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**DEPARTMENT OF COMMERCE**

**National Oceanic and Atmospheric Administration**

**50 CFR Part 660**

**[Docket No. 140904754–5188–02]**

**RIN 0648-BF44**

**Magnuson-Stevens Act Provisions; Fisheries Off West Coast States; Pacific Coast  
Groundfish Fishery; 2015-2016 Biennial Specifications and Management Measures;  
Inseason Adjustments**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Final rule; inseason adjustments to biennial groundfish management measures.

**SUMMARY:** This final rule announces inseason changes to management measures in the Pacific Coast groundfish fisheries. This action, which is authorized by the Pacific Coast Groundfish Fishery Management Plan (PCGFMP), is intended to allow fisheries to access more abundant groundfish stocks while protecting overfished and depleted stocks.

**DATES:** This final rule is effective [*insert date of filing for public inspection with the Office of the Federal Register*].

**FOR FURTHER INFORMATION CONTACT:** Gretchen Hanshew, phone: 206-526-6147, fax: 206-526-6736, or e-mail: [gretchen.hanshew@noaa.gov](mailto:gretchen.hanshew@noaa.gov).

**SUPPLEMENTARY INFORMATION:**

**Electronic Access**

This rule is accessible via the Internet at the Office of the Federal Register Web site at <https://www.federalregister.gov>. Background information and documents are available at the Pacific Fishery Management Council's website at <http://www.pcouncil.org/>. Copies of the final environmental impact statement (FEIS) for the Groundfish Specifications and Management Measures for 2015-2016 and Biennial Periods Thereafter are available from Donald McIsaac, Executive Director, Pacific Fishery Management Council (Council), 7700 NE Ambassador Place, Portland, OR 97220, phone: 503-820-2280.

## **Background**

As part of biennial harvest specifications and management measures, annual catch limits (ACLs) are set for non-whiting groundfish species, deductions are made “off-the-top” from the ACL for various sources of mortality (including non-groundfish fisheries that catch groundfish incidentally, also called incidental open access fisheries) and the remainder, the fishery harvest guideline, is allocated amongst the various groundfish fisheries. The limited availability of overfished species that can be taken as incidental catch in the Pacific whiting fisheries, particularly darkblotched rockfish, Pacific ocean perch, and canary rockfish, led NMFS to implement sector-specific allocations for these species to the Pacific whiting fisheries. If the sector-specific allocation for a non-whiting species is reached, NMFS may close one or more of the at-sea sectors automatically, per regulations at § 660.60(d).

The Council, in coordination with Pacific Coast Treaty Indian Tribes and the States of Washington, Oregon, and California, recommended changes to current groundfish management measures at its September 9-16, 2015 meeting. The Council recommended taking a portion of the darkblotched rockfish initially deducted from the ACL that would likely go unharvested in 2015

and making it available to the mothership (MS) and catcher/processor (C/P) sectors of the at-sea Pacific whiting fishery, with no more than 5 metric tons (mt) to either sector.

*Transferring Darkblotched Rockfish to the Mothership and Catcher/Processor Sectors*

At the September meeting, the MS sector requested an increase to their darkblotched rockfish set-aside to accommodate higher than anticipated bycatch rates in 2015 to prevent closure of the MS sector prior to harvesting their full allocation of Pacific whiting, as occurred temporarily in 2014 before darkblotched rockfish was distributed to them (79 FR 69060, November 20, 2014). At the start of 2015, the C/P and MS sectors of the Pacific whiting fishery were allocated 9.2 mt and 6.5 mt of darkblotched rockfish, respectively, per regulations at § 660.55(c)(1)(i)(A).

According to the best available fishery information, bycatch rates of darkblotched rockfish in the MS sector have been more than double the rate seen in 2014 (Agenda Item H.9.b, Public Comment, September 2015). Additionally, recent 2015 (late-summer and early autumn) bycatch rates of darkblotched rockfish in the shoreside Pacific whiting sector have been 3.5 times higher than this time last year. This raised concerns that when the MS fleet returns in October from fishing in Alaska, bycatch rates of darkblotched rockfish would be even higher than they were in summer 2015. At the September meeting, best available information regarding bycatch rates of darkblotched rockfish in the C/P sector indicated that, if those rates continued, the Pacific whiting allocation could be achieved prior to harvesting their 2015 darkblotched rockfish set-aside. However, the Council considered the possibility of sudden, unexpected large bycatch events that occasionally occur in the MS and C/P sectors, and how one or more of those events could dramatically change the bycatch rates of darkblotched rockfish, jeopardizing continuation of their seasons and achievement of their 2015 Pacific whiting allocations.

To maintain 2015 harvest opportunities for the MS and C/P sectors of the Pacific whiting fishery, the Council considered moving darkblotched rockfish quota that would otherwise go unharvested in the incidental open access fishery to the MS and C/P sectors. At the start of 2015 a total of 20.8 mt of darkblotched rockfish was deducted from the ACL, including 18.4 mt of to account for mortality in the incidental open access fishery.

At its September 2015 meeting, the Council considered best available information regarding harvest levels of darkblotched rockfish in the incidental open access fishery to evaluate whether all 18.4mt would be harvested in 2015, and if any of those fish that would go unharvested and could be transferred to the MS and C/P sectors inseason to allow for continued fishing opportunities in those sectors. Harvest of darkblotched rockfish in the incidental open access fisheries in 2011-2013 was below 6 mt per year, but the best estimate of mortality in 2014 increased to 24 mt. It was hypothesized that the much higher bycatch levels in 2014 may be due to a large 2013 darkblotched rockfish year class being caught in the pink shrimp trawl fishery. There was also anecdotal evidence that the use of light emitting diode (LED) lights had become widespread in the 2015 pink shrimp fishery following a 2014 research study, which could result in a drastic reduction in bycatch of juvenile darkblotched rockfish when LED lights were affixed to the shrimp trawl gear.

Therefore, the Council recommended redistributing 8mt of darkblotched rockfish, from the “off-the-top” deductions that were made at the start of the 2015-2016 biennium, to the MS and C/P sectors, with no more than 5 mt to either sector, to accommodate potential bycatch of darkblotched rockfish as each sector prosecutes the remainder of their 2015 Pacific whiting allocations.

The Council's recommendation at the September meeting asked NMFS to monitor ongoing MS and C/P fisheries and redistribute darkblotched rockfish based on needs of the at-sea whiting fisheries in an effort prevent closure of those fisheries prior to achieving their respective Pacific whiting allocations. Therefore, this inseason action incorporates updated information on ongoing MS and C/P sector fisheries and on the best available information on how much darkblotched rockfish is anticipated to go unharvested from the off-the-top deductions. According to the best information available on September 29, 2015, observed darkblotched rockfish bycatch rates in the pink shrimp fishery in 2015 were much lower than in 2014, and similar to levels seen in 2011-2013. NMFS projects that the incidental open access fisheries, including the pink shrimp trawl fishery, will harvest 5.7 mt through the end of the year out of the 18.4mt that was anticipated when the off-the-top deductions were made.

The off-the-top deduction is a sum of anticipated impacts from scientific research activities, EFPs, Tribal fisheries, and incidental open access fisheries. Fish moved from the off-the-top deduction from the ACL and redistributed to other groundfish fisheries must be fish that would otherwise go unharvested through the end of the year. It was not quantitatively demonstrated that the 8 mt of darkblotched rockfish that the Council recommended redistributing to the MS and C/P sectors would otherwise go unharvested. Therefore, NMFS considered the higher than anticipated scientific research catch of darkblotched rockfish along with the lower than anticipated catch of darkblotched rockfish in the incidental open access fisheries in its decision making. When combined with the projected impacts from other components of the off-the-top deductions, including scientific research, EFPs, and tribal fisheries, it is anticipated that approximately 7.4 mt of the 20.8 mt off-the-top deduction will go unharvested through the end of 2015 (13.4 mt harvested out of 20.8 mt). Given this best available information, released after the

Council's recommendation was made, NMFS has determined that the full 8 mt that was recommended by the Council cannot be redistributed.

