfish co-occur. An increase in the tribal set aside of widow rockfish will provide added opportunity for tribal fishermen to fully utilize yellowtail rockfish.

For the purpose of considering off-the-top deductions at this meeting, the 2016 values for tribal fisheries have been used as a placeholder until final allocations are recommended, with the exception of widow rockfish which has been updated with the 200 mt proposed in the supplemental tribal report for 2017-2018.

The GMT understands that the coastal treaty tribes reserve the right to refine requests for allocations and/or regulations specific to the tribes by written notice to the Council and NMFS WCR Regional Administrator prior to the June 2016 Council meeting for years 2017 and 2018.

Exempted Fishing Permits

During the November Council meeting, the Council received applications for four exempted fishing permits (EFPs) under Agenda Item I.2. Only one was forwarded by the Council and it did not request any off-the-top deductions; all catches will be covered by the applicants' individual fishing quota (IFQ) pounds for IFQ species, and trip limits for non-IFQ species. **Therefore, for 2017-2018, there will be no off-the-top deductions for EFPs. The environmental impacts of this EFP will be disclosed in the specifications analysis.**

Action Item 5: Annual Catch Targets

Annual catch targets (ACTs) are a management target set below the ACL, and may be used as an accountability measure, in cases where there is increased uncertainty in inseason catch monitoring to ensure against exceeding an ACL.

Cowcod

The last cowcod assessment was conducted in 2013, which resulted in significant change in the understanding of the stock's status. Depletion changed from the 2009 stock assessment estimate of 4.5 percent to the 2013 estimate of 33.9 percent depletion. Given the magnitude of change in the status of the stock, the absence of new assessments confirming the new understanding of the stock, coupled with uncertainty in inseason catch estimates in the non-trawl sector, **the Council may wish to establish an ACT within the 10 mt ACL for 2017-2018**, as was done for 2015-2016.

California Scorpionfish

As was noted in [Agenda Item I.4.a Supplemental GMT Report](#), the ACL for California scorpionfish has increased substantially for 2017 and 2018. Under this same Agenda Item the GMT noted that the ACL increased substantially and the increased buffer between the overfishing level (OFL) and acceptable biological catch (ABC) may not be sufficient to encompass the entirety of uncertainty in the resulting ACLs. Further, recreational data often lags by approximately six weeks and high catches can accrue quickly over the summer months. Under Agenda Item I.4 the Council adopted the GAP recommended ACL Alternative of 150 mt. Should the Council adopt the No Action Alternative (264 mt and 261 mt, respectively for 2017-2018) in April 2016 as the Final Preferred Alternative, the GMT would recommend the use of a precautionary management approach by establishing an ACT.

Action Item 6: Harvest Guidelines for Species Managed in Complexes

Blue rockfish south of 42° N lat.

Blue rockfish had been managed with an HG since 2009 to prevent overfishing since the stock status is in the precautionary zone. The HG is set equal to the 40-10 adjusted ABC for the assessed area of the stock, between 42° and 34° 27' N lat., plus the stock's contribution from the non-assessed area which are then summed to arrive at the HG. The trawl and non-trawl fisheries are managed within that HG.

The last assessment for blue rockfish in this area was completed in 2007, which indicated the stock was below target (29.9 percent), and the ten-year forecast under the base case suggested that the stock would remain in the precautionary zone. Further, the HG has been successful to ensure mortality remains within allowable limits. Should the Council wish to continue managing blue rockfish south of 42° N lat. with an HG, the values would be 305 mt and 311 mt in 2017 and 2018, respectively. **The GMT recommends continuing to manage blue rockfish south of 42° N latitude within a HG.**

Blackgill rockfish south of 40°10' N. latitude

Under Agenda Item I.6 the Council adopted Alternative 1. The allocations under this alternative would be 91 percent of the annual harvestable surplus (as defined by the fishery HG) of southern Slope Rockfish minus blackgill to LE trawl sectors and 9 percent of the annual harvestable surplus to non-trawl sectors. The annual harvestable surplus of blackgill rockfish would be allocated 41 percent to LE trawl sectors and 59 percent to non-trawl sectors. The GMT understands under this new framework there is no longer a need for a blackgill HG south of 40°10' N. latitude.

Action Item 7: Two-Year Overfished Species Allocations

During each biennial cycle, the Council chooses two-year allocations for select overfished species: bocaccio, cowcod, canary rockfish, and yelloweye rockfish. The allocations are calculated from the fishery harvest guideline, the ACL minus any off-the-top deductions, as discussed above. To determine the appropriate allocations, recent total mortality reports, current year scorecards, and allocations from previous cycles have all been looked at. [Agenda Item I.9. Attachment 2](#) shows the two-year allocations specified in recent biennial cycles.

