

2021 AND 2022 GROUND FISH HARVEST SPECIFICATIONS UNDER DEFAULT
HARVEST CONTROL RULES

The following tables were downloaded from the Pacific Fisheries Information Network (PacFIN) on October 17, 2019. These tables are available on the PacFIN web site under the [APEX reporting system](#). These tables will be updated as corrections are made and consistent with PFMC decisions on 2021 and 2022 groundfish harvest specifications.

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Table 1. 2021 harvest specifications (mt) and stock category designations for west coast groundfish stocks and stock complexes under default harvest control rules (highlighted stocks are those with proposed specifications not adopted in September).

Stock or Complex	Area	Cat.	P* (Buffer)	OFL	ABC	ACL	Assess Year	Notes
Yelloweye Rockfish	CW	1 (YB)	0.40 (0.144)	97	83	50	2017	The ACL is derived from the 2017 yelloweye rebuilding analysis under the 65% SPR harvest rate.
Arrowtooth Flounder	CW	2 (YB)	0.40 (0.267)	13551	9933	9933	2017	
Big Skate	CW	2 (YB)	0.45 (0.126)	1690	1477	1477	2019	
Black Rockfish	WA	1 (YB)	0.45 (0.083)	319	293	293	2015	
Black Rockfish	CA	1 (YB)	0.45 (0.083)	379	348	348	2015	
Bocaccio	S of 4010	1 (YB)	0.45 (0.074)	1887	1748	1748	2017	7.4% of the assessed area (Conception area N to Cape Blanco) OFL is deducted to account for the portion of the stock north of 40°10' N lat.
Cabazon	CA			225	210	210		
Cabazon	3427 - 42	1 (YB)	0.45 (0.065)	201.8	188.7		2019	
Cabazon	S of Conc	1 (YB)	0.45 (0.065)	23.3	21.8		2019	
Cabazon/Kelp Greenling	WA			25	20	20		
Cabazon	WA	3 (YB)	0.45 (0.222)	18.3	14.2	14.2	2019	
Kelp Greenling	WA	3 (YB)	0.45 (0.222)	7.1	5.5	5.5	2015	
Cabazon/Kelp Greenling	OR			215	198	198		
Cabazon	OR	1 (YB)	0.45 (0.065)	58.3	54.5	54.5	2019	
Kelp Greenling	OR	1 (YB)	0.45 (0.083)	157.0	144.0	144.0	2015	
California Scorpionfish	CW	CA Scorp. (YB)	0.45 (0.086)	319	291	291	2017	
Canary Rockfish	CW	1 (YB)	0.45 (0.083)	1459	1338	1338	2015	
Chilipepper	S of 4010	1 (YB)	0.45 (0.083)	2571	2358	2358	2015	93% of the coastwide chilipepper OFL is apportioned S of 40°10' N lat. based on average historical landings.
Cowcod	S of 4010			114	98	98		
Cowcod	S of Conc	2 (YB)	0.45 (0.126)	95.0	83.0	83.0	2019	
Cowcod	3427 - 4010	3 (YB)	0.45 (0.222)	18.9	14.7	14.7	2019	
Darkblotched Rockfish	CW	1 (YB)	0.45 (0.074)	953	882	882	2017	
Dover Sole	CW	1 (YB)	0.45 (0.100)	93547	84192	50000	2011	

Stock or Complex	Area	Cat.	P* (Buffer)	OFL	ABC	ACL	Assess Year	Notes
English Sole	CW	2 (YB)	0.45 (0.174)	11107	9175	9175	2013	
Lingcod	N of 4010	1 (YB)	0.45 (0.074)	5816	5386	5369	2017	OFLs are projected from the 2017 assessment, which assessed two stocks north and south of 42° N lat. The relative biomass and OFLs are reapportioned north and south of the 40°10' N lat. management line by using the most recent 5-year average percentage of survey biomass of lingcod between 40°10' and 42° N lat., which is 21.3% of the survey biomass in California.
Lingcod	S of 4010	1 (YB)	0.45 (0.074)	1255	1162	1102	2017	OFLs are projected from the 2017 assessment, which assessed two stocks north and south of 42° N lat. The relative biomass and OFLs are reapportioned north and south of the 40°10' N lat. management line by using the most recent 5-year average percentage of survey biomass of lingcod between 40°10' and 42° N lat., which is 21.3% of the survey biomass in California.
Longnose Skate	CW	2 (YB)	0.45 (0.126)	2086	1823	1823	2019	
Longspine Thornyhead	CW	2 (YB)	0.40 (0.320)	5097	3466		2013	
Longspine Thornyhead	N of Conc	2 (YB)	0.40 (0.320)			2634	2013	ACLs are determined based on an apportionment of the coastwide ABC north (76%) and south (24%) of 34°27' N lat. based on the 2003-2012 average swept area biomass estimated north and south of Pt. Conception at 34°27' N lat. in the NWFSC trawl survey.
Longspine Thornyhead	S of Conc	2 (YB)	0.40 (0.320)			832	2013	ACLs are determined based on an apportionment of the coastwide ABC north (76%) and south (24%) of 34°27' N lat. based on the 2003-2012 average swept area biomass estimated north and south of Pt. Conception at 34°27' N lat. in the NWFSC trawl survey.
Pacific Cod	CW	3 (YB)	0.40 (0.398)	3200	1926	1600		
Pacific Ocean Perch	N of 4010	2 (YB)	0.45 (0.143)	4497	3854	3854	2017	
Petrale Sole	CW	1 (YB)	0.45 (0.065)	4402	4115	4115	2019	
Sablefish	CW	1 (YB)	0.40 (0.127)	9402	8208		2019	
Sablefish	N of 36	1 (YB)	0.40 (0.127)			6049	2019	The ACLs are apportioned north (73.7%) and south (26.3%) of 40°10' N lat. using the coastwide ABCs based on average trawl survey biomass from 2003-2018.
Sablefish	Conc	1 (YB)	0.40 (0.127)			2159	2019	The ACLs are apportioned north (73.7%) and south (26.3%) of 36° using the coastwide ABCs based on average trawl survey biomass from 2003-2018.
Shortbelly	CW	3 (YB)	0.40 (0.398)	6950	4184	4184	2007	
Shortspine Thornyhead	CW	2 (YB)	0.40 (0.320)	3211	2183		2013	
Shortspine Thornyhead	N of Conc	2 (YB)	0.40 (0.320)			1428	2013	ACLs are determined based on an apportionment of the coastwide ABC north (65.4%) and south (34.6%) of 34°27' N lat. based on the