Shortly after the conclusion of the September Council meeting, a bycatch event of darkblotched rockfish occurred in the C/P sectors, increasing the likelihood of early closure of that C/P sector if additional darkblotched rockfish were unavailable. Based on this information, there is need for additional darkblotched rockfish in both the MS and C/P sectors.

Based on the information presented at the September meeting, the Council's recommendation, the best available information on the available amount darkblotched rockfish, and the best available information on bycatch rates in the MS and C/P fisheries, this rule redistributes 7 mt of darkblotched rockfish that is anticipated to go unharvested in the incidental open access fisheries through the end of 2015 to the MS and C/P sectors in equal amounts, 3.5 mt to each sector. To buffer against uncertainty in the estimates, 0.4 mt of darkblotched rockfish will remain in the "off-the-top" deductions. 7 mt of darkblotched rockfish will be distributed equally between the MS and C/P sectors because both fisheries show higher than anticipated bycatch rates this year. If those higher rates continue and no additional darkblotched rockfish is distributed, both sectors are projected to attain their current darkblotched rockfish set-asides of 9.2 mt and 6.5 mt, respectively, before their Pacific whiting allocations are fully harvested.

This rule partially approves the Council's recommendation to provide additional darkblotched that would otherwise go unharvested in 2015. Increasing the darkblotched rockfish set-asides to 10 mt for the MS sector and 12.7 mt for the C/P sector reduces the risk of closure of the MS and C/P sectors prior to full attainment of the Pacific whiting allocation if higher than anticipated bycatch rates of darkblotched rockfish continue late in 2015. Mortality of darkblotched rockfish in the 2015 incidental open access fishery has been lower than anticipated

and the projected mortality indicates it will be within the remaining off-the-top deduction after transferring the 7 mt to the MS and C/P sectors. Transfer of darkblotched rockfish to the MS and C/P sectors, when combined with projected impacts from all other sources, is not expected to result in greater impacts to darkblotched rockfish or other overfished species than originally projected through the end of the year.

### **Classification**

This final rule makes routine inseason adjustments to groundfish fishery management measures, based on the best available information, consistent with the PCGFMP and its implementing regulations and the Halibut Act and its implementing regulations.

This action is taken under the authority of 50 CFR 660.60(c) and is exempt from review under Executive Order 12866.

The aggregate data upon which these actions are based are available for public inspection at the Office of the Administrator, West Coast Region, NMFS, during business hours.

NMFS finds good cause to waive prior public notice and comment on the revisions to groundfish management measures under 5 U.S.C. 553(b) because notice and comment would be impracticable and contrary to the public interest. Also, for the same reasons, NMFS finds good cause to waive the 30-day delay in effectiveness pursuant to 5 U.S.C. 553(d)(3), so that this final rule may become effective [*insert date of filing for public inspection with the Office of the Federal Register*].

At the September 2015 Council meeting, the Council recommended that redistribution of darkblotched rockfish to the MS and C/P sectors be implemented as quickly as possible once a need for additional darkblotched rockfish was identified. Within two weeks of this recommendation, a bycatch event of darkblotched rockfish (4 mt) occurred in the C/P sectors.

There was not sufficient time after the September 2015 Council meeting to undergo proposed and final rulemaking before this action needs to be in effect. For the actions implemented in this final rule, affording the time necessary for prior notice and opportunity for public comment would prevent transfer of darkblotched rockfish to the MS and C/P sectors until later in the season, or potentially eliminate the possibility of doing so during the 2015 calendar year entirely, and is therefore impractical. Failing to reapportion darkblotched rockfish to the MS and C/P sectors in a timely manner could result in unnecessary restriction of fisheries if the MS or C/P sectors exceeded their darkblotched allocations. Providing the MS and C/P sector fishermen an opportunity to harvest their limits of Pacific whiting without interruption and without exceeding their darkblotched rockfish bycatch limits allows harvest as intended by the Council, consistent with the best scientific information available. The Pacific whiting fishery contributes a large amount of revenue to the coastal communities of Washington and Oregon and this change allows continued harvest of Pacific whiting while continuing to prevent ACLs of overfished species and the allocations for target species from being exceeded. No aspect of this action is controversial, and changes of this nature were anticipated in the biennial harvest specifications and management measures established for 2015-2016.

Delaying these changes would also keep management measures in place that are not based on the best available information. Such delay would impair achievement of the PCGFMP goals and objectives of managing for appropriate harvest levels while providing for year-round fishing and marketing opportunities.

Accordingly, for the reasons stated above, NMFS finds good cause to waive prior notice and comment and to waive the delay in effectiveness.

#### **List of Subjects in 50 CFR Part 660**

Fisheries, Fishing, and Indian Fisheries.

Dated: October 29, 2015.

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Emily H. Menashes,

Acting Director,

Office of Sustainable Fisheries,

National Marine Fisheries Service.

For the reasons set out in the preamble, 50 CFR part 660 is amended as follows:

**PART 660—FISHERIES OFF WEST COAST STATES**

1. The authority citation for part 660 continues to read as follows:

**Authority:** 16 U.S.C. 1801 *et seq.*, 16 U.S.C. 773 *et seq.*, and 16 U.S.C. 7001 *et seq.*

2. Tables 1a and 1b to Part 660, Subpart C, are revised to read as follows:

**Table 1a to Part 660, Subpart C – 2015, Specifications of OFL, ABC, ACL, ACT and Fishery Harvest Guidelines (Weights in Metric Tons)**

	OFL	ABC	ACL a/	Fishery HG b/
BOCACCIO S. of 40°10' N. lat. c/	1,444	1,380	349	341
CANARY ROCKFISH d/	733	701	122	107
COWCOD S. of 40°10' N. lat. e/	67	60	10	8
DARKBLOTCHED ROCKFISH f/	574	549	338	317
PACIFIC OCEAN PERCH g/	842	805	158	143
PETRALE SOLE h/	2,946	2,816	2,816	2,579
YELLOWEYE ROCKFISH i/	52	43	18	12
Arrowtooth flounder j/	6,599	5,497	5,497	3,410
Black rockfish (OR-CA) k/	1,176	1,124	1,000	999
Black rockfish (WA) l/	421	402	402	388
Cabezón (CA) m/	161	154	154	154
Cabezón (OR) n/	49	47	47	47
California scorpionfish o/	119	114	114	112
Chilipepper S. of 40°10' N. lat. p/	1,703	1,628	1,628	1,604
Dover sole q/	66,871	63,929	50,000	48,406
English sole r/	10,792	9,853	9,853	9,640
Lingcod N. of 40°10' N. lat. s/	3,010	2,830	2,830	2,552
Lingcod S. of 40°10' N. lat. t/	1,205	1,004	1,004	995
Longnose skate u/	2,449	2,341	2,000	1,927
Longspine thornyhead (coastwide) v/	5,007	4,171	NA	NA
Longspine thornyhead N. of 34°27' N. lat.	NA	NA	3,170	3,124
Longspine thornyhead S. of 34°27' N. lat.	NA	NA	1,001	998
Pacific Cod w/	3,200	2,221	1,600	1,091
Pacific whiting x/	804,576	x/	x/	266,684
Sablefish (coastwide)	7,857	7,173	NA	NA
Sablefish N. of 36° N. lat. y/	NA	NA	4,793	See Table 1c
Sablefish S. of 36° N. lat. z/	NA	NA	1,719	1,714
Shortbelly aa/	6,950	5,789	500	498
Shortspine thornyhead (coastwide) bb/	3,203	2,668	NA	NA
Shortspine thornyhead N. of 34°27' N. lat.	NA	NA	1,745	1,686
Shortspine thornyhead S. of 34°27' N. lat.	NA	NA	923	881
Spiny dogfish cc/	2,523	2,101	2,101	1,763
Splitnose S. of 40°10' N. lat. dd/	1,794	1,715	1,715	1,705
Starry flounder ee/	1,841	1,534	1,534	1,524
Widow rockfish ff/	4,137	3,929	2,000	1,880
Yellowtail N. of 40°10' N. lat. gg/	7,218	6,590	6,590	5,560
Minor Nearshore Rockfish N. of 40°10' N. lat. hh/	88	77	69	69
Minor Shelf Rockfish N. of 40°10' N. lat. ii/	2,209	1,944	1,944	1,872
Minor Slope Rockfish N. of 40°10' N. lat. jj/	1,831	1,693	1,693	1,629
Minor Nearshore Rockfish S. of 40°10' N. lat. kk/	1,313	1,169	1,114	1,110
Minor Shelf Rockfish S. of 40°10' N. lat. ll/	1,918	1,625	1,624	1,575
Minor Slope Rockfish S. of 40°10' N. lat. mm/	813	705	693	673
Other Flatfish nn/	11,453	8,749	8,749	8,545
Other Fish oo/	291	242	242	242

