CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE REPORT ON 2020 GROUNDFISH HARVEST IN CALIFORNIA

The California Department of Fish and Wildlife (CDFW) provides the following informational report on harvest of select groundfish species for 2020. This report represents CDFW's final update on the 2020 fishing season relative to sector allocations, Harvest Guidelines (HGs), Annual Catch Targets (ACTs), and Annual Catch Limits (ACLs) applicable in California. The following tables provide estimated harvest compared to federally designated harvest specifications (Table 1), estimated mortality of select species by month for the recreational sector (Table 2), and landings of select species by month for the commercial sector (Table 3).

Catch of vermilion/sunset rockfish south of 40°10' N lat. exceeded the species-specific contribution to the minor shelf complex south of 40°10' N lat. and is consistent with catch trends seen in recent years. Despite this, catch of all species in the minor shelf rockfish south of 40°10' N lat. complex was well below the non-trawl allocation. The 2020 catch estimates for other target and non-target groundfish species were also within allowable harvest levels.

Table 1. Estimate take (mt) of select groundfish species in California for 2020 compared to the corresponding harvest limits for 2020.

	oundish species in Camorina to	Estimated Take	Management Reference Points					
Species/Complex	Reference Point Description	(mt)g	Tracking Limit (mt)	% of Tracking Limit				
Rebuilding Stocks								
Yelloweye rockfish	ACT (CA rec)	2.5	9.4	26.6%				
Non-Rebuilding Stocks								
Black rockfish (CA)	ACL	127.9	326	39.2%				
Blackgill rockfish S 40°10' N lat. ^a	HG	24.7	158.9	15.5%				
Bocaccio S 40°10' N lat.	Non-Trawl Allocation	107.8	1197.8	9.0%				
Cabezon (CA)	ACL	37.3	146	25.5%				
California scorpionfish	ACL	104.6	307	34.1%				
Canary rockfish	HG (rec)	56.4	119.7	47.1%				
Chilipepper rockfish S 40°10' N lat.	Non-Trawl Allocation	20.1	581.3	3.5%				
Cowcod S 40°10' N lat.	Non-Trawl Allocation	1.3	5.7	22.8%				
Kelp greenling (CA)	b	4.5	99.2	4.5%				
Lingcod N 40°10' N lat.	Non-Trawl Allocation	63.8	2344.7	2.7%				
Lingcod S 40°10' N lat.	Non-Trawl Allocation	276.9	471.7	58.7%				
Nearshore rockfish N 40°10' N lat.c	CA Share d	26.8	38.6	69.4%				
Nearshore rockfish S 40°10' N lat.c	ACL	435.4	1163	37.4%				
Shelf rockfish N 40°10' N lat. ^e	Non-Trawl Allocation	10.1	784.5	1.3%				
Shelf rockfish S 40°10' N lat.e	Non-Trawl Allocation	437.2	1357.3	32.2%				
Vermilion/Sunset rockfish	ACL Contribution to Complex	320.8	224.6	142.8%				
Slope rockfish N 40°10' N lat.	Non-Trawl Allocation	2.4	313.7	0.8%				
Slope rockfish S 40°10' N lat. ^f	Non-Trawl Allocation	3.5	267.4	1.3%				
Widow rockfish	Non-Trawl Allocation	5.0	985.6	0.5%				

a\ Blackgill rockfish landings include both IFQ and non-IFQ sectors.

b\ Reference point denotes the CA kelp greenling contribution to the Other Fisher complex ACL.

c\ Does not include black rockfish mortality estimates.

d\ The nearshore complex north of 40°10' N lat. HG is 79 mt. The CA share of the HG is 38.6 mt.

e\ Includes vermilion/sunset rockfish estimates. Commercial take does not include cowcod, yelloweye rockfish, bocaccio, or canary rockfish estimates. Recreational take does not include yellowtail rockfish north of 40°10' N lat. or cowcod, chilipepper rockfish, or bocaccio south of 40°10' N lat.

f\ Does not include blackgill rockfish estimates.

g\ Take includes total mortality estimates for the recreational fishery and landings without discard mortality estimates for the non-trawl commercial fishery (except for blackgill rockfish).