Stock or Complex	Area	Cat.	P* (Buffer)	OFL	ABC	ACL	Assess Year	Notes
								2003-2012 average swept area biomass estimated north and south of Pt. Conception at 34°27' N lat. in the NWFSC trawl survey.
Shortspine Thornyhead	S of Conc	2 (YB)	0.40 (0.320)			756	2013	ACLs are determined based on an apportionment of the coastwide ABC north (65.4%) and south (34.6%) of 34°27' N lat. based on the 2003-2012 average swept area biomass estimated north and south of Pt. Conception at 34°27' N lat. in the NWFSC trawl survey.
Spiny Dogfish	CW	2 (YB)	0.40 (0.346)	2479	1621	1621	2011	
Splitnose	S of 4010	1 (YB)	0.45 (0.108)	1868	1666	1666	2009	
Starry Flounder	CW	3 (YB)	0.40 (0.398)	652	392	392	2017	
Widow Rockfish	CW	1 (YB)	0.45 (0.065)	15749	14725	14725	2019	
Yellowtail Rockfish	N of 4010	1 (YB)	0.45 (0.074)	6534	6050	6050	2017	
Blue/Deacon/Black Rockfish	OR		0.45 (0.044)	676	570	570		
Black Rockfish	OR	2 (YB)	0.45 (0.159)	570.0	479.4	479.4	2015	
Blue	OR	2 (YB)	0.45 (0.143)	105.7	90.6	90.6	2017	
Nearshore Rockfish North	N of 4010			92	77	77		
Black and Yellow	N of 4010	3 (YB)	0.45 (0.222)	0.01	0.01	0.01		
Blue	42 - 4010	2 (YB)	0.45 (0.143)	33.4	28.6	28.6	2017	10% of the CA OFL N of 34°27' N lat. is apportioned north of 40°10' N lat. (see Appendix D of the 2017 Assessment).
Blue	WA	3 (YB)	0.45 (0.222)	8.1	6.3	6.3	2017	
Brown	N of 4010	2 (YB)	0.45 (0.174)	2.1	1.7	1.7	2013	The portion of the coastwide stock north of 40°10' N lat. (1.2%) based on the proportion of cumulative removals by area during 1916-2012.
Calico	N of 4010	3 (YB)	0.45 (0.222)					
China	WA	2 (YB)	0.45 (0.159)	10.8	9.1	9.1	2015	OFLs are projected from the Northern Model in the 2015 assessment.
China	4010 - 4616	2 (YB)	0.45 (0.159)	21.6	18.1	18.1	2015	OFLs are projected from the Central Model in the 2015 assessment.
Copper	N of 4010	2 (YB)	0.45 (0.174)	9.8	8.1	8.1	2013	7.3% of the OFL estimated from the Northern Model (34°27' N lat. to U.S.-Can border) is apportioned N of 40°10' N lat. based on the proportion of cumulative removals by area during 1916-2012.
Gopher	N of 4010	3 (YB)	0.45 (0.222)				2011	
Grass	N of 4010	3 (YB)	0.45 (0.222)	0.7	0.5	0.5	2011	
Kelp	N of 4010	3 (YB)	0.45 (0.222)	0.01	0.01	0.01	2011	
Olive	N of 4010	3 (YB)	0.45 (0.222)	0.3	0.2	0.2	2011	