a/ Annual catch limits (ACLs), annual catch targets (ACTs) and harvest guidelines (HGs) are specified as total catch values.

b/ Fishery harvest guidelines means the harvest guideline or quota after subtracting Pacific Coast treaty Indian tribes allocations and projected catch, projected research catch, deductions for fishing mortality in non-groundfish fisheries, and deductions for EFPs from the ACL or ACT.

c/ Bocaccio. A bocaccio stock assessment update was conducted in 2013 for the bocaccio stock between the U.S.-Mexico border and Cape Blanco. The stock is managed with stock-specific harvest specifications south of 40°10' N. lat. and within the Minor Shelf Rockfish complex north of 40°10' N. lat. A historical catch distribution of approximately 6 percent was used to apportion the assessed stock to the area north of 40°10' N. lat. The bocaccio stock was estimated to be at 31.4 percent of its unfished biomass in 2013. The OFL of 1,444 mt is projected in the 2013 stock assessment using an  $F_{MSY}$  proxy of  $F_{50\%}$ . The ABC of 1,380 mt is a 4.4 percent reduction from the OFL ( $\sigma=0.36/P^*=0.45$ ) as it's a category 1 stock. The 349 mt ACL is based on the current rebuilding plan with a target year to rebuild of 2022 and an SPR harvest rate of 77.7 percent. 8.3 mt is deducted from the ACL to accommodate the incidental open access fishery (0.7 mt), EFP catch (3.0 mt) and research catch (4.6 mt), resulting in a fishery HG of 340.7 mt. The California recreational fishery has an HG of 178.8 mt.

d/ Canary rockfish. A canary rockfish stock assessment update was conducted in 2011 and the stock was estimated to be at 23.2 percent of its unfished biomass coastwide in 2011. The coastwide OFL of 733 mt is projected in the 2011 rebuilding analysis using an  $F_{MSY}$  proxy of  $F_{50\%}$ . The ABC of 701 mt is a 4.4 percent reduction from the OFL ( $\sigma=0.36/P^*=0.45$ ) as it's a category 1 stock. The ACL of 122 mt is based on the current rebuilding plan with a target year to rebuild of 2030 and an SPR harvest rate of 88.7 percent. 15.2 mt is deducted from the ACL to accommodate the Tribal fishery (7.7 mt), the incidental open access fishery (2 mt), EFP catch (1.0 mt) and research catch (4.5 mt) resulting in a fishery HG of 106.8 mt. Recreational HGs are: 3.4 mt (Washington); 11.7 mt (Oregon); and 24.3 mt (California).

e/ Cowcod. A stock assessment for the Conception Area was conducted in 2013 and the stock was estimated to be at 33.9 percent of its unfished biomass in 2013. The Conception Area OFL of 55.0 mt is projected in the 2013 rebuilding analysis using an  $F_{MSY}$  proxy of  $F_{50\%}$ . The OFL contribution of 11.6 mt for the unassessed portion of the stock in the Monterey area is based on depletion-based stock reduction analysis. The OFLs for the Monterey and Conception areas were summed to derive the south of 40°10' N. lat. OFL of 66.6 mt. The ABC for the area south of 40°10' N. lat. is 59.9 mt. The assessed portion of the stock in the Conception Area is considered category 2, with a Conception area contribution to the ABC of 50.2 mt, which is an 8.7 percent reduction from the Conception area OFL ( $\sigma=0.72/P^*=0.45$ ). The unassessed portion of the stock in the Monterey area is considered a category 3 stock, with a contribution to the ABC of 9.7 mt, which is a 16.6 percent reduction from the Monterey area OFL ( $\sigma=1.44/P^*=0.45$ ). A single ACL of 10.0 mt is being set for both areas combined. The ACL of 10.0 mt is based on the rebuilding plan with a target year to rebuild of 2020 and an SPR harvest rate of 82.7 percent, which is equivalent to an exploitation rate (catch over age 11+ biomass) of 0.007. 2.0 mt is deducted from the ACL to accommodate EFP fishing (less than 0.02 mt) and research activity (2.0 mt), resulting

in a fishery HG of 8.0 mt. Any additional mortality in research activities will be deducted from the ACL. A single ACT of 4.0 mt is being set for both areas combined.

f/ Darkblotched rockfish. A 2013 stock assessment estimated the stock to be at 36 percent of its unfished biomass in 2013. The OFL of 574 mt is projected in the 2013 stock assessment using an  $F_{MSY}$  proxy of  $F_{50\%}$ . The ABC of 549 mt is a 4.4 percent reduction from the OFL ( $\sigma=0.36/P^*=0.45$ ) as it's a category 1 stock. The ACL of 338 mt is based on the current rebuilding plan with a target year to rebuild of 2025 and an SPR harvest rate of 64.9 percent. 20.8 mt is deducted from the ACL to accommodate the Tribal fishery (0.2 mt), the incidental open access fishery (18.4 mt), EFP catch (0.1 mt) and research catch (2.1 mt), resulting in a fishery HG of 317.2 mt. Of the 18.4 mt initially deducted from the ACL to account for mortality in the incidental open access fishery, a total of 7.0 mt is distributed to the mothership and catcher/processor sectors, 3.5 mt to each sector consistent with 660.60(c)(3)(ii), resulting in a 13.8 mt deduction from the ACL.

g/ Pacific Ocean Perch. A POP stock assessment was conducted in 2011 and the stock was estimated to be at 19.1 percent of its unfished biomass in 2011. The OFL of 842 mt for the area north of 40°10' N. lat. is projected in the 2011 rebuilding analysis using an  $F_{50\%}$   $F_{MSY}$  proxy. The ABC of 805 mt is a 4.4 percent reduction from the OFL ( $\sigma=0.36/P^*=0.45$ ) as it's a category 1 stock. The ACL of 158 mt is based on the current rebuilding plan with a target year to rebuild of 2051 and an SPR harvest rate of 86.4 percent. 15 mt is deducted from the ACL to accommodate the Tribal fishery (9.2 mt), the incidental open access fishery (0.6 mt), and research catch (5.2 mt), resulting in a fishery HG of 143.0 mt.