Once the preliminary allocations are determined, the GMT then works on modeling the impacted fisheries to stay within those allocations. With canary rockfish being declared rebuilt beginning with the 2017-2018 cycle, and the ACL likely much higher, a different approach may be warranted for this stock.

Canary rockfish allocation alternatives for 2017-2018

Allocation decisions for groundfish stocks have typically been decided based on catch histories or past allocations for sectors (e.g., non-trawl vs. trawl), fisheries (e.g., harvest guidelines for fisheries within the non-trawl sector), and for individuals (e.g., IFQ or sablefish tiers).

Due to the recent rebuilding of canary rockfish, there may be sufficient allocations to allow targeting of canary rockfish and other semi-pelagic rockfish stocks that co-occur with canary rockfish (e.g., yellowtail rockfish and widow rockfish). As such, the GMT believes that basing the two-year allocation on historical catch histories or past allocations—during which canary rockfish were last targeted may be more appropriate than recent catch histories or past allocations during which regulations have been implemented specifically to reduce bycatch of canary (and yelloweye) rockfish. The GMT acknowledges that conditions are likely very different between the time periods explored here. For example, management measures for trawl fisheries are very different across the time periods (e.g., RCA implementation in 2002, rationalization in 2011). Management measures focused on recreational and nearshore commercial canary rockfish fisheries have been significantly constrained to minimize impacts to yelloweye rockfish. Taking note of these differences, catch histories and past allocations (

Table 4) were prepared to aid in the Council's consideration of values or range of values to facilitate the analysis over winter. Of note, the historical data sets used had all commercial trawl sectors aggregated and all commercial non-trawl sectors aggregated. The GMT did not attempt to separate them out, due to time and data constraints.

Table 4. Potential canary rockfish sector-specific allocations based on a period of targeting (1990-1999), a period when targeting was prohibited (2000-2014), the 2009-2010 allocations (pre-IFQ), and the current allocations (2015-2016), applied to the 2017-2018 ACL alternatives (No Action, Alternative 1, Alternative 2) to calculate potential future allocations.

2017 (Alternative 2: 566 mt ACL)	Catch Based				Allocation Based			
	Based on 1990-1999 average (period of targeting)		Based on 2000-2014 (period of prohibiting)		Based on the 2009-2010 EIS (pre-IFQ)		Based on the 2015-2016 EIS (post- IFQ)	
	%	mt	%	mt	%	Mt	%	mt
Shorebased IFQ	76.3%	418.9	43.1%	236.7	47.9%	262.8	40.5%	22.5
At-sea Whiting							12.8%	70.0
Nearshore	17.1%	93.9	25.8%	141.7	3.0%	16.7	6.3%	34.5
Non-Nearshore					1.1%	6.2	3.6%	19.5
Rec: WA	0.7%	3.6	2.5%	13.8	5.4%	29.5	3.2%	17.5
Rec: OR	2.0%	11.0	8.5%	46.8	17.5%	96.2	10.9%	60.0
Rec: CA	4.0%	21.80	20.1%	110.1	25.1%	137.6	22.8%	125.0
2017 (Alternative 1: 857 mt ACL)	Based on 1990-1999 average (period of targeting)		Based on 2000-2014 (period of prohibiting)		Based on the 2009-2010 EIS (pre-IFQ)		Based on the 2015-2016 EIS (post- IFQ)	
	%	mt	%	mt	%	Mt	%	mt
	Shorebased IFQ	76.3%	641.2	43.1%	362.4	47.9%	402.3	40.5%
At-sea Whiting							12.8%	107.2
Nearshore	17.1%	143.5	25.8%	216.9	3.0%	25.5	6.3%	52.8
Non-Nearshore					1.1%	9.5	3.6%	29.9
Rec: WA	0.7%	5.5	2.5%	21.1	5.4%	45.2	3.2%	26.8
Rec: OR	2.0%	16.8	8.5%	71.6	17.5%	147.2	10.9%	91.8
Rec: CA	4.0%	33.40	20.1%	168.5	25.1%	210.6	22.8%	191.3
2017 (No Action Alternative: 1,714 mt ACL)	Based on 1990-1999 average (period of targeting)		Based on 2000-2014 (period of prohibiting)		Based on the 2009-2010 EIS (pre-IFQ)		Based on the 2015-2016 EIS (post- IFQ)	
	%	mt	%	mt	%	Mt	%	mt
	Shorebased IFQ	76.3%	1,295.1	43.1%	731.9	47.9%	812.6	40.5%
At-sea Whiting							12.8%	216.4
Nearshore	17.1%	289.9	25.8%	438.1	3.0%	51.5	6.3%	106.7
Non-Nearshore					1.1%	19.1	3.6%	60.3
Rec: WA	0.7%	11.2	2.5%	42.6	5.4%	91.3	3.2%	54.1
Rec: OR	2.0%	33.9	8.5%	144.6	17.5%	297.4	10.9%	185.5
Rec: CA	4.0%	67.4	20.1%	340.3	25.1%	425.5	22.8%	386.5

