

Fishery Conservation and Management

Pt. 660, Subpt. C, Table 1b

TABLE 1b TO PART 660, SUBPART C—2009, HARVEST GUIDELINES FOR MINOR ROCKFISH BY DEPTH SUB-GROUPS (WEIGHTS IN METRIC TONS)

Table 1b. To Part 660, Subpart C-2009, Harvest Guidelines for Minor Rockfish by Depth Sub-groups (weights in metric tons).

Species	Total Catch ABC	Total Catch OY	Recreational HG	Commercial HG	Limited Entry HG		Open Access HG	
					Mt	%	Mt	%
Minor Rockfish dd/ N of 40°10' N. lat.	3,678	2,283	--	--	--	91.7	--	8.3
Nearshore		155	--	--				
Shelf		968	--	--				
Slope		1,160	--	--				
Minor Rockfish ee/ S of 40°10' N. lat.	3,384	1,990	--	--	--	55.7	--	44.3
Nearshore		650	--	--				
Shelf		714	--	--				
Slope		626	--	--				

Table 1c. To Part 660, Subpart C-2009, Open Access and Limited Entry Allocations by Species or Species Group. (Weights in Metric Tons)

Species	Commercial Total Catch HGs	Commercial Total Catch HGs			
		Limited Entry		Open Access	
		Mt	%	Mt	%
Lingcod N of 42° N. lat.	--	--	81.0	--	19.0
S of 42° N. lat.					
Sablefish kk/ N of 36° N. lat.	6,347	5,750	90.6	597	9.4
Widow ll/	460.4	--	97.0	--	3.0
Canary ll/	42.3	--	87.7	--	12.3
Chilipepper	2,885	1,607	55.7	1,278	44.3
Bocaccio ll/	206.4	--	55.7	--	44.3
Yellowtail	--	--	91.7	--	8.3
Shortspine thornyhead N of 34°27' N. lat.	1,608	1,603	99.7	5	0.27
Minor Rockfish N of 40°10' N. lat.	--	--	91.7	--	8.3
S of 40°10' N. lat.	--	--	55.7	--	44.3

^aABCs apply only to the U.S. portion of the Vancouver area.

^bOptimum Yields (OYs) and Harvest Guidelines (HG) are specified as total catch val-

ues. A harvest guideline is a specified harvest target and not a quota. The use of this term may differ from the use of similar terms in state regulation.

^cLingcod—A coastwide lingcod stock assessment was prepared in 2005. The lingcod biomass was estimated to be at 64 percent of its unfished biomass coastwide in 2005. The ABC of 5,278 mt was calculated using an FMSY proxy of F45%. Because the stock is above B40% coastwide, the coastwide OY was set equal to the ABC. The tribal harvest guideline is 250 mt.

^d“Other species”—these species are neither common nor important to the commercial and recreational fisheries in the areas footnoted. Accordingly, these species are included in the harvest guidelines of “other fish”, “other rockfish” or “remaining rockfish”.

^ePacific Cod—The 3,200 mt ABC for the Vancouver-Columbia area is based on historical landings data. The 1,600 mt OY is the ABC reduced by 50 percent as a precautionary adjustment. A tribal harvest guideline of 400 mt is deducted from the OY resulting in a commercial OY of 1,200 mt.

^fPacific whiting—The most recent stock assessment was prepared in February 2009. The stock assessment base model estimated the Pacific whiting biomass to be at 32 percent (50th percentile estimate of depletion) of its unfished biomass in 2009. The U.S. Canada coastwide ABC is 253,582 mt, the U.S. share of the ABC is 187,346 mt (73.88 percent of the coastwide ABC). The U.S.-Canada coastwide OY is 184,000 mt with a corresponding U.S. OY of 135,939 mt. The tribal set aside is 50,000 mt. The amount estimated to be taken as research catch and in non-groundfish fisheries is 4,000 mt. The commercial OY is 81,939 mt. Each sector receives a portion of the commercial OY, with the catcher/processors getting 34 percent (27,859 mt), motherships getting 24 percent (19,665 mt), and the shore-based sector getting 42 percent (34,414 mt). The allocation for the fishery south of 42°N. lat. is 1,721 mt.