h/ Petrale sole. A 2013 stock assessment estimated the stock to be at 22.3 percent of its unfished biomass in 2013. The OFL of 2,946 mt is projected in the 2013 assessment using an  $F_{30\%}$   $F_{MSY}$  proxy. The ABC of 2,816 mt is a 4.4 percent reduction from the OFL ( $\sigma=0.36/P^*=0.45$ ) as it's a category 1 stock. The ACL is based on the 25-5 harvest control rule specified in the current rebuilding plan; since the stock is projected to be rebuilt at the start of 2014, the ACL is set equal to the ABC. 236.6 mt is deducted from the ACL to accommodate the Tribal fishery (220 mt), the incidental open access fishery (2.4 mt), and research catch (14.2 mt), resulting in a fishery HG of 2,579.4 mt.

i/ Yelloweye rockfish. A stock assessment update was conducted in 2011. The stock was estimated to be at 21.4 percent of its unfished biomass in 2011. The 52 mt coastwide OFL was projected in the 2011 rebuilding analysis using an  $F_{MSY}$  proxy of  $F_{50\%}$ . The ABC of 43 mt is a 16.7 percent reduction from the OFL ( $\sigma=0.72/P^*=0.40$ ) as it's a category 2 stock. The 18 mt ACL is based on the current rebuilding plan with a target year to rebuild of 2074 and an SPR harvest rate of 76.0 percent. 5.8 mt is deducted from the ACL to accommodate the Tribal fishery (2.3 mt), the incidental open access fishery (0.2 mt), EFP catch (0.03 mt) and research catch (3.3 mt) resulting in a fishery HG of 12.2 mt. Recreational HGs are: 2.9 mt (Washington); 2.6 mt (Oregon); and 3.4 mt (California).

j/ Arrowtooth flounder. The arrowtooth flounder stock was last assessed in 2007 and was estimated to be at 79 percent of its unfished biomass in 2007. The OFL of 6,599 mt is derived

from the 2007 assessment using an  $F_{30\%}$   $F_{MSY}$  proxy. The ABC of 5,497 mt is a 16.7 percent reduction from the OFL ( $\sigma=0.72/P^*=0.40$ ) as it's a category 2 stock. The ACL is set equal to the ABC because the stock is above its target biomass of  $B_{25\%}$ . 2,087 mt is deducted from the ACL to accommodate the Tribal fishery (2,041 mt), the incidental open access fishery (30 mt), and research catch (16.4 mt), resulting in a fishery HG of 3,410 mt.

k/ Black rockfish south (Oregon and California). A stock assessment was conducted for black rockfish south of  $45^{\circ}46'$  N. lat. (Cape Falcon, Oregon) to Central California (i.e., the southernmost extent of black rockfish, Love et al. 2002) in 2007. The biomass in the south was estimated to be at 70 percent of its unfished biomass in 2007. The OFL from the assessed area is derived from the 2007 assessment using an  $F_{MSY}$  harvest rate proxy of  $F_{50\%}$  plus 3 percent of the OFL from the stock assessment conducted for black rockfish north of  $45^{\circ}46'$  N. lat., to cover the portion of the stock occurring off Oregon north of Cape Falcon (the 3% adjustment is based on historical catch distribution). The resulting OFL for the area south of  $46^{\circ}16'$  N. lat. is 1,176 mt. The ABC of 1,124 mt is a 4.4 percent reduction from the OFL ( $\sigma=0.36/P^*=0.45$ ) as it's a category 1 stock. The 2015 ACL is 1,000 mt, which maintains the constant catch strategy designed to keep the stock above its target biomass of  $B_{40\%}$ . 1 mt is deducted from the ACL to accommodate EFP catch, resulting in a fishery HG of 999 mt. The black rockfish ACL, in the area south of  $46^{\circ}16'$  N. lat. (Columbia River), is subdivided with separate HGs for waters off Oregon (579 mt/58 percent) and for waters off California (420 mt/42 percent).

l/ Black rockfish north (Washington). A stock assessment was conducted for black rockfish north of  $45^{\circ}46'$  N. lat. (Cape Falcon, Oregon) in 2007. The biomass in the north was estimated to be at 53 percent of its unfished biomass in 2007. The OFL from the assessed area is derived from the 2007 assessment using an  $F_{MSY}$  harvest rate proxy of  $F_{50\%}$ . The resulting OFL for the area north of  $46^{\circ}16'$  N. lat. is 421 mt and is 97 percent of the OFL from the assessed area based on the area distribution of historical catch. The ABC of 402 mt for the north is a 4.4 percent reduction from the OFL ( $\sigma=0.36/P^*=0.45$ ) as it's a category 1 stock. The ACL is set equal to the ABC since the stock is above its target biomass of  $B_{40\%}$ . 14 mt is deducted from the ACL to accommodate the Tribal fishery, resulting in a fishery HG of 388 mt.

m/ Cabezon (California). A cabezon stock assessment was conducted in 2009. The cabezon spawning biomass in waters off California was estimated to be at 48.3 percent of its unfished biomass in 2009. The OFL of 161 mt is calculated using an  $F_{MSY}$  proxy of  $F_{45\%}$ . The ABC of 154 mt is based on a 4.4 percent reduction from the OFL ( $\sigma=0.36/P^*=0.45$ ) as it's a category 1 stock. The ACL is set equal to the ABC because the stock is above its target biomass of  $B_{40\%}$ . There are no deductions from the ACL so the fishery HG is equal to the ACL of 154 mt.

n/ Cabezon (Oregon). A cabezon stock assessment was conducted in 2009. The cabezon spawning biomass in waters off Oregon was estimated to be at 52 percent of its unfished biomass in 2009. The OFL of 49 mt is calculated using an  $F_{MSY}$  proxy of  $F_{45\%}$ . The ABC of 47 mt is based on a 4.4 percent reduction from the OFL ( $\sigma=0.36/P^*=0.45$ ) as it's a category 1 species. The ACL is set equal to the ABC because the stock is above its target biomass of  $B_{40\%}$ . There are no deductions from the ACL so the fishery HG is also equal to the ACL of 47 mt.

o/ California scorpionfish was assessed in 2005 and was estimated to be at 79.8 percent of its unfished biomass in 2005. The OFL of 119 mt is projected in the 2005 assessment using an  $F_{MSY}$  harvest rate proxy of  $F_{50\%}$ . The ABC of 114 mt is a 4.4 percent reduction from the OFL ( $\sigma=0.36/P^*=0.45$ ) as it's a category 1 stock. The ACL is set equal to the ABC because the stock is above its target biomass of  $B_{40\%}$ . 2 mt is deducted from the ACL to accommodate the incidental open access fishery, resulting in a fishery HG of 112 mt.

p/ Chilipepper. The coastwide chilipepper stock was assessed in 2007 and estimated to be at 70 percent of its unfished biomass in 2006. Chilipepper are managed with stock-specific harvest specifications south of  $40^{\circ}10'$  N. lat. and within the Minor Shelf Rockfish complex north of  $40^{\circ}10'$  N. lat. Projected OFLs are stratified north and south of  $40^{\circ}10'$  N. lat. based on the average 1998-2008 assessed area catch, which is 93 percent for the area south of  $40^{\circ}10'$  N. lat. and 7 percent for the area north of  $40^{\circ}10'$  N. lat. The OFL of 1,703 mt for the area south of  $40^{\circ}10'$  N. lat. is projected in the 2007 assessment using an  $F_{MSY}$  proxy of  $F_{50\%}$ . The ABC of 1,628 mt is a 4.4 percent reduction from the OFL ( $\sigma=0.36/P^*=0.45$ ) as it's a category 1 stock. The ACL is set equal to the ABC because the stock is above its target biomass of  $B_{40\%}$ . 24 mt is deducted from the ACL to accommodate the incidental open access fishery (5 mt), EFP fishing (10 mt), and research catch (9 mt), resulting in a fishery HG of 1,604 mt.