Trawl and Non-Trawl Allocations

In addition to the two-year overfished species allocations, there are some species for which trawl and non-trawl allocations are specified. Many allocations for trawl dominant species fall under Amendment 21 allocation percentages. The GMT notes that the petrale sole Amendment 21 allocations were suspended in 2011, when the stock was declared overfished. Two-year allocations were implemented each biennium. Now that the stock is declared rebuilt, the Amendment 21 allocations will apply (95 percent trawl, 5 percent non-trawl).

Longnose Skate

Currently, the longnose skate ACL is allocated 90 percent to trawl and 10 percent to non-trawl under unlimited trip limits. In 2015 and 2016, there was a 2,000 mt constant catch ACL; this is proposed again for 2017 and 2018. Table 5 below shows the ACL, HG, trawl and non-trawl allocations, and the total mortality (landings plus discard with discard mortality rates applied) from 2009 to 2014. Data was queried from the 2014 WCGOP groundfish expanded mortality (GEM) product. 2009 was the first year that longnose skate was individually managed; at that time, species were managed with Optimum Yields (OY) instead of ACLs and therefore those values are listed in those rows. Neither sector has exceeded its allocation in recent years. **Therefore, the GMT recommends continuing with the 90 percent to trawl and 10 percent to non-trawl continue for 2017-2018.**

Table 5: Coastwide total mortality of longnose skate (mt) compared to harvest specifications.

Year	ACL	HG	Trawl		Non-Trawl	
			Allocation	Total Mortality	Allocation	Total Mortality
2009	1,349	-	-	1041.3	-	97.6
2010	1,349	-	-	1109.7	-	68.5
2011	1,349	1,220	1,159	811.5	61	141.2
2012	1,349	1,220	1,159	909.8	61	66.4
2013	2,000	1,928	1,735	924.2	193	54.7
2014	2,000	1,928	1,735	847.4	193	48.7
2015	2,000	1,927	1,734		193	
2016	2,000	1,927	1,734		193	

*2011-2012 (95-5 trawl-non-trawl), changed to 90-10 in 2013-2014.

Big Skate

Big skate is currently being reconsidered as an ecosystem component species. If it is reclassified and managed as a single species, a trawl/non-trawl allocation will need to be set as well. Table 6 below shows the coastwide total mortality (landings plus discards with discard rate applied) of big skate (mt) since 2010 in trawl and non-trawl sectors. Note that a sorting requirement was not put into place until June 1, 2015, and therefore species compositions were applied as done under Agenda Item I.8.a ([Agenda Item I.8.a, Supplemental GMT Report, November 2015](#)).

Table 6: Coastwide Big Skate Mortality in Trawl and Non-Trawl Sectors (mt). Tribal fisheries are not included.

Year	Trawl				Non Trawl			
	Landings	Discard Mortality	Total	Percent	Landings	Discard Mortality	Total	Percent
2010	170.06	28.80	198.86	94.56	10.04	1.40	11.44	5.44
2011	236.12	53.20	289.32	96.79	6.90	2.70	9.60	3.21
2012	227.66	51.20	278.86	96.49	3.43	6.70	10.13	3.51
2013	123.59	51.60	175.19	93.61	6.86	5.10	11.96	6.39
2014	352.17	79.60	431.77	97.83	6.30	3.30	9.60	2.17
2015	102.51	79.60	182.11	96.96	2.41	3.30	5.71	3.04

Based on Table 6, the GMT offers two alternatives for the trawl/non-trawl allocation for big skate.

Alternative 1: 95 percent to trawl, 5 percent to non-trawl

Alternative 2: 90 percent to trawl, 10 percent to non-trawl (same as longnose skate)

The GMT recommends the Council select one of these alternatives for analysis.

Shelf Rockfish North and South of 40°10' N. Lat.