Stock or Complex	Area	Cat.	P* (Buffer)	OFL	ABC	ACL	Assess Year	Notes
Quillback	N of 4010	3 (YB)	0.45 (0.222)	7.4	5.7	5.7	2011	
Treefish	N of 4010	3 (YB)	0.45 (0.222)	0.2	0.2	0.2	2011	
Nearshore Rockfish South	S of 4010			1052	868	1016		
Blue	4010 - 3427	2 (YB)	0.45 (0.143)	300.6	257.6	257.6	2017	90% of the CA OFL N of 34°27' N lat. is apportioned south of 40°10' N lat. (see Appendix D of the 2017 Assessment).
Blue	S of Conc	3 (YB)	0.45 (0.222)	21.8	17.0	17.0	2017	
Brown	S of 4010	2 (YB)	0.45 (0.174)	179.7	148.4	148.4	2013	The portion of the coastwide stock north of 40°10' N lat. (98.8%) based on the proportion of cumulative removals by area during 1916-2012.
Calico	S of 4010	3 (YB)	0.45 (0.222)					
China	S of 4010	2 (YB)	0.45 (0.159)	15.5	13.0	12.2	2015	OFLs are projected from the Southern Model in the 2015 assessment.
Copper	S of 4010	2 (YB)	0.45 (0.174)	247.4	204.4	204.4	2013	92.7% of the OFL estimated from the Northern Model (34°27' N lat. to U.S.-Can border) is apportioned S of 40°10' N lat. based on the proportion of cumulative removals by area during 1916-2012.
Gopher	S of 4010	2 (YB)	0.45 (0.126)	136.0	118.9	118.9	2019	Need to code the species as Gopher/Black-and-Yellow.
Grass	S of 4010	3 (YB)	0.45 (0.222)	59.6	46.4	46.4	2011	
Kelp	S of 4010	3 (YB)	0.45 (0.222)	27.7	21.5	21.5	2011	
Olive	S of 4010	3 (YB)	0.45 (0.222)	224.6	174.8	174.8	2011	
Quillback	S of 4010	3 (YB)	0.45 (0.222)	5.4	4.2	4.2	2011	
Treefish	S of 4010	3 (YB)	0.45 (0.222)	13.2	10.3	10.3	2011	
Other Fish	CW			286	223	223		
Kelp Greenling	CA	3 (YB)	0.45 (0.222)	118.9	92.5	92.5	2011	
Leopard Shark	CW	3 (YB)	0.45 (0.222)	167.1	130.0	130.0	2011	
Other Flatfish	CW			7714	4802	4802		
Butter Sole	CW	3 (YB)	0.40 (0.398)	4.6	2.8	2.8		Based on the average catch during 1994-1998 + a 60% discard rate estimated from the EDCP study.
Curlfin Sole	CW	3 (YB)	0.40 (0.398)	8.2	5.0	5.0		Based on the average catch during 1994-1998 + a 60% discard rate estimated from the EDCP study.
Flathead Sole	CW	3 (YB)	0.40 (0.398)	35.0	21.1	21.1		Max. catch = 35 mt in 2005
Pacific Sanddab	CW	3 (YB)	0.40 (0.398)	4801.0	2890.2	2890.2	2011	
Rex Sole	CW	2 (YB)	0.40 (0.320)	2025.6	1377.4	1377.4	2013	Bayesian projections differ from the calculated ABCs.
Rock Sole	CW	3 (YB)	0.40 (0.398)	66.7	40.2	40.2	2011	

Stock or Complex	Area	Cat.	P* (Buffer)	OFL	ABC	ACL	Assess Year	Notes
Sand Sole	CW	3 (YB)	0.40 (0.398)	773.2	465.5	465.5	2011	
Shelf Rockfish North	N of 4010			1888	1511	1511		
Bocaccio	N of 4010	3 (YB)	0.45 (0.222)	284.0	221.0	221.0	2011	
Bronzespotted	N of 4010	3 (YB)	0.45 (0.222)					
Chameleon	N of 4010	3 (YB)	0.45 (0.222)					
Chilipepper	N of 4010	1 (YB)	0.45 (0.083)	193.6	177.5	177.5	2015	7% of the coastwide chilipepper OFL is apportioned N of 40°10' N lat. based on average historical landings.
Cowcod	N of 4010	3 (YB)	0.45 (0.222)	0.6	0.4	0.4	2019	
Flag	N of 4010	3 (YB)	0.45 (0.222)	0.1	0.1	0.1	2011	
Freckled	N of 4010	3 (YB)	0.45 (0.222)					
Greenblotched	N of 4010	3 (YB)	0.45 (0.222)	1.3	1.0	1.0	2011	
Greenspotted	42 - 4010	2 (YB)	0.45 (0.190)	9.3	7.5	7.3	2011	The OFLs projected from the Northern California Model are apportioned north (22.2%) and south (77.8%) of 40°10' N lat. based on average historical (1978-2001) landings.
Greenspotted	WA - OR	3 (YB)	0.45 (0.222)	6.1	4.7	4.7	2011	
Greenstriped	N of 4010	2 (YB)	0.45 (0.205)	896.1	712.4	712.4	2009	The portion of the coastwide stock north of 40°10' N. lat. (84.5%) is based on the mean of the 2003-2008 swept area biomass estimates from the NMFS trawl survey.
Halfbanded	N of 4010	3 (YB)	0.45 (0.222)					
Harlequin	N of 4010	3 (YB)	0.45 (0.222)					
Honeycomb	N of 4010	3 (YB)	0.45 (0.222)					
Mexican	N of 4010	3 (YB)	0.45 (0.222)					
Pink	N of 4010	3 (YB)	0.45 (0.222)	0.0	0.0	0.0	2011	
Pinkrose	N of 4010	3 (YB)	0.45 (0.222)					
Puget Sound	N of 4010	3 (YB)	0.45 (0.222)					
Pygmy	N of 4010	3 (YB)	0.45 (0.222)					
Redstripe	N of 4010	3 (YB)	0.45 (0.222)	269.9	210.0	210.0	2011	
Rosethorn	N of 4010	3 (YB)	0.45 (0.222)	12.9	10.0	10.0	2011	
Rosy	N of 4010	3 (YB)	0.45 (0.222)	3.0	2.3	2.3	2011	
Silvergray	N of 4010	3 (YB)	0.45 (0.222)	159.4	124.0	124.0	2011	
Speckled	N of 4010	3 (YB)	0.45 (0.222)	0.2	0.2	0.2	2011	
Squarespot	N of 4010	3 (YB)	0.45 (0.222)	0.2	0.2	0.2	2011	