^gSablefish—A coastwide sablefish stock assessment was prepared in 2007. The sablefish biomass was estimated to be at 38.3 percent of its unfished biomass in 2007. The coastwide ABC of 9,914 mt was based on the new stock assessment with a FMSY proxy of F45%. The 40–10 harvest policy was applied to the ABC then apportioned between the northern and southern areas with 72 percent going to the area north of 36° N. lat. and 28 percent going to the area south of 36° N. lat. The OY for the area north of 36° N. lat. is 7,052 mt. When establishing the OY for the area south of 36° N. lat. a 50 percent reduction was made resulting in a Conception area OY of 1,371 mt. The coastwide OY of 8,423 mt is the sum of the northern and southern area OYs. The tribal allocation for the area north of 36° N. lat. is 705 mt (10 percent of the OY north of 36° N. lat.), which is further reduced by 1.6 percent (11 mt) to account for discard mortality. The tribal landed catch value is 694 mt.

^hCabezon south of 42° N. lat. was assessed in 2005. The Cabezon stock was estimated to be at 40 percent of its unfished biomass north of 34° 27'N. lat. and 28 percent of its unfished biomass south of 34° 27'N. lat. in 2005. The ABC of 106 mt is based on the 2005 stock assessment with a harvest rate proxy of F45%. The OY of 69 mt is consistent with the application of a 60–20 harvest rate policy specified in the California Nearshore Fishery Management Plan.

ⁱDover sole north of 34° 27' N. lat. was assessed in 2005. The Dover sole biomass was estimated to be at 59.8 percent of its unfished biomass in 2005 and was projected to be increasing. The ABC of 29,453 mt is based on the results of the 2005 assessment with an FMSY proxy of F40%. Because the stock is above B40% coastwide, the OY could be set equal to the ABC. The OY of 16,500 mt is less than the ABC. The OY is set at the MSY harvest level which is considerably larger than the coastwide catches in any recent years.

^jA coastwide English sole stock assessment was prepared in 2005 and updated in 2007. The stock was estimated to be at 116 percent of its unfished biomass in 2007. The stock biomass is believed to be declining. The ABC of 14,326 mt is based on the results of the 2007 assessment update with an FMSY proxy of F40%. Because the stock is above B40%, the OY was set equal to the ABC.

^kA petrale sole stock assessment was prepared for 2005. In 2005 the petrale sole stock was estimated to be at 32 percent of its unfished biomass coastwide (34 percent in the northern assessment area and 29 percent of in the southern assessment area). The ABC of 2,811 mt is based on the 2005 stock assessment with a F40%FMSY proxy. To derive the OY, the 40–10 harvest policy was applied to the ABC for both the northern and southern assessment areas. As a precautionary measure, an additional 25 percent reduction was made in the OY contribution for the southern area due assessment uncertainty. The coastwide OY is 2,433 mt in 2009.

^lArrowtooth flounder was assessed in 2007 and was estimated to be at 79 percent of its unfished biomass in 2007. Because the stock is above B40%, the OY is set equal to the ABC.

^mStarry Flounder was assessed for the first time in 2005 and was estimated to be above 40 percent of its unfished biomass in 2005. However, the stock was projected to decline below 40 percent in both the northern and southern areas after 2008. The starry flounder assessment was considered to be a data-poor assessment relative to other groundfish assessments. For 2009, the coastwide ABC of 1,509 mt is based on the 2005 assessment with a FMSY proxy of F40%. To derive the OY (1,004 mt), the 40–10 harvest policy was applied to the ABC for both the northern and southern assessment areas then

an additional 25 percent reduction was made due to assessment uncertainty.

ⁿ“Other flatfish” are those flatfish species that do not have individual ABC/OYs and include butter sole, curlfin sole, flathead sole, Pacific sand dab, rex sole, rock sole, and sand sole. The other flatfish ABC is based on historical catch levels. The ABC of 6,731 mt is based on the highest landings for sanddabs (1995) and rex sole (1982) for the 1981–2003 period and on the average landings from the 1994–1998 period for the remaining other flatfish species. The OY of 4,884 mt is based on the ABC with a 25 percent precautionary adjustment for sanddabs and rex sole and a 50 percent precautionary adjustment for the remaining species.

^oA POP stock assessment was prepared in 2005 and was updated in 2007. The stock assessment update estimated the stock to be at 27.5 percent of its unfished biomass in 2007. The ABC of 1,160 mt for the Vancouver and Columbia areas is based on the 2007 stock assessment update with an FMSY proxy of F50%. The OY of 189 mt is based on a rebuilding plan with a target year to rebuild of 2017 and an SPR harvest rate of 86.4 percent. The OY is reduced by 2.0 mt for the amount anticipated to be taken during research activity and 0.14 mt for the amount expected to be taken during EFP fishing.