The GMT examined total catch of shelf rockfish using the total mortality reports as another way to inform two-year allocations for those species not formally allocated under Amendment 21. Table 7 shows these results summarized as a percentage of the annual mortality north and south of 40°10' N. lat. by trawl and non-trawl fishery sectors. Within the trawl sector, mortality percentages are given for the non-whiting and whiting trawl sectors. The Minor Shelf Rockfish complex south of 40°10' N. lat. has been managed to sector-specific allocations (i.e., trawl, 12.2 percent and non-trawl, 87.8 percent). Current overfishing risks are low for shelf rockfish in general, and have been low since implementation of rockfish conservation areas (RCAs) more than 10 years ago. Because the OFL/ACL amounts for the 2017-2018 biennial management cycle compared to the 2015-2016 cycle are essentially the same for the southern shelf rockfish complex and just slightly more for the northern complex, **the GMT recommends status quo management methods for shelf rockfish complex north and south of 40°10' N. lat. including allocations.**

Table 7. Summary of total mortality (in percentage) of shelf rockfish based on Total Mortality Reports

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Avg.
Other shelf rockfish N											
Trawl	59.8%	66.1%	70.5%	44.4%	81.7%	90.2%	98.3%	86.3%	81.6%	87.9%	76.7%
<i>non-whiting</i>	74.0%	96.8%	89.5%	70.0%	91.4%	40.0%	89.6%	95.7%	91.3%	95.5%	83.4%
<i>whiting</i>	26.0%	3.2%	10.5%	30.0%	8.6%	60.0%	10.4%	4.3%	8.7%	4.5%	16.6%
non-trawl	40.2%	33.9%	29.5%	55.6%	18.3%	9.8%	1.7%	13.7%	18.4%	12.1%	23.3%
Other shelf rockfish S											
trawl	20.6%	6.6%	9.9%	11.8%	87.9%	30.7%	11.2%	0.0%	26.8%	24.1%	23.0%
non-trawl	79.4%	93.4%	90.1%	88.2%	12.1%	69.3%	88.8%	100.0%	73.2%	75.9%	77.0%

Action Item 8: Pacific Whiting At-Sea Sectors Set-Asides

Unlike set-asides that are taken as off-the-top deductions after setting the ACL, set-asides for some overfished species (petrale and yelloweye rockfish) and non-overfished species are taken from the trawl allocation to accommodate bycatch in the at-sea whiting fishery. Like other set-asides, these impacts are not managed inseason, so the set-aside amounts need to be set high enough to accommodate anticipated catch.

The Other Fish complex contains nearshore species which are not typically encountered in the at-sea whiting sectors (

Table 8). As such, the GMT determined it was not necessary to recommend an Other Fish complex set-aside. In 2015-2016, a range of spiny dogfish set-asides from 163 mt to 725 mt was analyzed along with a risk analysis for all sectors of exceeding the spiny dogfish ACL (Section B.16, Appendix B). The 2017-2018 ACL is 2,094 mt and 2,083 mt. Mortality in 2014 for all sectors was 625 mt out of the Other Fish ACL of 4,697 mt. Given the low risk of exceeding the spiny dogfish ACL, the Council did not recommend spiny dogfish set-asides in 2015-2016 and the GMT believes the Council can consider a similar approach for 2017-2018. **The GMT recommends increasing the arrowtooth flounder set aside for the Pacific whiting at-sea sector from 64.8 mt to 70 mt for 2017-2018.**

Table 8. Set-asides for the Pacific whiting at-sea sectors, value in 2016 regulations, 2015 total mortality, and GMT recommendations. Numbers bolded in the recommendations column differ from what is in the 2016 regulations.

Species/Species Group	Area	Value in 2016 Regulations (mt)	2014 Total Mortality (mt)	2015 Total Mortality (mt; to date)	GMT Recommendations for 2017-2018 (mt)
Petrale Sole	Coastwide	5	0	0	5
Yelloweye Rockfish	Coastwide	0	0	0	0
Arrowtooth flounder	Coastwide	45	10.73	64.8	70
Dover sole	Coastwide	5	0.92	0.83	5
English sole	Coastwide	5	0.01	0	5
Lingcod	N. of 40°10' N. lat.	15	0.89	0.85	15
Longnose skate	Coastwide	5	0.75	0.47	5
Longspine Thornyhead	N. of 34°27' N. lat.	5	0	0.02	5
Pacific cod	Coastwide	5	0	0	5
Pacific halibut	Coastwide	10	0.37	0.06	10
Sablefish	N. of 36° N. lat.	50	16.14	11.54	50
Shortspine Thornyhead	N. of 34°27' N. lat.	20	20.44	10.51	20
Starry Flounder	Coastwide	5	0	0	5
Yellowtail Rockfish	N. of 40°10' N. lat.	300	44.54	86.55	300
Shelf rockfish	N. of 40°10' N. lat.	35	0.26	0.49	35
Slope rockfish	N. of 40°10' N. lat.	100	25.39	34.98	100
Other fish	Coastwide	N/A	0.48	0.24	N/A
Spiny dogfish	Coastwide	N/A	59.7	93.12	N/A
Other flatfish	Coastwide	20	0.48	6.21	20

Action Item 9: Adopt Preliminary Two-Year Within Non-Trawl HGs or Shares

Overfished Species

Under this agenda item, the Council will adopt the preliminary two-year within non-trawl allocations for bocaccio, cowcod, and yelloweye rockfish. [Attachment 2](#) under this agenda item

contains recent year allocations to aid the Council in deciding a range of 2017-2018 allocations for these species. The GMT did not identify any additional allocation scenarios for inclusion in this discussion.