Stock or Complex	Area	Cat.	P* (Buffer)	OFL	ABC	ACL	Assess Year	Notes
Starry	N of 4010	3 (YB)	0.45 (0.222)	0.0	0.0	0.0	2011	
Stripetail	N of 4010	3 (YB)	0.45 (0.222)	40.4	31.4	31.4	2011	
Swordspine	N of 4010	3 (YB)	0.45 (0.222)	0.0	0.0	0.0	2011	
Tiger	N of 4010	3 (YB)	0.45 (0.222)	1.0	0.8	0.8	2011	
Vermilion	N of 4010	3 (YB)	0.45 (0.222)	9.7	7.5	7.5	2011	
Shelf Rockfish South	S of 4010			1842	1439	1438		
Bronzespotted	S of 4010	3 (YB)	0.45 (0.222)	3.6	2.8	2.8	2011	
Chameleon	S of 4010	3 (YB)	0.45 (0.222)					
Flag	S of 4010	3 (YB)	0.45 (0.222)	23.4	18.2	18.2	2011	
Freckled	S of 4010	3 (YB)	0.45 (0.222)					
Greenblotched	S of 4010	3 (YB)	0.45 (0.222)	23.1	18.0	18.0	2011	
Greenspotted	4010 - 3427	2 (YB)	0.45 (0.190)	32.6	26.4	25.7	2011	The OFLs projected from the Northern California Model are apportioned north (22.2%) and south (77.8%) of 40°10' N lat. based on average historical (1978-2001) landings.
Greenspotted	S of Conc	2 (YB)	0.45 (0.190)	45.4	36.8	36.8	2011	
Greenstriped	S of 4010	2 (YB)	0.45 (0.205)	164.4	130.7	130.7	2009	The portion of the coastwide stock south of 40°10' N. lat. (15.5%) is based on the mean of the 2003-2008 swept area biomass estimates from the NMFS trawl survey.
Halfbanded	S of 4010	3 (YB)	0.45 (0.222)					
Harlequin	S of 4010	3 (YB)	0.45 (0.222)					
Honeycomb	S of 4010	3 (YB)	0.45 (0.222)	9.9	7.7	7.7	2011	
Mexican	S of 4010	3 (YB)	0.45 (0.222)	5.1	4.0	4.0	2011	
Pink	S of 4010	3 (YB)	0.45 (0.222)	2.5	1.9	1.9	2011	
Pinkrose	S of 4010	3 (YB)	0.45 (0.222)					
Pygmy	S of 4010	3 (YB)	0.45 (0.222)					
Redstripe	S of 4010	3 (YB)	0.45 (0.222)	0.5	0.4	0.4	2011	
Rosethorn	S of 4010	3 (YB)	0.45 (0.222)	2.1	1.6	1.6	2011	
Rosy	S of 4010	3 (YB)	0.45 (0.222)	44.5	34.6	34.6	2011	
Silvergray	S of 4010	3 (YB)	0.45 (0.222)	0.5	0.4	0.4	2011	
Speckled	S of 4010	3 (YB)	0.45 (0.222)	39.4	30.7	30.7	2011	
Squarespot	S of 4010	3 (YB)	0.45 (0.222)	11.1	8.6	8.6	2011	
Starry	S of 4010	3 (YB)	0.45 (0.222)	62.6	48.7	48.7	2011	

Stock or Complex	Area	Cat.	P* (Buffer)	OFL	ABC	ACL	Assess Year	Notes
Stripetail	S of 4010	3 (YB)	0.45 (0.222)	23.6	18.4	18.4	2011	
Swordspine	S of 4010	3 (YB)	0.45 (0.222)	14.2	11.0	11.0	2011	
Tiger	S of 4010	3 (YB)	0.45 (0.222)	0.0	0.0	0.0	2011	
Vermilion	S of 4010	3 (YB)	0.45 (0.222)	269.3	209.5	209.5	2011	
Yellowtail Rockfish	S of 4010	3 (YB)	0.45 (0.222)	1064.4	828.1	828.1	2011	
Slope Rockfish North	N of 4010			1862	1595	1595		
Aurora	N of 4010	1 (YB)	0.45 (0.091)	17.5	15.9	15.9	2013	The portion of the coastwide stock north of 40°10' N lat. (19%) is based on average survey biomass.
Bank	N of 4010	3 (YB)	0.45 (0.222)	17.2	13.4	13.4	2011	
Blackgill Rockfish	N of 4010	3 (YB)	0.45 (0.222)	4.7	3.7	3.7	2011	
Redbanded	N of 4010	3 (YB)	0.45 (0.222)	45.3	35.2	35.2	2011	
Rougheye/Blackspotted	N of 4010	2 (YB)	0.45 (0.174)	232.3	191.8	191.8	2013	98% of the coastwide OFL is apportioned north of 40°10' N. lat. based on average landings during 1985-2012.
Sharpchin	N of 4010	2 (YB)	0.45 (0.174)	292.3	241.4	241.4	2013	80% of coastwide OFL is apportioned to the N of 40°10' N lat.
Shortraker	N of 4010	3 (YB)	0.45 (0.222)	18.7	14.5	14.5	2011	
Splitnose	N of 4010	1 (YB)	0.45 (0.108)	1041.8	929.3	929.3	2009	
Yellowmouth	N of 4010	3 (YB)	0.45 (0.222)	192.4	149.7	149.7	2011	
Slope Rockfish South	S of 4010			873	709	709		
Aurora	S of 4010	1 (YB)	0.45 (0.091)	74.5	67.7	67.7	2013	The portion of the coastwide stock south of 40°10' N lat. (81%) is based on average survey biomass.
Bank	S of 4010	3 (YB)	0.45 (0.222)	503.2	391.5	391.5	2011	
Blackgill Rockfish	S of 4010	2 (YB)	0.45 (0.143)	206.0	176.5	176.5	2017	
Pacific Ocean Perch	S of 4010	3 (YB)	0.45 (0.222)					
Redbanded	S of 4010	3 (YB)	0.45 (0.222)	10.4	8.1	8.1	2011	
Rougheye/Blackspotted	S of 4010	2 (YB)	0.45 (0.174)	4.7	3.9	3.9	2013	2% of the coastwide OFL is apportioned south of 40°10' N. lat. based on average landings during 1985-2012.
Sharpchin	S of 4010	2 (YB)	0.45 (0.174)	73.1	60.4	60.4	2013	20% of coastwide OFLs are apportioned S of 40°10' N lat.
Shortraker	S of 4010	3 (YB)	0.45 (0.222)	0.1	0.1	0.1	2011	
Yellowmouth	S of 4010	3 (YB)	0.45 (0.222)	0.8	0.6	0.6	2011	

Table 2. 2022 harvest specifications (mt) and stock category designations for west coast groundfish stocks and stock complexes under default harvest control rules (highlighted stocks are those with proposed specifications not adopted in September).