q/ Dover sole. A 2011 Dover sole assessment estimated the stock to be at 83.7 percent of its unfished biomass in 2011. The OFL of 66,871 mt is projected in the 2011 stock assessment using an  $F_{MSY}$  proxy of  $F_{30\%}$ . The ABC of 63,929 mt is a 4.4 percent reduction from the OFL ( $\sigma=0.36/P^*=0.45$ ) as it's a category 1 stock. The ACL could be set equal to the ABC because the stock is above its target biomass of  $B_{25\%}$ . However, the ACL of 50,000 mt is set at a level below the ABC and higher than the maximum historical landed catch. 1,594 mt is deducted from the ACL to accommodate the Tribal fishery (1,497 mt), the incidental open access fishery (55 mt), and research catch (41.9 mt), resulting in a fishery HG of 48,406 mt.

r/ English sole. A 2013 stock assessment was conducted, which estimated the stock to be at 88 percent of its unfished biomass in 2013. The OFL of 10,792 mt is projected in the 2013 assessment using an  $F_{MSY}$  proxy of  $F_{30\%}$ . The ABC of 9,853 mt is an 8.7 percent reduction from the OFL ( $\sigma=0.72/P^*=0.45$ ) as it is a category 2 stock. The ACL is set equal to the ABC because the stock is above its target biomass of  $B_{25\%}$ . 213 mt is deducted from the ACL to accommodate the Tribal fishery (200 mt), the incidental open access fishery (7 mt) and research catch (5.8 mt), resulting in a fishery HG of 9,640 mt.

s/ Lingcod north. A lingcod stock assessment was conducted in 2009. The lingcod spawning biomass off Washington and Oregon was estimated to be at 62 percent of its unfished biomass in 2009. The OFL for Washington and Oregon of 1,898 mt is calculated using an  $F_{MSY}$  proxy of  $F_{45\%}$ . The OFL is re-apportioned by adding 48% of the OFL from California, resulting in an OFL of 3,010 mt for the area north of  $40^{\circ}10'$  N. lat. The ABC of 2,830 mt is based on a 4.4 percent reduction from the OFL ( $\sigma=0.36/P^*=0.45$ ) for the area north of  $42^{\circ}$  N. lat. as it's a category 1 stock, and an 8.7 percent reduction from the OFL ( $\sigma=0.72/P^*=0.45$ ) for the area between  $42^{\circ}$  N. lat. and  $40^{\circ}10'$  N. lat. as it's a category 2 stock. The ACL is set equal to the ABC. 278 mt is

deducted from the ACL for the Tribal fishery (250 mt), the incidental open access fishery (16 mt), EFP catch (0.5 mt) and research catch (11.7 mt), resulting in a fishery HG of 2,552 mt.

t/ Lingcod south . A lingcod stock assessment was conducted in 2009. The lingcod spawning biomass off California was estimated to be at 74 percent of its unfished biomass in 2009. The OFL for California of 2,317 mt is projected in the assessment using an  $F_{MSY}$  proxy of  $F_{45\%}$ . The OFL is re-apportioned by subtracting 48% of the OFL, resulting in an OFL of 1,205 mt for the area south of 40°10' N. lat. The ABC of 1,004 mt is based on a 16.7 percent reduction from the OFL ( $\sigma=0.72/P^*=0.40$ ) as it's a category 2 stock. The ACL is set equal to the ABC since the stock is above its target biomass of  $B_{40\%}$ . 9 mt is deducted from the ACL to accommodate the incidental open access fishery (7 mt), EFP fishing (1 mt), and research catch (1.1 mt), resulting in a fishery HG of 995 mt.

u/ Longnose skate. A stock assessment was conducted in 2007 and the stock was estimated to be at 66 percent of its unfished biomass. The OFL of 2,449 mt is derived from the 2007 stock assessment using an  $F_{MSY}$  proxy of  $F_{50\%}$ . The ABC of 2,341 mt is a 4.4 percent reduction from the OFL ( $\sigma=0.36/P^*=0.45$ ) as it's a category 1 stock. The ACL of 2,000 mt is a fixed harvest level that provides greater access to the stock and is less than the ABC. 73 mt is deducted from the ACL to accommodate the Tribal fishery (56 mt), incidental open access fishery (3.8 mt), and research catch (13.2 mt), resulting in a fishery HG of 1,927 mt.

v/ Longspine thornyhead. A 2013 longspine thornyhead coastwide stock assessment estimated the stock to be at 75 percent of its unfished biomass in 2013. A coastwide OFL of 5,007 mt is projected in the 2013 stock assessment using an  $F_{50\%}$   $F_{MSY}$  proxy. The ABC of 4,171 mt is a 16.7 percent reduction from the OFL ( $\sigma=0.72/P^*=0.40$ ) as it's a category 2 stock. For the portion of the stock that is north of 34°27' N. lat., the ACL is 3,170 mt, and is 76 percent of the coastwide ABC based on the average swept-area biomass estimates (2003-2012) from the NMFS NWFSC trawl survey. 47 mt is deducted from the ACL to accommodate the Tribal fishery (30 mt), the incidental open access fishery (3 mt), and research catch (13.5 mt) resulting in a fishery HG of 3,124 mt. For that portion of the stock south of 34°27' N. lat. the ACL is 1,001 mt and is 24 percent of the coastwide ABC based on the average swept-area biomass estimates (2003-2012) from the NMFS NWFSC trawl survey. 3 mt is deducted from the ACL to accommodate the incidental open access fishery (2 mt), and research catch (1 mt) resulting in a fishery HG of 998 mt.

w/ Pacific cod. The 3,200 mt OFL is based on the maximum level of historic landings. The ABC of 2,221 mt is a 30.6 percent reduction from the OFL ( $\sigma=1.44/P^*=0.40$ ) as it's a category 3 stock. The 1,600 mt ACL is the OFL reduced by 50 percent as a precautionary adjustment. 509 mt is deducted from the ACL to accommodate the Tribal fishery (500 mt), research catch (7 mt), and the incidental open access fishery (2.0 mt), resulting in a fishery HG of 1,091 mt.

x/ Pacific whiting. The coastwide stock assessment was conducted in 2015 and estimated the stock to be at 74 percent of its unfished biomass. The 2015 OFL of 804,576 mt is based on the 2015 assessment with an  $F_{40\%}$   $F_{MSY}$  proxy. The 2015 coastwide, unadjusted Total Allowable Catch (TAC) of 383,365 mt is based on the 2015 stock assessment. Consistent with the

provisions of the Pacific Hake/Whiting Agreement, up to 15 percent of each party's unadjusted 2014 TAC (41,842 mt for the U.S. and 14,793 mt for Canada) is added to the 2015 unadjusted TAC, resulting in an adjusted coastwide 2015 TAC of 440,000 mt. The U.S. TAC is 73.88 percent of the coastwide TAC. The U.S. adjusted 2015 TAC is 325,072 mt. From the adjusted U.S. TAC, 56,888 mt is deducted to accommodate the Tribal fishery, and 1,500 mt is deducted to accommodate research and bycatch in other fisheries, resulting in a fishery HG of 266,684 mt. The TAC for Pacific whiting is established under the provisions of the Pacific Hake/Whiting Agreement with Canada and the Pacific Whiting Act of 2006, 16 U.S.C. 7001-2010, and the international exception applies. Therefore, no ABC or ACL values are provided for Pacific whiting.