^pShortbelly rockfish remains an unexploited stock and is difficult to assess quantitatively. To understand the potential environmental determinants of fluctuations in the recruitment and abundance of an unexploited rockfish population in the California Current ecosystem, a non-quantitative assessment was conducted in 2007. The results of the assessment indicated the shortbelly stock was healthy with an estimated spawning stock biomass at 67 percent of its unfished biomass in 2005. The ABC and OY are being set at 6,950 mt which is 50 percent of the 2008 ABC and OY values. The stock is expected to remain at its current equilibrium with these harvest specifications.

^qWidow rockfish was assessed in 2005 and an update was prepared in 2007. The stock assessment update estimated the stock to be at 36.2 percent of its unfished biomass in 2006. The ABC of 7,728 mt is based on the stock assessment update with an F50%FMSYproxy. The OY of 522 mt is based on a rebuilding plan with a target year to rebuild of 2015 and an SPR harvest rate of 95 percent. To derive the commercial harvest guideline of 460.4 mt the OY is reduced by 1.1 mt for the amount anticipated to be taken during research activity, 45.5 mt for the tribal set-aside, 7.2 mt the amount estimated to be taken in the recreational fisheries, 0.4 mt for the amount expected to be taken incidentally in non-groundfish fisheries, and 7.4 mt for the amount projected to be taken during EFP fishing. The following are the sector specific

bycatch limits established for the Pacific whiting fishery: 85.0 mt for catcher/processors, 60.0 mt for motherships, and 105.0 mt for shore-based.

^rCanary rockfish—A canary rockfish stock assessment was completed in 2007 and the stock was estimated to be at 32.7 percent of its unfished biomass coastwide in 2007. The coastwide ABC of 937 mt based on the 2007 rebuilding plan. The OY of 105 mt is based on a rebuilding plan with a target year to rebuild of 2021 and a SPR harvest rate of 88.7 percent. To derive the commercial harvest guideline of 42.3 mt, the OY is reduced by 8.0 mt for the amount anticipated to be taken during research activity, 7.3 mt the tribal set-aside, 43.8 mt the amount estimated to be taken in the recreational fisheries, 0.9 mt for the amount expected to be taken incidentally in non-groundfish fisheries, and 2.7 mt for the amount expected to be taken during EFP fishing. The following harvest guidelines are being specified for catch sharing in 2009: 19.7 mt for limited entry Non-Whiting Trawl, 18.0 mt for limited entry Whiting Trawl, 2.2 mt for limited entry fixed gear, 2.5 mt for directed open access, 4.9 mt for Washington recreational, 16.0 mt for Oregon recreational, and 22.9 mt for California recreational.

^sChilipepper rockfish was assessed in 2007 and the stock was estimated to be at 71 percent of its unfished biomass coastwide in 2007. The ABC of 3,037 mt is based on a FMSY proxy of F50%. Because the unfished biomass is estimated to be above 40 percent the unfished biomass, the default OY could be set equal to the ABC. However, the OY of 2,885 mt was the ABC reduced by 5 percent as a precautionary measure for uncertainty in the stock assessment. Open access is allocated 44.3 percent (1,278 mt) of the commercial HG and limited entry is allocated 55.7 percent (1,607 mt) of the commercial HG.

^tA bocaccio stock assessment and a rebuilding analysis were prepared in 2007. The bocaccio stock was estimated to be at 13.8 percent of its unfished biomass in 2007. The ABC of 793 mt for the Monterey-Conception area is based on the new assessment with an FMSY proxy of F50%. The OY of 288 mt is based on a rebuilding plan with a target year to rebuild of 2026 and a SPR harvest rate of 77.7 percent. To derive the commercial harvest guideline of 206.4 mt, the OY is reduced by 2.0 mt for the amount anticipated to be taken during research activity, 67.3 mt for the amount estimated to be taken in the recreational fisheries, 1.3 mt for the amount expected to be taken incidentally in non-groundfish fisheries, and 11.0 mt for the amount expected to be taken during EFP fishing.

^uSplitnose rockfish—The ABC is 615 mt in the Monterey-Conception area. The 461 mt OY for the area reflects a 25 percent precautionary adjustment because of the less

rigorous stock assessment for this stock. In the north (Vancouver, Columbia and Eureka areas), splitnose is included within the minor slope rockfish OY. Because the harvest assumptions used to forecast future harvest were likely overestimates, carrying the previously used ABCs and OYs forward into 2009 was considered to be conservative and based on the best available data.

^vYellowtail rockfish—A yellowtail rockfish stock assessment was prepared in 2005 for the Vancouver, Columbia, Eureka areas. Yellowtail rockfish was estimated to be above 40 percent of its unfished biomass in 2005. The ABC of 4,562 mt is based on the 2005 stock assessment with the FMSY proxy of F50%. The OY of 4,562 mt was set equal to the ABC, because the stock is above the precautionary threshold of B40%.