Stock or Complex	Area	Cat.	P* (Buffer)	OFL	ABC	ACL	Assess Year	Notes
Yelloweye Rockfish	CW	1 (YB)	0.40 (0.152)	98	83	51	2017	The ACL is derived from the 2017 yelloweye rebuilding analysis under the 65% SPR harvest rate.
Arrowtooth Flounder	CW	2 (YB)	0.40 (0.281)	11764	8458	8458	2017	
Big Skate	CW	2 (YB)	0.45 (0.135)	1606	1389	1389	2019	
Black Rockfish	WA	1 (YB)	0.45 (0.087)	319	291	291	2015	
Black Rockfish	CA	1 (YB)	0.45 (0.087)	373	341	341	2015	
Bocaccio	S of 4010	1 (YB)	0.45 (0.078)	1870	1724	1724	2017	7.4% of the assessed area (Conception area N to Cape Blanco) OFL is deducted to account for the portion of the stock north of 40°10' N lat.
Cabazon	CA			210	195	195		
Cabazon	3427 - 42	1 (YB)	0.45 (0.070)	187.6	174.5		2019	
Cabazon	S of Conc	1 (YB)	0.45 (0.070)	22.6	21.0		2019	
Cabazon/Kelp Greenling	WA			22	17	17		
Cabazon	WA	3 (YB)	0.45 (0.222)	14.9	11.6	11.6	2019	
Kelp Greenling	WA	3 (YB)	0.45 (0.222)	7.1	5.5	5.5	2015	
Cabazon/Kelp Greenling	OR			208	190	190		
Cabazon	OR	1 (YB)	0.45 (0.070)	56.1	52.2	52.2	2019	
Kelp Greenling	OR	1 (YB)	0.45 (0.087)	151.4	138.2	138.2	2015	
California Scorpionfish	CW	CA Scorp. (YB)	0.45 (0.091)	303	275	275	2017	
Canary Rockfish	CW	1 (YB)	0.45 (0.087)	1432	1307	1307	2015	
Chilipepper	S of 4010	1 (YB)	0.45 (0.087)	2474	2259	2259	2015	93% of the coastwide chilipepper OFL is apportioned S of 40°10' N lat. based on average historical landings.
Cowcod	S of 4010			113	96	96		
Cowcod	S of Conc	2 (YB)	0.45 (0.135)	93.9	81.3	81.3	2019	
Cowcod	3427 - 4010	3 (YB)	0.45 (0.222)	19.2	14.9	14.9	2019	
Darkblotched Rockfish	CW	1 (YB)	0.45 (0.078)	901	831	831	2017	
Dover Sole	CW	1 (YB)	0.45 (0.104)	87540	78436	50000	2011	

Stock or Complex	Area	Cat.	P* (Buffer)	OFL	ABC	ACL	Assess Year	Notes
English Sole	CW	2 (YB)	0.45 (0.182)	11127	9101	9101	2013	
Lingcod	N of 4010	1 (YB)	0.45 (0.078)	5395	4974	4958	2017	OFLs are projected from the 2017 assessment, which assessed two stocks north and south of 42° N lat. The relative biomass and OFLs are reapportioned north and south of the 40°10' N lat. management line by using the most recent 5-year average percentage of survey biomass of lingcod between 40°10' and 42° N lat., which is 21.3% of the survey biomass in California.
Lingcod	S of 4010	1 (YB)	0.45 (0.078)	1334	1230	1172	2017	OFLs are projected from the 2017 assessment, which assessed two stocks north and south of 42° N lat. The relative biomass and OFLs are reapportioned north and south of the 40°10' N lat. management line by using the most recent 5-year average percentage of survey biomass of lingcod between 40°10' and 42° N lat., which is 21.3% of the survey biomass in California.
Longnose Skate	CW	2 (YB)	0.45 (0.135)	2036	1761	1761	2019	
Longspine Thornyhead	CW	2 (YB)	0.40 (0.333)	4838	3227		2013	
Longspine Thornyhead	N of Conc	2 (YB)	0.40 (0.333)			2452	2013	ACLs are determined based on an apportionment of the coastwide ABC north (76%) and south (24%) of 34°27' N lat. based on the 2003-2012 average swept area biomass estimated north and south of Pt. Conception at 34°27' N lat. in the NWFSC trawl survey.
Longspine Thornyhead	S of Conc	2 (YB)	0.40 (0.333)			774	2013	ACLs are determined based on an apportionment of the coastwide ABC north (76%) and south (24%) of 34°27' N lat. based on the 2003-2012 average swept area biomass estimated north and south of Pt. Conception at 34°27' N lat. in the NWFSC trawl survey.
Pacific Cod	CW	3 (YB)	0.40 (0.398)	3200	1926	1600		
Pacific Ocean Perch	N of 4010	2 (YB)	0.45 (0.151)	4371	3711	3711	2017	
Petrale Sole	CW	1 (YB)	0.45 (0.070)	3936	3660	3660	2019	
Sablefish	CW	1 (YB)	0.40 (0.136)	9040	7811		2019	
Sablefish	N of 36	1 (YB)	0.40 (0.136)			5757	2019	The ACLs are apportioned north (73.7%) and south (26.3%) of 40°10' N lat. using the coastwide ABCs based on average trawl survey biomass from 2003-2018.
Sablefish	Conc	1 (YB)	0.40 (0.136)			2054	2019	The ACLs are apportioned north (73.7%) and south (26.3%) of 36° using the coastwide ABCs based on average trawl survey biomass from 2003-2018.
Shortbelly	CW	3 (YB)	0.40 (0.398)	6950	4184	4184	2007	
Shortspine Thornyhead	CW	2 (YB)	0.40 (0.333)	3194	2130		2013	
Shortspine Thornyhead	N of Conc	2 (YB)	0.40 (0.333)			1393	2013	ACLs are determined based on an apportionment of the coastwide ABC north (65.4%) and south (34.6%) of 34°27' N lat. based on