y/ Sablefish north. A coastwide sablefish stock assessment was conducted in 2011. The coastwide sablefish biomass was estimated to be at 33 percent of its unfished biomass in 2011. The coastwide OFL of 7,857 mt is projected in the 2011 stock assessment using an  $F_{MSY}$  proxy of  $F_{45\%}$ . The ABC of 7,173 mt is an 8.7 percent reduction from the OFL ( $\sigma=0.36/P^*=0.40$ ). The 40-10 adjustment is applied to the ABC to derive a coastwide ACL value because the stock is in the precautionary zone. This coastwide ACL value is not specified in regulations. The coastwide ACL value is apportioned north and south of 36° N. lat., using the 2003-2010 average estimated swept area biomass from the NMFS NWFSC trawl survey, with 73.6 percent apportioned north of 36° N. lat. and 26.4 percent apportioned south of 36° N. lat. The northern ACL is 4,793 mt and is reduced by 479 mt for the tribal allocation (10 percent of the ACL north of 36° N. lat.). The 479 mt Tribal allocation is reduced by 1.6 percent to account for discard mortality. Detailed sablefish allocations are shown in Table 1c.

z/ Sablefish south. The ACL for the area south of 36° N. lat. is 1,719 mt (26.4 percent of the calculated coastwide ACL value). 5 mt is deducted from the ACL to accommodate the incidental open access fishery (2 mt) and research catch (3 mt), resulting in a fishery HG of 1,714 mt.

aa/ Shortbelly rockfish. A non-quantitative shortbelly rockfish assessment was conducted in 2007. The spawning stock biomass of shortbelly rockfish was estimated to be 67 percent of its unfished biomass in 2005. The OFL of 6,950 mt is based on the estimated MSY in the 2007 stock assessment. The ABC of 5,789 mt is a 16.7 percent reduction of the OFL ( $\sigma=0.72/P^*=0.40$ ) as it's a category 2 stock. The 500 mt ACL is set to accommodate incidental catch when fishing for co-occurring healthy stocks and in recognition of the stock's importance as a forage species in the California Current ecosystem. 2 mt is deducted from the ACL to accommodate research catch, resulting in a fishery HG of 498 mt.

bb/ Shortspine thornyhead. A 2013 coastwide shortspine thornyhead stock assessment estimated the stock to be at 74.2 percent of its unfished biomass in 2013. A coastwide OFL of 3,203 mt is projected in the 2013 stock assessment using an  $F_{50\%}$   $F_{MSY}$  proxy. The coastwide ABC of 2,668 mt is a 16.7 percent reduction from the OFL ( $\sigma=0.72/P^*=0.40$ ) as it's a category 2 stock. For the portion of the stock that is north of 34°27' N. lat., the ACL is 1,745 mt. The northern ACL is 65.4 percent of the coastwide ABC based on the average swept-area biomass estimates (2003-2012) from the NMFS NWFSC trawl survey. 59 mt is deducted from the ACL to accommodate the Tribal fishery (50 mt), the incidental open access fishery (2 mt), and research catch (7 mt)

resulting in a fishery HG of 1,686 mt for the area north of 34°27' N. lat. For that portion of the stock south of 34°27' N. lat. the ACL is 923 mt. The southern ACL is 35.6 percent of the coastwide ABC based on the average swept-area biomass estimates (2003-2012) from the NMFS NWFSC trawl survey. 42 mt is deducted from the ACL to accommodate the incidental open access fishery (41 mt) and research catch (1 mt), resulting in a fishery HG of 881 mt for the area south of 34°27' N. lat.

cc/ Spiny dogfish. A coastwide spiny dogfish stock assessment was conducted in 2011. The coastwide spiny dogfish biomass was estimated to be at 63 percent of its unfished biomass in 2011. The coastwide OFL of 2,523 mt is derived from the 2011 assessment using an  $F_{MSY}$  proxy of  $F_{50\%}$ . The coastwide ABC of 2,101 mt is a 16.7 percent reduction from the OFL ( $\sigma=0.72/P^*=0.40$ ) as it's a category 2 stock. The ACL is set equal to the ABC because the stock is above its target biomass of  $B_{40\%}$ . 338 mt is deducted from the ACL to accommodate the Tribal fishery (275 mt), the incidental open access fishery (49.5 mt), EFP catch (1 mt), and research catch (12.5 mt), resulting in a fishery HG of 1,763 mt.

dd/ Splitnose rockfish. A splitnose rockfish coastwide assessment was conducted in 2009 that estimated the stock to be at 66 percent of its unfished biomass in 2009. Splitnose rockfish in the north is managed in the Minor Slope Rockfish complex and with species-specific harvest specifications south of 40°10' N. lat. The coastwide OFL is projected in the 2009 assessment using an  $F_{MSY}$  proxy of  $F_{50\%}$ . The coastwide OFL is apportioned north and south of 40°10' N. lat. based on the average 1916-2008 assessed area catch resulting in 64.2 percent of the coastwide OFL apportioned south of 40°10' N. lat., and 35.8 percent apportioned for the contribution of splitnose rockfish to the northern Minor Slope Rockfish complex. The southern OFL of 1,794 mt results from the apportionment described above. The southern ABC of 1,715 mt is a 4.4 percent reduction from the southern OFL ( $\sigma=0.36/P^*=0.45$ ) as it's a category 1 stock. The ACL is set equal to the ABC because the stock is estimated to be above its target biomass of  $B_{40\%}$ . 10.5 mt is deducted from the ACL to accommodate research catch (9 mt) and EFP catch (1.5 mt), resulting in a fishery HG of 1,705 mt.

ee/ Starry Flounder. The stock was assessed in 2005 and was estimated to be above 40 percent of its unfished biomass in 2005 (44 percent in Washington and Oregon, and 62 percent in California). The coastwide OFL of 1,841 mt is derived from the 2005 assessment using an  $F_{MSY}$  proxy of  $F_{30\%}$ . The ABC of 1,534 mt is a 16.7 percent reduction from the OFL ( $\sigma=0.72/P^*=0.40$ ) as it's a category 2 stock. The ACL is set equal to the ABC because the stock is estimated to be above its target biomass of  $B_{25\%}$ . 10.3 mt is deducted from the ACL to accommodate the Tribal fishery (2 mt), and the incidental open access fishery (8.3 mt), resulting in a fishery HG of 1,524 mt.

ff/ Widow rockfish. The widow rockfish stock was assessed in 2011 and was estimated to be at 51.1 percent of its unfished biomass in 2011. The OFL of 4,137 mt is projected in the 2011 stock assessment using an  $F_{50\%}$   $F_{MSY}$  proxy. The ABC of 3,929 mt is a 5 percent reduction from the OFL ( $\sigma=0.41/P^*=0.45$ ). A unique sigma of 0.41 was calculated for widow rockfish since the variance in estimated biomass was greater than the 0.36 used as a proxy for other category 1 stocks. The ACL could be set equal to the ABC because the stock is above its target biomass of

B<sub>40%</sub>. However, the ACL of 2,000 mt is less than the ABC due to high uncertainty in estimated biomass, yet this level of allowable harvest will allow access to healthy co-occurring species, such as yellowtail rockfish. 120.2 mt is deducted from the ACL to accommodate the Tribal fishery (100 mt), the incidental open access fishery (3.3 mt), EFP catch (9 mt), and research catch (7.9 mt), resulting in a fishery HG of 1,880 mt.