^wShortspine thornyhead was assessed in 2005 and the stock was estimated to be at 63 percent of its unfished biomass in 2005. The ABC of 2,437 mt is based on a F50%FMSYproxy. For that portion of the stock (66 percent of the biomass) north of Point Conception (34°27'N. lat.), the OY of 1,608 mt was set equal to the ABC because the stock is estimated to be above the precautionary threshold. For that portion of the stock south of 34°27'N. lat. (34 percent of the biomass), the OY of 414 mt was the portion of the ABC for the area reduced by 50 percent as a precautionary adjustment due to the short duration and amount of survey data for that area.

^xLongspine thornyhead was assessed coastwide in 2005 and the stock was estimated to be at 71 percent of its unfished biomass in 2005. The coastwide ABC of 3,766 mt is based on a F50%FMSYproxy. The OY is set equal to the ABC because the stock is above the precautionary threshold. Separate OYs are being established for the areas north and south of 34°27'N. lat. (Point Conception). The OY of 2,231 mt for that portion of the stock in the northern area (79 percent) the ABC reduced by 25 percent as a precautionary adjustment. For that portion of the stock in the south of 34°27'N. lat. (21 percent), the OY of 395 mt was the portion of the ABC for the area reduced by 50 percent as a precautionary adjustment due to the short duration and amount of survey data for that area.

^yCowcod in the Conception area was assessed in 2007 and the stock was estimated to be between 3.4 to 16.3 percent of its unfished biomass. The ABC for the area south of 36°N. lat., the Conception and Monterey areas, is 13 mt and is based on the 2007 rebuilding analysis in which the Conception area stock assessment projection was doubled to account for both areas. A single OY of 4 mt is being set for both areas. The OY of 4 mt is based on a rebuilding plan with a target year to rebuild of 2072 and an SPR rate of 82.1 percent. The amount anticipated to be taken

during research activity is 0.2 mt and the amount expected to be taken during EFP activity is 0.24 mt.

^zDarkblotched rockfish was assessed in 2007 and a rebuilding analysis was prepared. The new stock assessment estimated the stock to be at 22.4 percent of its unfished biomass in 2007. The ABC is projected to be 437 mt and is based on the 2007 stock assessment with an FMSYproxy of F50%. The OY of 285 mt is based on a rebuilding plan with a target year to rebuild of 2028 and an SPR harvest rate of 62.1 percent. The commercial OY of 282.05 mt is the OY reduced by 2.0 mt for the amount anticipated to be taken during research activity and 0.95 mt for the amount projected to be taken during EFP activity.

^{aa}Yelloweye rockfish was fully assessed in 2006 and an assessment update was completed in 2007. The 2007 stock assessment update estimated the spawning stock biomass in 2006 to be at 14 percent of its unfished biomass coastwide. The 31 mt coastwide ABC was derived from the base model in the new stock assessment with an FMSY proxy of F50%. The 17 mt OY is based on a rebuilding plan with a target year to rebuild of 2084 and an SPR harvest rate of 66.3 percent in 2009 and 2010 and an SPR harvest rate of 71.9 percent for 2011 and beyond. The OY is reduced by 2.8 mt for the amount anticipated to be taken during research activity, 2.3 mt the amount estimated to be taken in the tribal fisheries and 0.3 mt for the amount expected to be taken incidentally in non-groundfish fisheries. The catch sharing harvest guidelines for yelloweye rockfish in 2009 are: limited entry non-whiting trawl 0.6 mt, limited entry whiting 0.0 mt, limited entry fixed gear 1.4 mt, directed open access 1.1 mt, Washington recreational 2.7 mt, Oregon recreational 2.4 mt, California recreational 2.8 mt, and 0.3 mt for exempted fishing.

^{bb}California Scorpionfish south of 34°27'N. lat. was assessed in 2005 and was estimated to be above 40 percent of its unfished biomass in 2005. The ABC of 175 mt is based on the new assessment with a harvest rate proxy of F50%. Because the stock is above B40%coastwide, the OY is set equal to the ABC.