Blackgill Rockfish South of 40°10' N. Latitude, Limited Entry and Open Access Allocations

Each biennial cycle the Council sets two-year shares between the limited entry and open access fixed gear fishery sectors. For the 2015-2016 cycle, the non-trawl allocation is divided 60 percent to the limited entry fleet and 40 percent to open access fleet, which is based on average landings from 2005-2010. The GMT updated recent year catches for Council consideration.

Table 9 . Landings (mt) of blackgill rockfish in the limited entry and open access sectors south of 40°10' N. latitude from 2000-2014.

Fleet	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Avg 00-14	Avg 05-14	Avg 08-14	Avg 11-14
LE	29.8	27.5	46.9	73.1	43.0	23.9	37.9	14.9	22.6	51.7	44.6	79.7	45.3	14.5	20.5	38.4	35.5	39.8	40.0
OA	3.2	11.6	38.4	53.4	25.8	12.9	18.5	7.7	15.0	28.6	46.0	49.4	60.9	3.7	3.6	25.2	24.6	29.6	29.4
Total Fleet	33.0	39.1	85.3	126.4	68.8	36.8	56.4	22.6	37.6	80.3	90.5	129.1	106.2	18.2	24.1	63.6	60.2	69.4	69.4
% LE	90.3%	70.2%	55.0%	57.8%	62.5%	64.9%	67.2%	65.8%	60.0%	64.3%	49.2%	61.7%	42.7%	79.5%	85.1%	60.3%	59.1%	57.4%	57.6%
% OA	9.7%	29.8%	45.0%	42.2%	37.5%	35.1%	32.8%	34.2%	40.0%	35.7%	50.8%	38.3%	57.3%	20.5%	14.9%	39.7%	40.9%	42.6%	42.4%

Sablefish South of 36° N. Latitude

For the daily trip limit (DTL) sablefish fishery south of 36° N lat., there is a 55-45 percent sharing of the non-trawl allocation between the limited entry south (LES) and open access south (OAS) sectors. The GMT uses these shares to monitor the fishery inseason. Table 10 below shows the non-trawl allocation from 2011-2015, the landing share for each sector, total mortality in mt (using the GMT sablefish flag in PacFIN for landings; discard estimates are from WCGOP with a 20 percent discard mortality rate applied), and the percent attainment of each share. Hard data for 2015 is 90 percent complete through September in Washington, October in Oregon, and June in California. Furthermore, the 2014 discard estimate was used as a proxy for 2015 as that data is not yet available.

Table 10. Sablefish DTL South of 36° N. Latitude

Year	Non-Trawl Allocation	LES			OAS		
		Landing Share	Total Mortality	Percent Attainment	Landing Share	Total Mortality	Percent Attainment
2011	733	403	739.3	183%	330	208.5	63%
2012	710	391	481.5	123%	320	122.6	38%
2013	832	458	546.2	119%	374	79.9	21%
2014	902	496	524.8	106%	406	39.9	10%
2015	994	547	465.0	85%	447	52.4	5%
2016	1088	598			489		

From 2011-2014, LES has exceeded its share each year while OAS has shown steady declines in landings. While the LES was not projected to exceed its share in 2015 ([Agenda Item I.8.a, Supplemental GMT Report, November 2015](#)), it is projected to have high attainment. On average, from 2011-2014, the LES took 73 percent of the non-trawl allocation; the maximum was 100.9 percent in 2011 (non-trawl allocation was exceeded in 2011), the minimum was 58.2 percent (2014). OAS took only 12 percent on average over four years, with a high of 28 percent in 2011 to a low of four percent in 2014. Therefore, the GMT recommends the Council consider changing the LES-OAS share percentage for the DTL sablefish fishery south of 36° N latitude for the 2017-2018 biennial harvest specifications. The GMT provides the following alternatives (trawl/non-trawl share percentages in parenthesis) in Table 11 (shown in relation to the 2017 and 2018 default ACLs as provided in Table 4 of [Agenda Item I.4, Supplemental REVISED Attachment 2](#)). A five mt off-the-top deduction was assumed for each year (same as 2015 and 2016). The GMT suggests that the Council choose an alternative under this agenda item for analysis.

Table 11. Trawl and non-trawl share percentages under No Action, Alternative 1, and Alternative 2.