Table 2. Estimated take (mt) of select groundfish species in the California recreational sector by month in 2020.

Species	Jan	Feb	Mar	Apre	Maye	June	July	Aug	Sept	Oct	Nov	Dec	Total
Rebuilding Stocks													
Yelloweye rockfish	-	-	-	0.0	0.2	0.4	0.4	0.3	0.3	0.5	0.2	0.2	2.5
Non-Rebuilding Stocks													
Black rockfish	0.0	0.2	0.3	0.2	5.4	9.5	21.7	24.4	15.5	5.5	2.9	2.0	87.6
Blackgill rockfish S 40°10'N lat.	-	-	-	-	1	-	-	-	-	-	ı	ı	-
Bocaccio	0.0	0.0	7.0	6.2	9.1	12.3	9.7	8.6	8.2	7.2	6.9	1.4	76.6
Cabezon	0.2	0.0	0.1	0.2	1.7	1.7	3.5	3.8	2.7	1.4	1.4	0.9	17.6
California scorpionfish	4.0	5.2	2.0	2.5	11.5	18.8	24.2	18.4	6.0	4.5	2.8	2.9	102.8
Canary rockfish	-	0.0	0.0	1.3	3.8	5.0	10.2	12.5	9.1	7.5	4.1	2.9	56.4
Chilipepper rockfish S 40°10' N lat.	0.0	0.9	-	0.3	0.4	0.4	0.0	0.0	0.1	0.0	0.1	0.0	2.2
Cowcod S 40°10' N lat.	-	0.0	0.2	0.1	0.1	0.2	0.0	0.5	0.2	0.0	ı	0.0	1.3
Kelp greenlings (CA)	0.2	0.0	-	0.0	0.5	0.5	0.4	0.4	0.4	0.2	0.1	0.1	2.8
Lingcod N 40°10' N lat.	0.0	-	0.4	-	3.2	3.8	10.4	13.4	12.1	1.7	0.9	0.5	46.4
Lingcod S 40°10' N lat.	0.1	0.1	2.6	5.1	19.1	25.3	40.1	42.0	36.7	35.7	26.8	13.9	247.5
Nearshore RF N 40°10' N lat. ^a	0.0	-	0.0	-	1.1	1.3	4.1	6.7	5.4	0.9	0.5	0.1	20.1
Nearshore RF S 40°10' N lat. ^a	0.2	0.2	9.0	12.0	26.6	47.0	56.5	59.8	41.6	41.7	28.0	15.6	338.2
Shelf RF N 40°10' N lat. ^b	-	-	-	-	0.5	0.5	1.6	2.4	1.6	0.3	0.1	0.1	7.1
Shelf RF S 40° 10' N lat.°	0.2	0.2	20.5	17.7	31.8	47.5	53.0	56.2	37.6	36.7	29.6	16.0	347.0
Vermilion/Sunset rockfish contribution	0.1	0.1	14.8	10.4	22.0	31.2	44.4	47.3	28.7	25.9	19.5	11.7	256.1
Slope RF N 40°10' N lat.	-	-	-	-	1	-	-	-	-	-	-	-	-
Slope RF S 40°10' N lat.d	-	-	0.0	0.0	0.0	0.0	0.1	-	-	0.0	0.0	0.0	0.1
Widow rockfish	-	-	0.1	0.3	0.5	1.0	0.3	0.2	0.3	0.2	0.1	0.1	3.1

Note: 0.0 indicates trace mortality; a dash (-) indicates no mortality; italics indicates proxy average value rather than monthly estimate (e\).

a\ Does not include black rockfish mortality estimates.

b\ Does not include north of 40°10' N lat. yellowtail rockfish estimates.

c\ Includes vermilion/sunset rockfish estimates. Does not include estimates for bocaccio, cowcod, chilipepper, yelloweye, and canary rockfish.

d\ Does not include blackgill rockfish estimates.

e\ Values for April, May and June are proxy average values, derived by reducing the 2017-2019 monthly average by a proportion to account for reduced catch and effort related to COVID stay-at-home orders, ocean access point closures, and reduced angler capacity on CPFVs. These values are not catch estimates and were not calculated using standard CRFS estimation methodologies.