^{cc}New assessments were prepared for black rockfish south of 45°56.00 N. lat. (Cape Falcon, Oregon) and for black rockfish north of Cape Falcon. The ABC for the area north of 46°16'N. lat. (Washington) is 490 mt (97 percent) of the 505 mt ABC contribution from the northern assessment area. The ABC for the area south of 46°16'N. lat. (Oregon and California) is 1,469 mt which is the sum of a contribution of 15 mt (3 percent) from the northern area assessment, and 1,454 mt from the southern area assessment. The ABCs were based on the results of the new assessment and derived using an FMSYproxy of F50%. Because both portions of the stock are above 40 percent, the OYs could be set equal

to the ABCs. For the area north of 46°16'N. lat., the OY of 490 mt is set equal to the ABC. The following tribal harvest guidelines are being set: 20,000 lb (9.1 mt) north of Cape Alava, WA (48°09.50'N. lat.) and 10,000 lb (4.5 mt) between Destruction Island, WA (47°40'N. lat.) and Leadbetter Point, WA (46°38.17'N. lat.) The OY for the area south of 46°16'N. lat. is being set at 1,000 mt which is a constant harvest level. The black rockfish OY in the area south of 46°16'N. lat., is subdivided with separate HGs being set for the area north of 42° N. lat. (580 mt/58 percent) and for the area south of 42° N. lat. (420 mt/42 percent).

^{dd}Minor rockfish north includes the “remaining rockfish” and “other rockfish” categories in the Vancouver, Columbia, and Eureka areas combined. These species include “remaining rockfish”, which generally includes species that have been assessed by less rigorous methods than stock assessments, and “other rockfish”, which includes species that do not have quantifiable stock assessments. Blue rockfish has been removed from the “other rockfish” and added to the remaining rockfish. The ABC of 3,678 mt is the sum of the individual “remaining rockfish” ABCs plus the “other rockfish” ABCs. The remaining rockfish ABCs continue to be reduced by 25 percent ($F = 0.75M$) as a precautionary adjustment. To obtain the total catch OY of 2,283 mt, the remaining rockfish ABCs were further reduced by 25 percent and other rockfish ABCs were reduced by 50 percent. This was a precautionary measure to address limited stock assessment information.

^{ee}Minor rockfish south includes the “remaining rockfish” and “other rockfish” categories in the Monterey and Conception areas combined. These species include “remaining rockfish” which generally includes species that have been assessed by less rigorous methods than stock assessment, and “other rockfish” which includes species that do not have quantifiable stock assessments. Blue rockfish has been removed from the “other rockfish” and added to the remaining rockfish. The ABC of 3,384 mt is the sum of the individual “remaining rockfish” ABCs plus the “other rockfish” ABCs. The remaining rockfish ABCs continue to be reduced by 25 percent ($F = 0.75M$) as a precautionary adjustment. The remaining rockfish ABCs are further reduced by 25 percent, with the exception of blackgill rockfish (see footnote gg). The other rockfish ABCs were reduced by 50 percent. This was a precautionary

measure due to limited stock assessment information. The resulting minor rockfish OY is 1,990 mt.

^{ff}Bank rockfish—The ABC is 350 mt which is based on a 2000 stock assessment for the Monterey and Conception areas. This stock contributes 263 mt towards the minor rockfish OY in the south.

^{gg}Blackgill rockfish in the Monterey and Conception areas was assessed in 2005 and is estimated to be at 49.9 percent of its unfished biomass in 2008. The ABC of 292 mt for the Monterey and Conception areas is based on the 2005 stock assessment with an FMSY proxy of $F_{50\%}$ and is the two year average ABC for the 2007 and 2008 periods. This stock contributes 292 mt towards minor rockfish south.

^{hh}“Other rockfish” includes rockfish species listed in 50 CFR 660.302. A new stock assessment was conducted for blue rockfish in 2007. As a result of the new stock assessment, the blue rockfish contribution to the other rockfish group, of 30 mt in the north and 232 mt in the south, are removed. A new contribution of 28 mt contribution in the north and 202 mt contribution in the south is added to the remaining rockfish. The ABC for the remaining species is based on historical data from a 1996 review landings and includes an estimate of recreational landings. Most of these species have never been assessed quantitatively.

ⁱⁱLongnose skate was fully assessed in 2006 and an assessment update was completed in 2007. The ABC of 3,428 is based on the 2007 with an FMSY proxy of $F_{45\%}$. Longnose skate was previously managed as part of the Other Fish complex. The 2009 OY of 1,349 mt is a precautionary OY based on historical total catch increased by 50 percent.

^{jj}“Other fish” includes sharks, skates, rays, ratfish, morids, grenadiers, kelp greenling, and other groundfish species noted above in footnote d/. The longnose skate contribution is being removed from this complex.

^{kk}Sablefish allocation north of 36° N. lat.—The limited entry allocation is further divided with 58 percent allocated to the trawl fishery and 42 percent allocated to the fixed-gear fishery.

^{ll}Specific open access/limited entry allocations specified in the FMP have been suspended during the rebuilding period as necessary to meet the overall rebuilding target while allowing harvest of healthy stocks.