Year	ACL	HG	Trawl	Non Trawl	No Action (55-45)		Alternative 1 (65-35)		Alternative 2 (75-25)	
					LE	OA	LE	OA	LE	OA
2017	1,110	1,105	464.1	641	352	288	417	224	481	160
2018	1,148	1,143	480.06	663	365	298	431	232	497	166

Nearshore Rockfish HG north of 40°10' N. Latitude

For the 2015-2016 management cycle, the Council approved an approach for managing the Nearshore Rockfish complex north stocks as proposed by the WDFW and ODFW ([Agenda Item F.7.b. Supplemental WDFW/ODFW Report, June 2014](#)). The approach relied on WDFW and ODFW monitoring the harvest of recreational and commercial nearshore fisheries and coordinating if harvest levels were approached. Status quo harvest levels were used as state HGs (not specified in federal regulation) and each state committed to consult and coordinate with the other state upon attainment of 75 percent of their respective status quo harvest levels (Table 11). The success of this approach relied on the ability of each management agency to take inseason action immediately if necessary. California elected to make the allocation based on

projected mortality under the no action alternative in the [EIS for 2015-2016](#) a HG specified in Federal regulation to facilitate the ability to take action to reduce take or close the fishery inseason. Additionally, ODFW implemented significant restrictions to both their nearshore commercial and recreational fisheries in order to insure that catch did not exceed their HG.

Table 12. Annual state-specific harvest guidelines (HGs) for the nearshore rockfish complex north of 40° 10' N lat. for 2015-2016, 75 percent of each HG that would trigger consultation and coordination, and catch in 2015.

State	Harvest Guideline	75% of HG	Actual 2015 Catch
Washington	10.5	8	4.6
Oregon	48.4	36	30.1
California	23.7	NA	11

Allocations of the Nearshore Rockfish Complex North of 40°10' N. lat. for 2015-2016 were necessitated by the magnitude of catch in the recent past relative to the 69 mt ACL for the biennium. Given that the complex ACL will increase appreciably from 69 mt in 2016 to 105 mt in 2017 and 2018, state specific harvest guidelines may not be necessary to insure that the nearshore rockfish catch will not exceed the complex ACL or ABC.

If the Council wishes to consider state specific HG for nearshore rockfish in 2017-2018 in a similar manner as was adopted for 2015-2016, the proportion of sharing established under the 2015-2106 approach could simply be applied to the 2017-2018 ACL ([Table 13](#)).

Table 13. Annual state-specific harvest guidelines (HGs) for the nearshore rockfish complex north of 40 10 for 2017-2018, 75 percent of each HG that would trigger consultation and coordination.

State	Harvest Guideline	75% of HG
Washington	13.3	10.0
Oregon	61.5	46.1
California	30.1	NA

The GMT notes that this approach does not account for the difference in state boundaries compared to stock assessment boundaries and allocations north of 40°10' N. lat. which may be an important consideration for blue rockfish and China rockfish. The decision of how to allocate between states will have implications for the statewide California harvest guideline for blue rockfish, which would be 304.5 mt in 2017 and 311.1 in 2018 given the results of the assessment. The HG would decrease to 282.4 mt in 2017 and 288.5 mt in 2018 if the contributions north of 40°10' N. lat. are included in allocations in proportion to the status quo.

The GMT requests Council guidance on state specific harvest guidelines for the Nearshore Rockfish Complex North of 40°10' N. lat.

Recommendations:

Action Item 4: Off-the-top Deductions:

1. The Council may wish to reconsider consider the amount of off-the-top research deductions for yelloweye rockfish based on research planned in 2017-2018.
2. The Council may wish to consider increasing the off- the-top deduction for research catch to accommodate potentially higher encounters with petrale sole in 2017 and 2018.
3. The GMT recommends that the Council adopt the maximum historical high value for off-the-top deductions for Pacific Ocean perch (10 mt) and petrale sole (3.25 mt) to accommodate catch in incidental open access fisheries in 2017-2018.
4. The GMT recommends the Council consider the historical maximum catch approach for darkblotched rockfish and adopt the high catch in 2014 (24.5 mt), for the off-the-top deduction for 2017-2018
5. The Council may wish to consider increasing the off-the-top deductions for Pacific Ocean perch and petrale sole to accommodate catch in incidental open access fisheries in 2017-2018.
6. The GMT recommends that the Council adopt allocations for the Pacific Coast treaty Indian tribes.

Action Item 5: Annual Catch Targets

1. The Council consider an ACT for cowcod within the 10 mt ACL for 2017-2018, as was done for 2015-2016.

Action Item 6: Harvest Guidelines for Species Managed in Complexes

1. The GMT recommends continuing to manage blue rockfish south of 42° N latitude within a HG.

Action Item 7: Two-Year Overfished Species Allocations

1. The GMT recommends continuing with the 90 percent to trawl and 10 percent to non-trawl allocation for longnose skate in 2017-2018.
2. The GMT recommends the Council select an alternative trawl, non-trawl allocation for big skate.
3. The GMT recommends status quo management methods for the shelf rockfish complex north and south of 40°10' N. lat. including allocations.