gg/ Yellowtail rockfish. A 2013 yellowtail rockfish stock assessment was conducted for the portion of the population north of 40°10' N. lat. The estimated stock depletion is 69 percent of its unfished biomass in 2013. The OFL of 7,218 mt is projected in the 2013 stock assessment using an F<sub>MSY</sub> proxy of F<sub>50%</sub>. The ABC of 6,590 mt is an 8.7 percent reduction from the OFL ( $\sigma=0.72/P^*=0.45$ ) as it is a category 2 stock. The ACL is set equal to the ABC because the stock is above its target biomass of B<sub>40%</sub>. 1,029.6 mt is deducted from the ACL to accommodate the Tribal fishery (1,000 mt), the incidental open access fishery (3 mt), EFP catch (10 mt), and research catch (16.6 mt), resulting in a fishery HG of 5,560 mt.

hh/ Minor Nearshore Rockfish north. The OFL for Minor Nearshore Rockfish north of 40°10' N. lat. of 88 mt is the sum of the OFL contributions for the component species managed in the complex. The ABCs for the minor rockfish complexes are based on a sigma value of 0.72 for category 2 stocks (i.e., blue rockfish in California, brown rockfish, China rockfish, and copper rockfish) and a sigma value of 1.44 for category 3 stocks (all others) with a P\* of 0.45. The resulting ABC of 77 mt is the summed contribution of the ABCs for the component species. The ACL of 69 mt is the sum of contributing ABCs of healthy assessed stocks and unassessed stocks plus the ACL contributions for blue rockfish in California and China rockfish where the 40-10 adjustment was applied to the ABC contributions for these two stocks, because those stocks are in the precautionary zone. No deductions are made to the ACL, thus the fishery HG is equal to the ACL, which is 69 mt. Between 40°10' N. lat. and 42° N. lat. the Minor Nearshore Rockfish complex north has a harvest guideline of 23.7 mt. Blue rockfish south of 42° N. lat. has a species-specific HG, described in footnote kk/.

ii/ Minor Shelf Rockfish north. The OFL for Minor Shelf Rockfish north of 40°10' N. lat. of 2,209 mt is the sum of the OFL contributions for the component species within the complex. The ABCs for the minor rockfish complexes are based on a sigma value of 0.72 for category 2 stocks (i.e., greenspotted rockfish between 40°10' and 42° N. lat. and greenstriped rockfish) and a sigma value of 1.44 for category 3 stocks (all others) with a P\* of 0.45. The resulting ABC of 1,944 mt is the summed contribution of the ABCs for the component species. The ACL of 1,944 mt is the sum of contributing ABCs of healthy assessed stocks and unassessed stocks, plus the ACL contribution of greenspotted rockfish in California where the 40-10 adjustment was applied to the ABC contribution because the stock is in the precautionary zone (the ACL is slightly less than the ABC but rounds to the ABC value). 72 mt is deducted from the ACL to accommodate the Tribal fishery (30 mt), the incidental open access fishery (26 mt), EFP catch (3 mt), and research catch (13.4 mt), resulting in a fishery HG of 1,872 mt.

jj/ Minor Slope Rockfish north. The OFL for Minor Slope Rockfish north of 40°10' N. lat. of 1,831 mt is the sum of the OFL contributions for the component species within the complex. The ABCs for the Minor Slope Rockfish complexes are based on a sigma value of 0.39 for aurora

rockfish, a sigma value of 0.36 for other category 1 stocks (i.e., splitnose rockfish), a sigma value of 0.72 for category 2 stocks (i.e., rougheye rockfish, blackspotted rockfish and sharpchin rockfish), and a sigma value of 1.44 for category 3 stocks (all others) with a  $P^*$  of 0.45. A unique sigma of 0.39 was calculated for aurora rockfish since the variance in estimated spawning biomass was greater than the 0.36 used as a proxy for other category 1 stocks. The resulting ABC of 1,693 mt is the summed contribution of the ABCs for the component species. The ACL is set equal to the ABC because all the assessed component stocks are above the target biomass of  $B_{40\%}$ . 64 mt is deducted from the ACL to accommodate the Tribal fishery (36 mt), the incidental open access fishery (19 mt), EFP catch (1 mt), and research catch (8.1 mt), resulting in a fishery HG of 1,629 mt.

kk/ Minor Nearshore Rockfish south. The OFL for the Minor Nearshore Rockfish complex south of  $40^{\circ}10'$  N. lat. of 1,313 mt is the sum of the OFL contributions for the component species within the complex. The ABC for the southern Minor Nearshore Rockfish complex is based on a sigma value of 0.36 for category 1 stocks (i.e., gopher rockfish north of  $34^{\circ}27'$  N. lat.), a sigma value of 0.72 for category 2 stocks (i.e., blue rockfish north of  $34^{\circ}27'$  N. lat., brown rockfish, China rockfish, and copper rockfish), and a sigma value of 1.44 for category 3 stocks (all others) with a  $P^*$  of 0.45. The resulting ABC of 1,169 mt is the summed contribution of the ABCs for the component species. The ACL of 1,114 mt is the sum of contributing ABCs of healthy assessed stocks and unassessed stocks, plus the ACL contribution for blue rockfish north of  $34^{\circ}27'$  N. lat. where the 40-10 adjustment was applied to the ABC contribution for this stock because it is in the precautionary zone. 4 mt is deducted from the ACL to accommodate the incidental open access fishery (1.4 mt) and research catch (2.6 mt), resulting in a fishery HG of 1,110 mt. Blue rockfish south of  $42^{\circ}$  N. lat. has a species-specific HG set equal to the 40-10-adjusted ACL for the portion of the stock north of  $34^{\circ}27'$  N. lat. (133.6 mt) plus the ABC contribution for the unassessed portion of the stock south of  $34^{\circ}27'$  N. lat. (60.8 mt). The California (i.e., south of  $42^{\circ}$  N. lat.) blue rockfish HG is 194.4 mt.

ll/ Minor Shelf Rockfish south. The OFL for the Minor Shelf Rockfish complex south of  $40^{\circ}10'$  N. lat. of 1,918 mt is the sum of the OFL contributions for the component species within the complex. The ABCs for the southern Minor Shelf Rockfish complex is based on a sigma value of 0.72 for category 2 stocks (i.e., greenspotted and greenstriped rockfish) and a sigma value of 1.44 for category 3 stocks (all others) with a  $P^*$  of 0.45. The resulting ABC of 1,625 mt is the summed contribution of the ABCs for the component species. The ACL of 1,624 mt is the sum of contributing ABCs of healthy assessed stocks and unassessed stocks, plus the ACL contribution of greenspotted rockfish in California where the 40-10 adjustment was applied to the ABC contribution for this stock because it is in the precautionary zone. 49 mt is deducted from the ACL to accommodate the incidental open access fishery (9 mt), EFP catch (30 mt), and research catch (9.6 mt), resulting in a fishery HG of 1,575 mt.