Stock or Complex	Area	Cat.	P* (Buffer)	OFL	ABC	ACL	Assess Year	Notes
								the 2003-2012 average swept area biomass estimated north and south of Pt. Conception at 34°27' N lat. in the NWFSC trawl survey.
Shortspine Thornyhead	S of Conc	2 (YB)	0.40 (0.333)			737	2013	ACLs are determined based on an apportionment of the coastwide ABC north (65.4%) and south (34.6%) of 34°27' N lat. based on the 2003-2012 average swept area biomass estimated north and south of Pt. Conception at 34°27' N lat. in the NWFSC trawl survey.
Spiny Dogfish	CW	2 (YB)	0.40 (0.358)	2469	1585	1585	2011	
Splitnose	S of 4010	1 (YB)	0.45 (0.113)	1837	1630	1630	2009	
Starry Flounder	CW	3 (YB)	0.40 (0.398)	652	392	392	2017	
Widow Rockfish	CW	1 (YB)	0.45 (0.070)	14826	13788	13788	2019	
Yellowtail Rockfish	N of 4010	1 (YB)	0.45 (0.078)	6324	5831	5831	2017	
Blue/Deacon/Black Rockfish	OR		0.45 (0.044)	672	562	562		
Black Rockfish	OR	2 (YB)	0.45 (0.167)	569.0	474.0	474.0	2015	
Blue	OR	2 (YB)	0.45 (0.151)	103.1	87.5	87.5	2017	
Nearshore Rockfish North	N of 4010			91	76	76		
Black and Yellow	N of 4010	3 (YB)	0.45 (0.222)	0.0	0.0	0.0		
Blue	42 - 4010	2 (YB)	0.45 (0.151)	33.6	28.5	28.5	2017	10% of the CA OFL N of 34°27' N lat. is apportioned north of 40°10' N lat. (see Appendix D of the 2017 Assessment).
Blue	WA	3 (YB)	0.45 (0.222)	7.8	6.1	6.1	2017	
Brown	N of 4010	2 (YB)	0.45 (0.182)	2.1	1.7	1.7	2013	The portion of the coastwide stock north of 40°10' N lat. (1.2%) based on the proportion of cumulative removals by area during 1916-2012.
Calico	N of 4010	3 (YB)	0.45 (0.222)					
China	WA	2 (YB)	0.45 (0.167)	10.4	8.7	8.7	2015	OFLs are projected from the Northern Model in the 2015 assessment.
China	4010 - 4616	2 (YB)	0.45 (0.167)	21.1	17.6	17.6	2015	OFLs are projected from the Central Model in the 2015 assessment.
Copper	N of 4010	2 (YB)	0.45 (0.182)	9.9	8.1	8.1	2013	7.3% of the OFL estimated from the Northern Model (34°27' N lat. to U.S.-Can border) is apportioned N of 40°10' N lat. based on the proportion of cumulative removals by area during 1916-2012.
Gopher	N of 4010	3 (YB)	0.45 (0.222)				2011	
Grass	N of 4010	3 (YB)	0.45 (0.222)	0.7	0.5	0.5	2011	

Stock or Complex	Area	Cat.	P* (Buffer)	OFL	ABC	ACL	Assess Year	Notes
Kelp	N of 4010	3 (YB)	0.45 (0.222)	0.0	0.0	0.0	2011	
Olive	N of 4010	3 (YB)	0.45 (0.222)	0.3	0.2	0.2	2011	
Quillback	N of 4010	3 (YB)	0.45 (0.222)	7.4	5.7	5.7	2011	
Treefish	N of 4010	3 (YB)	0.45 (0.222)	0.2	0.2	0.2	2011	
Nearshore Rockfish South	S of 4010			1055	865	1010		
Blue	4010 - 3427	2 (YB)	0.45 (0.151)	302.4	256.7	256.7	2017	90% of the CA OFL N of 34°27' N lat. is apportioned south of 40°10' N lat. (see Appendix D of the 2017 Assessment).
Blue	S of Conc	3 (YB)	0.45 (0.222)	21.8	17.0	17.0	2017	
Brown	S of 4010	2 (YB)	0.45 (0.182)	178.5	146.0	146.0	2013	The portion of the coastwide stock north of 40°10' N lat. (98.8%) based on the proportion of cumulative removals by area during 1916-2012.
Calico	S of 4010	3 (YB)	0.45 (0.222)					
China	S of 4010	2 (YB)	0.45 (0.167)	15.9	13.3	12.2	2015	OFLs are projected from the Southern Model in the 2015 assessment.
Copper	S of 4010	2 (YB)	0.45 (0.182)	247.0	202.0	202.0	2013	92.7% of the OFL estimated from the Northern Model (34°27' N lat. to U.S.-Can border) is apportioned S of 40°10' N lat. based on the proportion of cumulative removals by area during 1916-2012.
Gopher	S of 4010	2 (YB)	0.45 (0.135)	137.0	118.5	118.5	2019	Need to code the species as Gopher/Black-and-Yellow.
Grass	S of 4010	3 (YB)	0.45 (0.222)	59.6	46.4	46.4	2011	
Kelp	S of 4010	3 (YB)	0.45 (0.222)	27.7	21.5	21.5	2011	
Olive	S of 4010	3 (YB)	0.45 (0.222)	224.6	174.8	174.8	2011	
Quillback	S of 4010	3 (YB)	0.45 (0.222)	5.4	4.2	4.2	2011	
Treefish	S of 4010	3 (YB)	0.45 (0.222)	13.2	10.3	10.3	2011	
Other Fish	CW			286	223	223		
Kelp Greenling	CA	3 (YB)	0.45 (0.222)	118.9	92.5	92.5	2011	
Leopard Shark	CW	3 (YB)	0.45 (0.222)	167.1	130.0	130.0	2011	
Other Flatfish	CW			7808	4838	4838		
Butter Sole	CW	3 (YB)	0.40 (0.398)	4.6	2.8	2.8		Based on the average catch during 1994-1998 + a 60% discard rate estimated from the EDCP study.
Curlfin Sole	CW	3 (YB)	0.40 (0.398)	8.2	5.0	5.0		Based on the average catch during 1994-1998 + a 60% discard rate estimated from the EDCP study.
Flathead Sole	CW	3 (YB)	0.40 (0.398)	35.0	21.1	21.1		Max. catch = 35 mt in 2005