Action Item 8: Pacific Whiting At-Sea Sectors Set-Asides

1. The GMT recommends increasing the arrowtooth flounder set aside for the Pacific whiting at-sea sector from rom 64.8 mt to 70 mt for 2017-2018.

Appendix 1. GMT proposed off the top deductions for overfished and non-overfished species for 2017 (in mt)

Species	Area	ACL	Tribal	EFP	Research	OA	Set-aside Total	Fishery HG
Arrowtooth flounder	Coastwide	13,804	2,041.0		16.4	40.75	2,098	11,705.9
Black	N of 46°16' N. lat.	305	14.0				14	291.0
Black	46°16' N. lat. To 42° N. lat.	527	0.0			0.6	1	526.4
Black	S of 42° N. lat.	334	0.0					
BOCACCIO	S of 40°10' N. lat.	790	0.0		4.6	0.7	5	784.7
Cabezon	46°16' to 42° N. lat.	47	0.0				0	47.0
Cabezon	S of 42° N. lat.	150	0.0			0.3	0	149.7
California scorpionfish	S of 34°27' N. lat.	264	0.0		0.2	2	2	261.8
Canary rockfish	Coastwide	1,714	7.7		4.5	1.17	13	1,700.6
Chilipepper	S of 40°10' N. lat.	2,607	0.0		10.9	4.9	16	2,591.2
COWCOD	S of 40°10' N. lat.	10	0.0		2.0	0.03	2	8.0
DARKBLOTCHED ROCKFISH	Coastwide	406	0.2		2.5	24.53	27	378.8
Dover sole	Coastwide	50,000	1,497.0		41.9	54.8	1,594	48,406.3
English sole	Coastwide	9,964	200.0		5.8	6.5	212	9,751.7
Lingcod	N of 40°10' N. lat.	3,333	250.0		11.7	16	278	3,055.3
Lingcod	S of 40°10' N. lat.	1,251	0.0		1.1	6.9	8	1,243.0
Longnose skate	Coastwide	2,000	56.0		13.2	3.44	73	1,927.4
Longspine thornyhead	N of 34°27' N. lat.	2,894	30.0		13.5	3.3	47	2,847.2
Longspine thornyhead	S of 34°27' N. lat.	914	0.0		1.4	1.8	3	910.8
Nearshore rockfish north	N of 40°10' N. lat.	105	0.0			0.3	0	104.7
Nearshore rockfish south	S of 40°10' N. lat.	1,163	0.0		2.7	1.4	4	1,158.9
Shelf rockfish north	N of 40°10' N. lat.	2,049	30.0		24.8	26	81	1,968.2
Shelf rockfish south	S of 40°10' N. lat.	1,623	0.0		8.6	8.6	17	1,605.8
Slope rockfish north	N of 40°10' N. lat.	1,755	36.0		9.5	18.6	64	1,690.9
Slope rockfish south	S of 40°10' N. lat.	707	0.0		2.0	17.2	19	687.8
Other fish	Coastwide	474	0.0				0	474.0
Other flatfish	Coastwide	8,510	60.0		19.0	124.8	204	8,306.2
Pacific cod	Coastwide	1,600	500.0		7.0	2	509	1,091.0
Pacific whiting	Coastwide		TBD			2,807	2,807	(2,807.0)
Petrале sole	Coastwide	3,136	220.0		17.7	3.2	241	2,895.1
PACIFIC OCEAN PERCH	Coastwide	171	9.2		5.2	10.0	24	146.6
Sablefish	N of 36° N. lat.	6,240	624.0		25.7	6.1	656	5,584.2
Sablefish	S of 36° N. lat.	1,110	0.0		3.0	1.83	5	1,105.2
Shortbelly	Coastwide	500	0.0		2.0	8.9	11	489.1
Shortspine thornyhead	N of 34°27' N. lat.	1,713	50.0		7.2	1.8	59	1,654.0
Shortspine thornyhead	S of 34°27' N. lat.	906	0.0		1.0	41.3	42	863.7
Splitnose	S of 40°10' N. lat.	1,760	0.0		9.0	0.2	9	1,750.8
Starry flounder	Coastwide	1,282	2.0			8.34	10	1,271.7
Widow	Coastwide	2,000	200.0		8.2	0.5	209	1,791.4
YELLOW EYE ROCKFISH	Coastwide	20	2.3		3.3	0.35	6	14.1
Yellowtail	N of 40°10' N. lat.	6,786	1,000.0		16.6	3.35	1,020	5,766.1

overfished species are presented in ALL CAPS

Highlighted cells represent values that are higher than in 2015-2016

Appendix 2. GMT proposed off the top deductions for overfished and non-overfished species for 2018 (in mt)