mm/ Minor Slope Rockfish south. The OFL for the Minor Slope Rockfish complex south of  $40^{\circ}10'$  N. lat. of 813 mt is the sum of the OFL contributions for the component species within the complex. The ABC for the southern Minor Slope Rockfish complex is based on a sigma value of 0.39 for aurora rockfish, a sigma value of 0.72 for category 2 stocks (i.e., blackgill

rockfish, roughey rockfish, blackspotted rockfish, and sharpchin rockfish), and a sigma value of 1.44 for category 3 stocks (all others) with a  $P^*$  of 0.45. A unique sigma of 0.39 was calculated for aurora rockfish since the variance in estimated biomass was greater than the 0.36 used as a proxy for other category 1 stocks. The resulting ABC of 705 mt is the summed contribution of the ABCs for the component species. The ACL of 693 mt is the sum of contributing ABCs of healthy assessed stocks and unassessed stocks, plus the ACL contribution of blackgill rockfish where the 40-10 adjustment was applied to the ABC contribution for this stock because it is in the precautionary zone. 20 mt is deducted from the ACL to accommodate the incidental open access fishery (17 mt), EFP catch (1 mt), and research catch (2 mt), resulting in a fishery HG of 673 mt. Blackgill rockfish has a species-specific HG set equal to the species' contribution to 40-10-adjusted ACL. The blackgill rockfish HG is 114 mt.

nn/ Other Flatfish. The Other Flatfish complex is comprised of flatfish species managed in the PCGFMP that are not managed with species-specific OFLs/ABCs/ACLs. Most of the species in the Other Flatfish complex are unassessed and include butter sole, curlfin sole, flathead sole, Pacific sanddab (assessed in 2013 but the assessment results were too uncertain to inform harvest specifications), rock sole, sand sole, and rex sole (assessed in 2013). The Other Flatfish OFL of 11,453 mt is based on the sum of the OFL contributions of the component stocks. The ABC of 8,749 mt is based on a sigma value of 0.72 for category 2 stocks (i.e., rex sole) and a sigma value of 1.44 for category 3 stocks (all others) with a  $P^*$  of 0.40. The ACL is set equal to the ABC since all of the assessed stocks (i.e., Pacific sanddabs and rex sole) were above their target biomass of  $B_{25\%}$ . 204 mt is deducted from the ACL to accommodate the Tribal fishery (60 mt), the incidental open access fishery (125 mt), and research catch (19 mt), resulting in a fishery HG of 8,545 mt.

oo/ Other Fish. The Other Fish complex is comprised of kelp greenling coastwide, cabezon off Washington, and leopard shark coastwide. These species are unassessed. The OFL of 291 mt is the sum of the OFL contributions for kelp greenling off California (the SSC has not approved methods for calculating the OFL contributions for kelp greenling off Oregon and Washington), cabezon off Washington, and leopard shark coastwide. The ABC of 242 mt is the sum of ABC contributions for kelp greenling off California, cabezon off Washington and leopard shark coastwide calculated by applying a  $P^*$  of 0.45 and a sigma of 1.44 to the OFL contributions for those stocks. The ACL is set equal to the ABC. There are no deductions from the ACL so the fishery HG is equal to the ACL of 242 mt.

**Table 1b to Part 660, Subpart C – 2015, Allocations by Species or Species Group. (Weight in Metric Tons)**

Species	Area	Fishery HG or ACT	Trawl		Non-trawl	
			%	Mt	%	Mt
BOCACCIO a/	S of 40°10' N. lat.	340.7	N/A	81.9	N/A	258.8
CANARY ROCKFISH a/ b/	Coastwide	106.8	N/A	56.9	N/A	49.9
COWCOD a/ c/	S of 40°10' N. lat.	4	N/A	1.4	N/A	2.6
DARKBLOTCHED ROCKFISH d/	Coastwide	317.2	95%	301.3	5%	15.9
PACIFIC OCEAN PERCH e/	N of 40°10' N. lat.	143	95%	135.9	5%	7.2
PETRALE SOLE a/	Coastwide	2,579.40	N/A	2,544.4	N/A	35
YELLOW EYE ROCKFISH a/	Coastwide	12.2	N/A	1	N/A	11.2
Arrowtooth flounder	Coastwide	3,410	95%	3,239	5%	170
Chilipepper	S of 40°10' N. lat.	1,604	75%	1,203	25%	401
Dover sole	Coastwide	48,406	95%	45,986	5%	2,420
English sole	Coastwide	9,640	95%	9,158	5%	482
Lingcod	N of 40°10' N. lat.	2,552	45%	1,148	55%	1,404
Lingcod	S of 40°10' N. lat.	995	45%	448	55%	547
Longnose skate a/	Coastwide	1,927	90%	1,734	10%	193
Longspine thornyhead	N of 34°27' N. lat.	3,124	95%	2,967	5%	156
Pacific cod	Coastwide	1,091	95%	1,036	5%	55
Pacific whiting	Coastwide	266,684	100%	266,684	0%	0
Sablefish	N of 36° N. lat.	0	See Table 1 c			
Sablefish	S of 36° N. lat.	1,714	42%	720	58%	994
Shortspine thornyhead	N of 34°27' N. lat.	1,686	95%	1,601	5%	84
Shortspine thornyhead	S of 34°27' N. lat.	881	NA	50	NA	831
Splitnose	S of 40°10' N. lat.	1,705	95%	1,619	5%	85
Starry flounder	Coastwide	1,524	50%	762	50%	762
Widow rockfish f/	Coastwide	1,880	91%	1,711	9%	169
Yellowtail rockfish	N of 40°10' N. lat.	5,560	88%	4,893	12%	667
Minor Shelf Rockfish complex a/	N of 40°10' N. lat.	1,872	60.20%	1,127	39.80%	745
Minor Shelf Rockfish complex a/	S of 40°10' N. lat.	1,575	12.20%	192	87.80%	1,383
Minor Slope Rockfish complex	N of 40°10' N. lat.	1,629	81%	1,319	19%	309
Minor Slope Rockfish complex	S of 40°10' N. lat.	673	63%	424	37%	249
Other Flatfish complex	Coastwide	8,545	90%	7,691	10%	855

- a/ Allocations decided through the biennial specification process.
- b/ 13.7 mt of the total trawl allocation of canary rockfish is allocated to the at-sea whiting fisheries, as follows: 5.7 mt for the mothership fishery, and 8.0 mt for the catcher/processor fishery.
- c/ The cowcod fishery harvest guideline is further reduced to an ACT of 4.0 mt.
- d/ Consistent with regulations at §660.55(c), 9 percent (27.1 mt) of the total trawl allocation for darkblotched rockfish is allocated to the whiting fisheries, as follows: 11.4 mt for the shorebased IFQ fishery, 6.5 mt for the mothership fishery, and 9.2 mt for the catcher/processor fishery. The amounts available to the mothership and catcher/processor fisheries were each raised by 3.5 mt, to 10 mt for the mothership fishery and to 12.7 mt for the catcher/processor fishery, by distributing 7.0 mt of the 18.4 mt initially deducted from the ACL to account for mortality in the incidental open access fishery, consistent with 660.60(c)(3)(ii). The tonnage calculated here for the whiting portion of the shorebased IFQ fishery contributes to the total shorebased trawl allocation, which is found at 660.140(d)(1)(ii)(D).
- e/ Consistent with regulations at §660.55(c), 30 mt of the total trawl allocation for POP is allocated to the whiting fisheries, as follows: 12.6 mt for the shorebased IFQ fishery, 7.2 mt for the mothership fishery, and 10.2 mt for the catcher/processor fishery. The tonnage calculated here for the whiting portion of the shorebased IFQ fishery contributes to the total shorebased trawl allocation, which is found at 660.140(d)(1)(ii)(D).
- f/ Consistent with regulations at §660.55(c), 500 mt of the total trawl allocation for widow rockfish is allocated to the whiting fisheries, as follows: 210 mt for the shorebased IFQ fishery, 120 mt for the mothership fishery, and 170 mt for the catcher/processor fishery. The tonnage calculated here for the whiting portion of the shorebased IFQ fishery contributes to the total shorebased trawl allocation, which is found at 660.140(d)(1)(ii)(D).

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