Stock or Complex	Area	Cat.	P* (Buffer)	OFL	ABC	ACL	Assess Year	Notes
Pacific Sanddab	CW	3 (YB)	0.40 (0.398)	4801.0	2890.2	2890.2	2011	
Rex Sole	CW	2 (YB)	0.40 (0.333)	2119.7	1413.8	1413.8	2013	Bayesian projections differ from the calculated ABCs.
Rock Sole	CW	3 (YB)	0.40 (0.398)	66.7	40.2	40.2	2011	
Sand Sole	CW	3 (YB)	0.40 (0.398)	773.2	465.5	465.5	2011	
Shelf Rockfish North	N of 4010			1821	1450	1450		
Bocaccio	N of 4010	3 (YB)	0.45 (0.222)	284.0	221.0	221.0	2011	
Bronzespotted	N of 4010	3 (YB)	0.45 (0.222)					
Chameleon	N of 4010	3 (YB)	0.45 (0.222)					
Chilipepper	N of 4010	1 (YB)	0.45 (0.087)	186.2	170.0	170.0	2015	7% of the coastwide chilipepper OFL is apportioned N of 40°10' N lat. based on average historical landings.
Cowcod	N of 4010	3 (YB)	0.45 (0.222)	0.6	0.4	0.4	2019	
Flag	N of 4010	3 (YB)	0.45 (0.222)	0.1	0.1	0.1	2011	
Freckled	N of 4010	3 (YB)	0.45 (0.222)					
Greenblotched	N of 4010	3 (YB)	0.45 (0.222)	1.3	1.0	1.0	2011	
Greenspotted	42 - 4010	2 (YB)	0.45 (0.197)	9.3	7.5	7.3	2011	The OFLs projected from the Northern California Model are apportioned north (22.2%) and south (77.8%) of 40°10' N lat. based on average historical (1978-2001) landings.
Greenspotted	WA - OR	3 (YB)	0.45 (0.222)	6.1	4.7	4.7	2011	
Greenstriped	N of 4010	2 (YB)	0.45 (0.212)	836.7	659.3	659.3	2009	The portion of the coastwide stock north of 40°10' N. lat. (84.5%) is based on the mean of the 2003-2008 swept area biomass estimates from the NMFS trawl survey.
Halfbanded	N of 4010	3 (YB)	0.45 (0.222)					
Harlequin	N of 4010	3 (YB)	0.45 (0.222)					
Honeycomb	N of 4010	3 (YB)	0.45 (0.222)					
Mexican	N of 4010	3 (YB)	0.45 (0.222)					
Pink	N of 4010	3 (YB)	0.45 (0.222)	0.004	0.003	0.003	2011	
Pinkrose	N of 4010	3 (YB)	0.45 (0.222)					
Puget Sound	N of 4010	3 (YB)	0.45 (0.222)					
Pygmy	N of 4010	3 (YB)	0.45 (0.222)					
Redstripe	N of 4010	3 (YB)	0.45 (0.222)	269.9	210.0	210.0	2011	
Rosethorn	N of 4010	3 (YB)	0.45 (0.222)	12.9	10.0	10.0	2011	