Species	Area	ACL	Tribal	FFP	Research	OA	Set-aside Total	Fishery HG
Arrowtooth flounder	Coastwide	13,743	2,041.0		16.4	40.75	2098.14	11,644.9
Black	N of 46°16' N. lat.	301	14.0				14	287.0
Black	46°16' N. lat. To 42° N. lat.	520	0.0			0.6	0.6	519.4
Black	S of 42° N. lat.	332	0.0					
BOCACCIO	S of 40°10' N. lat.	741	0.0		4.6	0.7	5.3	735.7
Cabazon	46°16' to 42° N. lat.	47	0.0				0	47.0
Cabazon	S of 42° N. lat.	149	0.0			0.3	0.3	148.7
California scorpionfish	S of 34°27' N. lat.	261	0.0		0.2	2	2.18	258.8
Canary rockfish	Coastwide	1,588	7.7		4.5	1.17	13.37	1,574.6
Chilipepper	S of 40°10' N. lat.	2,507	0.0		10.9	4.9	15.76	2,491.2
COWCOD	S of 40°10' N. lat.	10	0.0		2.0	0.03	2.03	8.0
DARKBLOTCHED ROCKFISH	Coastwide	419	0.2		2.5	24.53	27.18	391.8
Dover sole	Coastwide	50,000	1,497.0		41.9	54.8	1593.7	48,406.3
English sole	Coastwide	7,537	200.0		5.8	6.5	212.3	7,324.7
Lingcod	N of 40°10° N. lat.	3,110	250.0		11.7	16	277.67	2,832.3
Lingcod	S of 40°10° N. lat.	1,144	0.0		1.1	6.9	8	1,136.0
Longnose skate	Coastwide	2,000	56.0		13.2	3.44	72.62	1,927.4
Longspine thornyhead	N of 34°27' N. lat.	2,747	30.0		13.5	3.3	46.81	2,700.2
Longspine thornyhead	S of 34°27' N. lat.	867	0.0		1.4	1.8	3.21	863.8
Nearshore rockfish north	N of 40°10' N. lat.	105	0.0			0.3	0.3	104.7
Nearshore rockfish south	S of 40°10' N. lat.	1,179	0.0		2.7	1.4	4.08	1,174.9
Shelf rockfish north	N of 40°10' N. lat.	2,047	30.0		24.8	26	80.81	1,966.2
Shelf rockfish south	S of 40°10' N. lat.	1,624	0.0		8.6	8.6	17.2	1,606.8
Slope rockfish north	N of 40°10' N. lat.	1,754	36.0		9.5	18.6	64.12	1,689.9
Slope rockfish south	S of 40°10' N. lat.	709	0.0		2.0	17.2	19.2	689.8
Other fish	Coastwide	441	0.0				0	441.0
Other flatfish	Coastwide	7,281	60.0		19.0	124.8	203.8	7,077.2
Pacific cod	Coastwide	1,600	500.0		7.0	2	509.04	1,091.0
Pacific whiting	Coastwide		TBD			2,807	2807	
Petrable sole	Coastwide	3,013	220.0		17.7	3.2	240.87	2,772.1
PACIFIC OCEAN PERCH	Coastwide	176	9.2		5.2	10.0	24.37	151.6
Sablefish	N of 36° N. lat.	6,456	646.0		25.7	6.1	677.8	5,778.2
Sablefish	S of 36° N. lat.	1,148	0.0		3.0	1.83	4.83	1,143.2
Shortbelly	Coastwide	500	0.0		2.0	8.9	10.9	489.1
Shortspine thornyhead	N of 34°27' N. lat.	1,698	50.0		7.2	1.8	59.02	1,639.0
Shortspine thornyhead	S of 34°27' N. lat.	898	0.0		1.0	41.3	42.3	855.7
Splitnose	S of 40°10' N. lat.	1,761	0.0		9.0	0.2	9.2	1,751.8
Starry flounder	Coastwide	1,282	2.0			8.34	10.34	1,271.7
Widow	Coastwide	2,000	200.0		8.2	0.5	208.65	1,791.4
YELLOWEYE ROCKFISH	Coastwide	20	2.3		3.3	0.35	5.95	14.1
Yellowtail	N of 40°10' N. lat.	6,574	1,000.0		16.6	3.35	1019.95	5,554.1

overfished species are presented in ALL CAPS

Highlighted cells represent values that are higher than in 2015-2016