Table 3. Estimated take (mt) of select groundfish species in the California commercial sector by month in 2020.

Species	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Total
Rebuilding Stocks													
Yelloweye rockfish	-	-	1	1	-	1	-	-	-	1	-	-	-
Non-Rebuilding Stocks													
Black rockfish	0.1	1.2	3.0	5.4	4.3	5.6	4.4	5.3	6.2	2.6	1.9	0.3	40.3
Blackgill rockfish S 40°10'N lat. ^a	1.8	0.6	1.8	2.0	1.5	1.0	2.0	3.0	4.1	2.5	3.1	1.3	24.7
Bocaccio S 40°10'N lat.	1.4	2.6	1.8	0.9	3.8	1.4	2.4	3.0	4.6	4.4	3.4	1.5	31.2
Cabezon	0.8	2.2	0.0	0.1	1.8	1.9	2.5	2.0	2.7	3.2	1.6	0.9	19.7
California scorpionfish	0.2	0.2	-	-	0.3	0.2	0.3	0.2	0.1	0.2	0.1	-	1.8
Canary rockfish	0.2	1.2	0.2	0.2	1.4	1.7	2.2	2.6	2.5	2.7	1.3	0.6	16.8
Chilipepper rockfish S 40°10' N lat.	0.4	1.6	2.0	1.0	1.8	0.6	1.3	0.9	2.0	2.6	2.2	1.5	17.9
Cowcod S 40°10' N lat.	-	-	-	-	-	-	-	-	-	-	-	-	-
Kelp greenlings (CA)	0.1	0.3	0.0	-	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.1	1.7
Lingcod N 40°10' N lat.	0.1	0.7	0.8	1.0	1.1	1.3	1.5	1.3	2.9	3.4	3.1	0.2	17.4
Lingcod S 40°10' N lat.	1.6	4.1	0.0	-	3.0	1.9	3.1	2.8	3.1	5.7	2.4	1.7	29.4
Nearshore RF N 40°10' N lat. ^b	0.1	0.6	0.6	0.9	1.0	1.0	0.4	0.6	0.7	0.3	0.4	0.1	6.7
Nearshore RF S 40°10' N lat. ^b	4.5	11.6	-	-	8.0	10.1	14.4	12.7	12.5	14.6	4.9	3.9	97.2
Shelf RF N 40°10' N lat.c	0.0	0.1	0.2	0.2	0.4	0.2	0.5	0.6	0.3	0.2	0.2	0.1	3.0
Shelf RF S 40° 10' N lat.d	5.9	12.5	0.0	0.1	9.8	7.8	8.6	11.8	12.1	9.8	6.2	5.6	90.2
Vermilion/Sunset rockfish contribution	5.0	10.6	0.0	0.0	8.0	5.3	5.7	8.5	7.8	5.8	4.0	4.0	64.7
Slope RF N 40°10' N lat.	-	0.2	0.2	0.1	0.2	0.4	0.7	0.2	0.2	0.1	0.1	-	2.4
Slope RF S 40°10' N lat. ^e	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.5	0.4	0.3	0.3	0.1	3.4
Widow rockfish	0.2	0.3	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.4	0.2	0.1	1.9

Landings include non-trawl, non-IFQ fixed-gears for limited entry and open access sectors. Mortality estimates do not include discard mortality. 0.0 indicates trace mortality; a dash (-) indicates no mortality.

- a\ Blackgill rockfish landings include both IFQ and non-IFQ sectors.
- b\ Does not include black rockfish mortality estimates.
- c\ Does not include north of $40^{\circ}10'$ N lat. yellowtail rockfish estimates.
- d\ Includes vermilion/sunset rockfish estimates. Does not include cowcod, yelloweye rockfish, bocaccio, or canary rockfish estimates.
- e\ Does not include blackgill rockfish estimates.