Stock or Complex	Area	Cat.	P* (Buffer)	OFL	ABC	ACL	Assess Year	Notes
Rosy	N of 4010	3 (YB)	0.45 (0.222)	3.0	2.4	2.4	2011	
Silvergray	N of 4010	3 (YB)	0.45 (0.222)	159.4	124.0	124.0	2011	
Speckled	N of 4010	3 (YB)	0.45 (0.222)	0.2	0.1	0.1	2011	
Squarespot	N of 4010	3 (YB)	0.45 (0.222)	0.2	0.1	0.1	2011	
Starry	N of 4010	3 (YB)	0.45 (0.222)	0.004	0.003	0.003	2011	
Stripetail	N of 4010	3 (YB)	0.45 (0.222)	40.4	31.4	31.4	2011	
Swordspine	N of 4010	3 (YB)	0.45 (0.222)	0.0	0.0	0.0	2011	
Tiger	N of 4010	3 (YB)	0.45 (0.222)	1.0	0.8	0.8	2011	
Vermilion	N of 4010	3 (YB)	0.45 (0.222)	9.7	7.6	7.6	2011	
Shelf Rockfish South	S of 4010			1832	1429	1428		
Bronzespotted	S of 4010	3 (YB)	0.45 (0.222)	3.6	2.8	2.8	2011	
Chameleon	S of 4010	3 (YB)	0.45 (0.222)					
Flag	S of 4010	3 (YB)	0.45 (0.222)	23.4	18.2	18.2	2011	
Freckled	S of 4010	3 (YB)	0.45 (0.222)					
Greenblotched	S of 4010	3 (YB)	0.45 (0.222)	23.1	18.0	18.0	2011	
Greenspotted	4010 - 3427	2 (YB)	0.45 (0.197)	32.7	26.3	25.7	2011	The OFLs projected from the Northern California Model are apportioned north (22.2%) and south (77.8%) of 40°10' N lat. based on average historical (1978-2001) landings.
Greenspotted	S of Conc	2 (YB)	0.45 (0.197)	45.5	36.6	36.6	2011	
Greenstriped	S of 4010	2 (YB)	0.45 (0.212)	153.5	120.9	120.9	2009	The portion of the coastwide stock south of 40°10' N. lat. (15.5%) is based on the mean of the 2003-2008 swept area biomass estimates from the NMFS trawl survey.
Halfbanded	S of 4010	3 (YB)	0.45 (0.222)					
Harlequin	S of 4010	3 (YB)	0.45 (0.222)					
Honeycomb	S of 4010	3 (YB)	0.45 (0.222)	9.9	7.7	7.7	2011	
Mexican	S of 4010	3 (YB)	0.45 (0.222)	5.1	3.9	3.9	2011	
Pink	S of 4010	3 (YB)	0.45 (0.222)	2.5	1.9	1.9	2011	
Pinkrose	S of 4010	3 (YB)	0.45 (0.222)					
Pygmy	S of 4010	3 (YB)	0.45 (0.222)					
Redstripe	S of 4010	3 (YB)	0.45 (0.222)	0.5	0.4	0.4	2011	
Rosethorn	S of 4010	3 (YB)	0.45 (0.222)	2.1	1.7	1.7	2011	

Stock or Complex	Area	Cat.	P* (Buffer)	OFL	ABC	ACL	Assess Year	Notes
Rosy	S of 4010	3 (YB)	0.45 (0.222)	44.5	34.6	34.6	2011	
Silvergray	S of 4010	3 (YB)	0.45 (0.222)	0.5	0.4	0.4	2011	
Speckled	S of 4010	3 (YB)	0.45 (0.222)	39.4	30.6	30.6	2011	
Squarespot	S of 4010	3 (YB)	0.45 (0.222)	11.1	8.6	8.6	2011	
Starry	S of 4010	3 (YB)	0.45 (0.222)	62.6	48.7	48.7	2011	
Stripetail	S of 4010	3 (YB)	0.45 (0.222)	23.6	18.4	18.4	2011	
Swordspine	S of 4010	3 (YB)	0.45 (0.222)	14.2	11.1	11.1	2011	
Tiger	S of 4010	3 (YB)	0.45 (0.222)	0.04	0.03	0.03	2011	
Vermilion	S of 4010	3 (YB)	0.45 (0.222)	269.3	209.5	209.5	2011	
Yellowtail Rockfish	S of 4010	3 (YB)	0.45 (0.222)	1064. 4	828.1	828.1	2011	
Slope Rockfish North	N of 4010			1842	1568	1568		
Aurora	N of 4010	1 (YB)	0.45 (0.096)	17.4	15.7	15.7	2013	The portion of the coastwide stock north of 40°10' N lat. (19%) is based on average survey biomass.
Bank	N of 4010	3 (YB)	0.45 (0.222)	17.2	13.4	13.4	2011	
Blackgill Rockfish	N of 4010	3 (YB)	0.45 (0.222)	4.7	3.7	3.7	2011	
Redbanded	N of 4010	3 (YB)	0.45 (0.222)	45.3	35.2	35.2	2011	
Rougheye/Blackspotted	N of 4010	2 (YB)	0.45 (0.182)	233.2	190.8	190.8	2013	98% of the coastwide OFL is apportioned north of 40°10' N. lat. based on average landings during 1985-2012.
Sharpchin	N of 4010	2 (YB)	0.45 (0.182)	288.9	236.3	236.3	2013	80% of coastwide OFL is apportioned to the N of 40°10' N lat.
Shortraker	N of 4010	3 (YB)	0.45 (0.222)	18.7	14.6	14.6	2011	
Splitnose	N of 4010	1 (YB)	0.45 (0.113)	1024. 5	908.8	908.8	2009	
Yellowmouth	N of 4010	3 (YB)	0.45 (0.222)	192.4	149.7	149.7	2011	
Slope Rockfish South	S of 4010			871	705	705		
Aurora	S of 4010	1 (YB)	0.45 (0.096)	74.4	67.3	67.3	2013	The portion of the coastwide stock south of 40°10' N lat. (81%) is based on average survey biomass.
Bank	S of 4010	3 (YB)	0.45 (0.222)	503.2	391.5	391.5	2011	
Blackgill Rockfish	S of 4010	2 (YB)	0.45 (0.151)	205.0	174.0	174.0	2017	
Pacific Ocean Perch	S of 4010	3 (YB)	0.45 (0.222)					
Redbanded	S of 4010	3 (YB)	0.45 (0.222)	10.4	8.1	8.1	2011	
Rougheye/Blackspotted	S of 4010	2 (YB)	0.45 (0.182)	4.8	3.9	3.9	2013	2% of the coastwide OFL is apportioned south of 40°10' N. lat. based on average landings during 1985-2012.

Stock or Complex	Area	Cat.	P* (Buffer)	OFL	ABC	ACL	Assess Year	Notes
Sharpchin	S of 4010	2 (YB)	0.45 (0.182)	72.2	59.1	59.1	2013	20% of coastwide OFLs are apportioned S of 40°10' N lat.
Shortraker	S of 4010	3 (YB)	0.45 (0.222)	0.1	0.1	0.1	2011	
Yellowmouth	S of 4010	3 (YB)	0.45 (0.222)	0.8	0.7	0.7	2011	